CITIZEN'S PLATFORM
Working Paper

5

Assessing COVID-19 Impact on SDG Delivery In Bangladesh

Framework, Measurement and Perspectives

Debapriya Bhattacharya
Fabiha Bushra Khan
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এসডিজি বাস্তবায়নে নাগরিক প্ল্যাটফর্ম, বাংলাদেশ

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Abstract

Implementation of the Sustainable Development Goals (SDGs) in Bangladesh, as in most countries of the world, is jeopardised by the COVID-19 pandemic; implications are grave for the vulnerable population. This paper presents a novel COVID-19 Impact index, guided by an analytical framework, to understand and measure the impact on the livelihood conditions of the vulnerable in Bangladesh. It is captured via 28 SDG indicators grouped under economic, social, environmental and governance pillars. The index, based on four impact dimensions – intensity, time, linkage and disaggregation – conveys that the highest impact intensity is associated with the economic pillar, and the effect on the social pillar imparts the greatest impact on the vulnerable. The strong interlinkages of the indicators under economic and social pillars also multiply the disproportionate impact. Though environment and governance pillars are relatively less affected, the impact on certain indicators channels increased distress to the marginalised. Prolonging the effects into the medium-term mandates forecasting of the indicators ensures SDG attainment and inclusive development through the pandemic recovery.

Preface and Acknowledgements

The present study assesses the COVID-19 implications for SDGs from the lens of the marginalised population in Bangladesh. This mapping is novel in the context of Bangladesh, in particular, owing to the study methodology, which includes the design of an analytical framework and formulation of a perception-based index. While the analytical framework guides the structured analysis of the pandemic implications, the index captures the holistic impact of COVID-19 on four distinct pillars of SDGs, economic, social, environment and governance. The implications are further disaggregated through index values derived for 28 indicators grouped under the pillars which identify the impact on the vulnerable through multiple SDG channels. The study suggests policies based on the impact intensity, duration, linkages and disaggregation, which will facilitate the attainment of the country's development ambitions through pandemic recovery while ensuring the efforts to be inclusive and equitable.

The authors convey their deepest gratitude to the participants of the expert group consultations undertaken in the course of preparation of this paper (refer to Annex 3 for the full list). Their inputs have been vital in deriving the essential study findings and shaping the policy implications.

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About the Platform

Citizen's Platform for SDGs, Bangladesh was formed in June 2016 with the objective of providing a policy stage to the non-state actors (NSAs) in Bangladesh to contribute to the implementation of Sustainable Development Goals (SDGs). The Platform seeks to enhance transparency and accountability in the SDG process at the country level. It particularly aims to promote the 2030 Agenda's pledge to Leave No One Behind in the process of development.

Since its inception, the Platform emerged as the largest forum for the NSAs that include a unique blend of non-government development organisations, civil society organisations (CSOs) and private sector associations in Bangladesh. The Platform currently has over 120 Partner Organisations. They work on knowledge generation as well as monitoring of national development policies towards delivering SDGs by 2030. Moreover, the Platform undertakes policy advocacy and stirs new conversations on relevant challenges and solutions. All these are accomplished through regular conferences and dialogues at the national level, capacity development workshops, international events and webinars.

At the beginning of its journey six years ago, the Platform sought to outline the scope of partnership between the government and NGOs and explore the role of private sector in implementing the SDGs. It emphasised the importance of SDG 16 (Peace, Justice and Strong Institutions) as central to the overall delivery of the 2030 Agenda. The Platform later provided intellectual inputs to identify the population groups at risk of being left behind in attainment of the SDGs in Bangladesh. Subsequently, one of its highlighted focuses was youth—a systematically vulnerable community in Bangladesh—in view of the country's journey through a window of demographic opportunity. In the following years, the Platform brought together more than 50 Partner Organisations that actively contributed to documenting Bangladesh's progress towards attainment of selected SDGs for review during the High Level Political Forum (HLPF). The Platform along with its Partners prepared a set of thematic policy briefs with a view to contribute NSA perspectives towards the Voluntary National Review (VNR) of Bangladesh.

Since the scourge of COVID-19 unleashed itself in the first quarter of 2020, the Citizen's Platform realised the advantage and potential of its substantive network. It immediately engaged in conceptualising initiatives that could address the crisis and particularly uphold the interests of the "left behind". Thus, the year was marked by the Platform's many activities widely discussing the implications of COVID-19 at the grassroots level, on the SDGs, and on the pathways towards an inclusive recovery and resilience. Towards this end, the Platform, along with its Partner Organisations, embarked on a flagship research and outreach programme titled "Strengthening Citizen's Engagement in Delivering SDGs in view of COVID-19 Pandemic". A number of knowledge products will be created under the programme, to be followed by policy advocacy.

In view of the above, the Citizen's Platform is introducing a Working Paper Series, which will feature pertinent research on issues related to SDG delivery with a particular focus on the marginalised and vulnerable communities in Bangladesh. The present paper is the fifth of this new series.

Series Editor: *Dr Debapriya Bhattacharya*, Convenor, Citizen's Platform for SDGs, Bangladesh.

About the Authors

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Dr Debapriya is engaged in high-level policy designing and advising for the national government and various bilateral and international development agencies at home and abroad. He has published extensively on trade, investment and finance related issues of the least developed countries (LDCs) and Sustainable Development Goals (SDGs). He serves in the boards and working groups of a number of national, regional and international development organisations and networks and in the editorial board of reputed journals.

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Khan is a member of the 'SDG Working Team' constituted under the Prime Minister's Office, Government of Bangladesh. He is also a member of the 'SDGs NGO Sub-Committee' constituted under the NGO Affairs Bureau of Bangladesh. Khan received the Australian Leadership Award (ALA) in 2008 to carry out his post-graduation academic degree at University of Melbourne, Australia. Khan also obtained his Masters and Bachelors in the area of Economics from Jahangirnagar University, Bangladesh.

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Acronyms

7FYP	Seventh Five Year Plan
8FYP	Eighth Five Year Plan
BBS	Bangladesh Bureau of Statistics
BIGD	BRAC Institute of Governance and Development
CGD	Centre for Global Development
CLD	Causal Loop Diagram
COVID-19	Coronavirus Disease 2019
CPD	Centre for Policy Dialogue
CPI	Corruption Perception Index
FGD	Focus Group Discussion
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GED	General Economics Division
GIS	Geographical Information Systems
HLPF	High Level Political Forum
IAEG-SDGs	Inter-Agency and Expert Group on SDG Indicators
IFs	International Futures
ILO	International Labour Organisation
IMF	International Monetary Fund
LDCs	Least Developed Countries
LNOB	Leave No One Behind
MSME	Micro, Small and Medium Enterprise
NEET	Not in Education, Employment, or Training
NPT	National Priority Targets
OECD	Organisation for Economic Co-operation and Development
PWD	Person with Disability
RAPID	Research and Policy Integration for Development
RCT	Randomised Controlled Trials
RMG	Readymade Garments
SD	System Dynamic
SDGs	Sustainable Development Goals
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs

UNDP	United Nations Development Programme
UNICEF	The United Nations International Children's Emergency Fund
VNR	Voluntary National Review
WHO	World Health Organisation
WTO	World Trade Organisation

1. 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" (UNGA, 2015). The Bangladesh government expressed its commitment to achieving the SDGs (GED, 2020). Its integration into the Seventh Five Year Plan (7FYP) marked the beginning of SDG implementation (Khatun et al., 2020). The execution was facilitated by creating institutional arrangements, identifying lead ministries to oversee the implementation of specific goals, and designing a National Action Plan to coordinate actions of key ministries and divisions. Bangladesh presented its first and second Voluntary National Review (VNR) at the High Level Political Forum (HLPF) in 2017 and 2020 (GED, 2017; 2020a). Additionally, the government developed an SDG Tracker for indicator-wise data-driven implementation monitoring (GED, 2020a). Indeed, the Eighth Five Year Plan (8FYP), to be implemented during 2021-25, also sought to accelerate progress towards achieving the major SDGs (GED, 2020b).

Nevertheless, before the COVID-19 pandemic, progress toward the Agenda was uneven, leaving Bangladesh off-track from delivering several goals by 2030 (GED, 2020a). According to the second VNR, rapid economic growth accompanied high income inequality, and substantial challenges remained for ensuring food security, universal health coverage, quality education, sustainable urban development and domestic resource mobilisation. 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 (UNESCAP, 2022). Fund mobilisation and sufficient quality data are among the top constraining factors for the region and Bangladesh (Rahman, Khan and Sadique, 2020). The national and regional trends corroborate with global advancements as well. There were decelerations in the reduction of global poverty and maternal mortality, on increase in food insecurity, environmental degradation and inequality within and between countries (UNDESA, 2020b).

Unprecedented shocks of COVID-19 pandemic have exacerbated the prevailing challenges to retain and fast-track progress. As the global community has been exposed to parallel threats of economic, social and health crises, the adverse impact of the pandemic has encompassed all three pillars of SDGs, i.e., social, economic and environmental, thereby affecting all goals either explicitly or consequentially (UN, 2020). The implications for SDGs could be categorised as progress attained on some goals being entirely erased, achievement of other goals being delayed and resources being shifted from implementation towards pandemic-led emergencies (Mukarram, 2020).

As development trajectories and prospects of progressing towards SDGs have been jeopardised, including in Bangladesh, the disadvantaged population has been disproportionately affected (Bhattacharya et al., 2021a; Bhattacharya et al., 2021b). The shock has been felt by different disadvantaged groups through multiple channels of SDGs, threatening the Agenda's core principle. Furthermore, new groups of people have also been made vulnerable, known as "pushed behind". It has essentially endangered SDG accomplishment at the disaggregated level (Bhattacharya, Khan and Khan, 2021).

Although a myriad of empirical literature analysed the socioeconomic implications both within and across countries, none adopted an explicit research objective to evaluate the impact of SDGs from the viewpoint of disadvantaged communities. Consequently, the findings were not explicitly related to the impact on SDGs and relevant public policy, and there was a lack of an analytical

framework to guide analysis (Bhattacharya, Khan and Khan, 2021). Analytical frameworks enable logical thinking in a structured manner and derivations of novel results with high coherence (Coral and Bokelmann, 2017).

Objectives and scope of the paper

Against this backdrop, the present study assesses the impact of COVID-19 on the prospect of SDG delivery in Bangladesh, focusing on the disadvantaged population. It seeks to address one of the research questions put forth by the earlier working paper "how has the pandemic affected the disaggregated progress made towards achieving the SDGs in favour of marginalised and vulnerable groups?" (Bhattacharya, Khan and Khan, 2021). The study is unique in the context of Bangladesh and has high value for post-COVID policy realignment. First, the study develops an analytical framework to overcome ad hoc representations of COVID-19 implications for SDGs in the current literature on national, regional and international contexts. The framework comprises four impact dimensions, intensity, duration, linkages, and disaggregation, to understand and measure the pandemic implications and policy response formulation. Second, the framework is applied to develop an expert consensus-based index. The index called the "COVID-19 Impact Index for SDGs" is the first of its kind to assess the impact of the pandemic on four SDG pillars considered in the study, economic, social, environmental and governance. The index findings are supported by evidence from grey literature in absence of data that otherwise would have facilitated trend analysis of SDG indicators in the aftermath of the pandemic. Third, the study articulates 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 disadvantaged viewpoint. Indeed, the study could potentially serve as a framework to conduct similar exercises in other developing countries.

The scope of the study is limited to the choice of SDG goals and indicators; experts consulted for the construction of the index and categories of disadvantaged groups. Effects on SDGs after the second pandemic wave are analysed via 28 indicators chosen from Bangladesh's national priority targets and the global indicator framework.[1] Aggregate index values capturing the effects are derived from scores assigned by 46 experts across the four pillars with expertise relevant to indicators of their assigned pillars.[2] Furthermore, to gauge the disproportionate effects channelled through various SDGs, the study refers to different vulnerability criteria and groups such as (i) low-income urban employees/self-employed, (ii) women, (iii) children, (iv) youth, (v) persons with disabilities, (vi) residents of hard-to-reach areas, (vii) returnee migrant workers and (viii) micro, small and medium enterprises, following Bhattacharya, Khan and Khan (2021).

Layout of the paper

Following the introduction (Section 1), the rest of the paper is organised under four sections. Section 2 conceptualises the analytical framework and demonstrates the application of the framework using recent empirical literature, which gives cue to knowledge gaps and contribution of the current study. Section 3 details the methodology for construction of the COVID-19 Impact Index. Section 4 presents

[1]The indicator framework developed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs).

[2]The list of experts consulted under the four pillars of the study is mentioned in Annex 3.

the discussions on findings from the index, laying the foundation for policy recommendations. Lastly, concluding remarks are presented in Section 5.

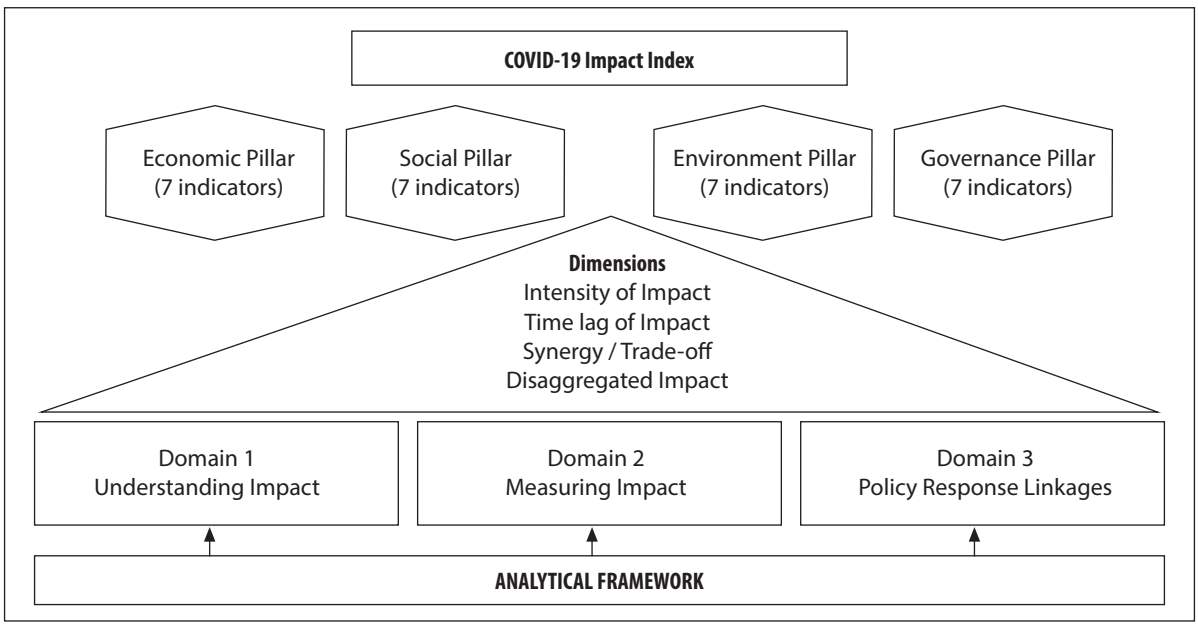
2. THE FOUR DIMENSIONS TO FRAME COVID-19 IMPACT ON SDGs

The section details the theoretical concepts of the analytical framework of the study. This is followed by utilising the framework to structurally associate 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 mainly prioritised, including findings of recent surveys conducted by national think tanks on the multidimensional socioeconomic effects. Additionally, national official documents of Bangladesh enriched the present study. Finally, the review gives cue to the research gap and contribution of the study.

2.1 Conceptualisation of the analytical framework

The analytical framework, illustrated in Figure 1, diagnoses three domains from the lens of four impact dimensions. Thematically, the three domains are understanding, measuring and policy response to impact. The criticality of the domains arises from the idea that understanding impact helps to identify policy priorities; measuring 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 COVID-19 impact refers to the magnitude of effects exerted on a particular SDG indicator. Time lag is a combination of impact manifestation and duration. While manifestation refers to time taken to exert impact, duration is the period for which the effect will continue to influence a particular indicator. Linkages, on the contrary, 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. Lastly, disaggregation accounts

Figure 1: Analytical framework of the paper



Source: Authors' illustration.

Table 1: Descriptive outlay of the analytical framework—An issue by dimension approach

Critical Issues	Impact Dimensions			
	Intensity	**Time**	**Linkages**	**Disaggregation**
1. Understanding the Impact	The level to which specific groups or socioeconomic aspects are affected (Terrapon-Pfaff, 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.	Composed of: 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 impact on particular SDGs generates positive effects for other goals, it is termed **synergy**, while 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 (PAHO, 2020).
2. Measuring the Impact	Use of modelling techniques, Geographical Information Systems (GIS), statistical analysis, desk research and field surveys. Measurement could consider impact significance[3] and adaptability of people. 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 modelling 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, quantitative and qualitative surveys. Quantitative policy analysis tools such as randomised controlled trials (RCT) or economic modelling 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 which influence level of exposure to impact (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 impact, (ii) existing inequalities (iii) interaction between impact variables and shocks to devise long-run strategies.	Policies to gear investment towards SDGs as a means to post-COVID recovery would require SDG-oriented strategy to consider how the pandemic has affected outlooks on various SDGs (Kharas and McArthur, 2020).	Policy responses could be driven by (i) identification of transmission channels (ii) characteristics of vulnerable groups (iii) direct and indirect effects of containment measures.

Source: Authors' formulation based on literature review.

[3]An impact of major significance is defined as that of high magnitude affecting high or medium sensitivity resources or of medium magnitude affecting high sensitivity resources (Nord Stream, n.d.).

for severity of the disproportionate impact on disadvantaged groups (Table 1). While intensity and duration are standard, impact dimensions for any event or intervention, linkages and disaggregation are specially designed to capture impact on SDGs and disadvantaged communities, respectively.

Thus, the framework serves as a rigorous impact assessment tool for analysing the holistic impact of COVID-19 on SDGs and the disadvantaged. This mechanism facilitates policies for building resilience to the crisis and enabling recovery to a higher benchmark of prosperity than the pre-COVID situation. Hence, use of the framework necessitates conceptualisation of the domains and dimensions. Table 1 provides the theoretical overview of the framework outlining notions of the three domains from the perspective of the impact dimensions.

2.2 COVID-19 impact on SDGs and disadvantaged communities: Review of literature

Following the concepts put forth by the analytical framework (Table 1), this sub-section presents a critical review of the literature, associating the findings to the COVID-19 implications for SDGs and the disadvantaged. The evidence derived from the existing knowledge base has been structured according to the three domains of the framework — (a) understanding impact, (b) measuring impact, and (c) policy response. Each has been analysed based on the four impact dimensions: intensity, time lag, linkages and disaggregation.

a) Understanding the Impact

The multidimensional impact of COVID-19 has been uneven across countries (Chudik et al., 2020). The developing economies have experienced worse consequences than their advanced counterparts, with growth projections of low-income developing economies revised down by 0.6 percentage points relative to July (IMF, 2021).[4] Even within countries, impact has differed between regions due to the vulnerability of economically deprived areas (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, Hoffmann and Vera-Cossio, 2020). This mandates analysis of context-specific heterogeneity based on the four impact dimensions to apprehend effects on SDGs and the disadvantaged.

Intensity: The Sustainable Development Report 2020 categorised COVID-19 impact into positive, highly negative, moderately negative, and ambiguous (Sachs et al., 2020). To illustrate, SDGs 1 (no poverty), 2 (zero hunger) and 3 (good health and well-being) have been highly negatively affected, while SDGs 4 (quality education), 5 (gender equality) and 6 (clean water and sanitation) have been moderately negatively affected. However, the impact has been unclear for SDGs 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 conceptualisation of "intensity" in Table1, poverty has been highly negatively affected in Bangladesh, as evident in the projections of many studies. Sen, Ali and Murshed (2020) indicated substantial increase in poverty rate, with 9.4 million to 35.5 million people falling into poverty under different scenarios of income loss and labour type. Moreover, Raihan (2020) projected the rate to rise to 40.9 per cent, with an additional 20.4 per cent of people under the poverty line, assuming a 25

[4]According to the estimates of the October 2021 issue of the World Economic Outlook.

per cent negative income shock. The study estimated that an additional 36 million non-poor risked becoming vulnerable along with 34 million existing poor.

On the other hand, food security and hunger have been moderately negatively affected. Prolonged lockdown periods have caused many households to cope by reducing protein intake and number of meals per day (Bhattacharya et al., 2021b), 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, time lag of effect could also potentially affect severity, including that for linkages and disproportionate impact on vulnerable.

Duration: According to the conceptualisation of impact duration (Table 1), 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 (CCSA, 2020). School closures could increase share of children without minimum reading proficiency by 18 percentage points to 76 per cent at the end of primary school, assuming students are equally affected. However, as different socioeconomic characteristics lead to disaggregated impact, disadvantaged students could substantially lose out (Rahman and Sharma, 2021).

A case of permanent impact has been on child marriages due to disadvantaged households' negative coping mechanisms. As economic insecurity has caused families to marry off young girls, their education and future earnings prospects have been disrupted, leaving them susceptible to abuse and exploitation.

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 which sell protective equipment at 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). On the contrary, lockdowns to overcome the health problems have created various trade-offs such as employment loss for informal workers, 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 the disaggregated impact on disadvantaged communities or escalate.

Disaggregation: The interaction between the crisis and pre-existing inequalities have exacerbated the previous socioeconomic divides (Blundell et al., 2020). Women, in particular, have experienced multidimensional difficulties. For example, RMG female workers have faced increased health risks, financial hardships and lower affordability of basic food requirements (Kabir, Maple and Usher, 2021). Additionally, women have been subjected to higher unpaid care and domestic work (Empower: Women for Climate-Resilient Societies, n.d.) and frequency of violence (de Paz et al., 2020).

The adverse impact has also been asymmetric across other disadvantaged groups such as lower-income workers through income erosion, increased health expenses and depleted savings threatening SDG 8 and SDG 10 (UNDESA, 2020a). In addition, the ILO (2020) also reported growing cases of unemployment and underemployment among youths and women due to their over-representation in highly-affected sectors and insufficient social protection, gig and casual workers due to limited income smoothing support systems and migrant workers. It indicates the importance of directing policy focus to the "traditionally disadvantaged" and "newly disadvantaged" groups for an inclusive and sustainable post-pandemic recovery.

b) Measuring the Impact

The catastrophic impact disproportionately felt by disadvantaged communities has surfaced the myriad of existing inequalities and further deepened the disparities (UNDESA, 2020b). This mandates targeting 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. The following discussion reports the multitude of literature analysed to highlight the different techniques for measuring impact on various socioeconomic indicators.

Intensity: The implications of different intensities of the crisis could be assessed using modelling techniques, statistical analysis, and inferences from field surveys (Nord Stream, n.d.). Examples include constructing a COVID-19 stringency index, intensity scales with values assigned to COVID-19 containment measures (Santamaria et al., 2020), or quantifying pandemic-induced shocks under varying scenarios of intensity to analyse impact on SDGs (Rahman et al., 2020).

Sen, Ali and Murshed (2020) developed a hard lockdown scenario[5] to trace impact on poverty. Simulations were conducted based on vulnerability to poverty of the extreme poor, moderate poor, and marginalised non-poor; higher probability of the labouring class falling into poverty, etc. Also, the ILO (2020) analysed the effect on unemployment based on intensity. The low scenario entailed a 2 per cent decline in GDP growth; the mild scenario was a decline of 4 per cent, while the high scenario consisted of GDP growth decreasing by 8 per cent plus additional disruptive effects.

Duration: Literature on the multidimensional impact of COVID-19 has measured impact duration using many quantitative and qualitative methods. Quantitative tools include econometric techniques such as International Futures (IFs), Difference-in-differences model, and Computable General Equilibrium model (Frederick S. Pardee Center for International Futures and UNDP, 2020; Kim, Koh and Zhang, 2020; Malliet el al., 2020). In addition, a qualitative approach includes classification of economic sectors into essential and non-essential parts to speculate sectoral-differentiated impact (Fana, Perez and Fernandez-Macias, 2020).

[5]The paper defined a hard lockdown scenario (a prolonged lockdown causing various income shocks) as "(1) zero income for labouring class in urban areas but rural income unaffected; (2) 80 per cent drop in income for labouring class in urban areas and 5 per cent drop in income for labouring class in rural areas; (3) 80 per cent drop in income for labouring class in urban areas and 10 per cent drop in income for labouring class in rural areas (considered to be reference scenario in this exercise); (4) 80 per cent drop in income for labouring class in urban areas and 20 per cent drop in income for labouring class in rural areas; and (5) 70 per cent drop in income for labouring class in urban areas and 30 per cent drop in income for labouring class in rural areas". The labouring class is inclusive of casual jobs, private sector salaried jobs, and non-agricultural self-employment.

Fana, Perez and Fernandez-Macias (2020) conducted a qualitative analysis of confinement measures in three European countries and developed an indicator[6] to classify sectors according to exposure to lockdown impact. The analysis was applied to employment structures across the sectoral categories to trace short-term socioeconomic impact and predict mid-term developments. In contrast, a mixed-method approach was applied by Barkat et al. (2020) using a quantitative survey, key informant interviews (KIIs), and focus group discussions (FGDs), to assess the immediate and long-term impact on the urban poor in Bangladesh. It aided in uncovering numerous socioeconomic impacts along the social, economic, and governance dimensions.

Linkages: In the context of the association between COVID-19 and SDG interlinkages, many studies have applied qualitative research to analyse the extent of the impact on SDGs and their interconnectedness. Some of these methods include structured and moderated FGDs (Shulla et al., 2021), 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)[7] 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; de Paz et al., 2020) and quantitative tools. The latter comprises randomised controlled trials (RCT) (Islam, Rahman and Nisat, 2020), quantitative and qualitative surveys (Guglielmi et al., 2020; Paul et al., 2021), and modelling techniques (Mottaleb et al., 2020).

Islam, Rahman and Nisat (2020) examined the impact on small and medium-sized enterprises and their workers in Bangladesh using an RCT. The survey elicited data on enterprises' economic behaviour and outcome, workers' physical well-being, COVID-19 preventive measures of enterprises, and accessibility to government support. Analysis at pre, par, and post lockdown periods enabled the finding of sales losses relative to the pre-COVID scenario and that poorer enterprises with low initial capital are worse off (SDG 1 and SDG 8).

As highlighted by the preceding discussion, different studies have, either implicitly or explicitly measured any one of the impact dimensions through different methodological techniques. The present study, in contrast, estimates the implications of COVID-19 on SDGs and the disadvantaged using an index that combines all four dimensions. In other words, an aggregate index for the SDG pillars and indicators considered in the study conveys impact in terms of its intensity, time of exertion, and persistence and spillover to the interconnected SDGs and disadvantaged populations.

c) Policy Response

In response to the multivariate damages, governments have undertaken numerous policy measures. The IMF Policy Tracker grouped the interventions as fiscal, monetary, macro-financial, exchange rate,

[6]Indicator values range between 0 and 1. A value of 1 denotes an essential sector which can continue business under strict lockdown; value of 0 indicates a non-essential sector which cannot operate under lockdown while values between 0 and 1 mean that sub-sectors are either essential or non-essential.

[7]The Causal Loop Diagram (CLD) developed by the SD model assumes non-linear relationships in complex systems subject to time lags and feedback loops.

and balance of payments. For example, in Bangladesh, government has raised public expenditure, granted low-interest loans, controlled money supply, and expanded social safety net programmes that could be broadly categorised into fiscal and monetary support.

The policies have mainly been directed towards mitigating the immediate impact, keeping the economy afloat, and helping to rebound to pre-pandemic conditions. However, there has been an inadequate focus towards building resilience and enabling recovery to a higher benchmark of prosperity than the pre-COVID situation. This demands a planned policy design and implementation process to orient growth towards sustainability and inclusivity. Against this backdrop, SDGs provide a blueprint for guiding recovery efforts. The subsequent review implicitly connects these studies to trace policies and their underpinnings for SDGs and the disadvantaged along the impact dimensions.

Intensity: Empirical literature on intensity has proposed policy actions 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) analysis of policies under varying shock levels to assess their effectiveness (Sen, Ali and Murshed, 2020; Shen et al., 2020; Rahman et al., 2020).

The underlying analyses have facilitated policies ranging from short-term measures to improve health system and medium-term efforts to introduce innovative fiscal measures, expand job-creating MSMEs, and raise female labour force participation to create poverty-oriented growth (Sen, Ali and Murshed, 2020). Recommendations have also been suggested to support severely affected industries in hard-hit regions with subsidies and preferential policies (Shen et al., 2020) and 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 analysed COVID-19 implications based on the time dimension of impact solely focused on duration with no reference to impact manifestation. Thereby, policies based on duration have been contingent on (1) nature of existing institutions for identifying economic asymmetries deepened by the crisis, (2) specialisation in sectors that are likely to be closed by lockdown and (3) household behavioural changes and consumption and spending patterns influenced by stimulus payments. (Kim, Koh and Zhang, 2020; Fana, Perez and Fernández-Macías, 2020). Another perspective was the analysis of three possible scenarios for SDGs, "pre-COVID-19 scenario", "COVID-19 pessimistic," and "COVID-19 optimistic." The UNDESA proposed a framework for recovery containing immediate, medium-term, and long-term policy objectives based on these scenarios (UNDESA, 2020c).

The abovementioned factors have formed the basis of policies of non-uniform cash transfers and large-scale wage subsidies to industries employing vulnerable workers (Kim, Koh and Zhang, 2020), income support, and widening social welfare (Fana, Perez and Fernández-Macías, 2020). Moreover, Barkat et al. (2020) presented a disaggregated review of policies by detailing specific areas of intervention, mode of action, plan of action and time frame. For instance, to leave no one behind (area of intervention), they recommended aid allocation (mode of action) to mitigate negative externalities on persons with disabilities (PWD) and senior citizens (plan of action) with necessary actions to be implemented in the short term (time frame).

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 the trade-offs (Zhou and Moinuddin, 2021).

Studies have put forth the "SDG logics" to propose recovery strategies and resilient transformations (van Zanten and Tulder, 2020). These include governance logic, systems logic, and strategic logic.[8] Moreover, the Sustainable Development Report 2020 highlights the six SDG transformations for recovery (Sachs et al., 2020). It recognises that all goals can be attained through integrated focus on education and skills, health and well-being, clean energy and industry, sustainable land use, sustainable cities, and digital technologies.

Among the numerous policy recommendations, from a holistic viewpoint, governments should undertake policies beyond short-term priorities and analyse trade-offs to design time-bound, ring-fenced, and clearly labelled measures. These should be undertaken in proportion to damages to disadvantaged groups and the broader objectives of SDGs (Donoghue and Khan, 2020).

Disaggregation: According to the concept in Table 1, the study deals with a horizontal disaggregation of the LNOB groups. In this vein, policies in existing literature have been based on several analytical grounds, such as identification of broad domains[9] to understand pandemic induced vulnerabilities and adequacy of government support (Mottaleb et al., 2020), as well as effects of containment measures on education, employment, empowerment, etc. (Guglielmi et al., 2020). For instance, Islam, Rahman and Nisat (2020) emphasised the need to establish support delivery platforms for small and medium-sized enterprises as their pre-existing vulnerabilities of lower endowment and hard-to-attain stimulus packages would disproportionately magnify economic losses.

Therefore, policies in the existing literature have predominantly stressed on measures to cushion disadvantaged groups against the multifaceted shocks of COVID-19. However, while efforts to strengthen health systems, support micro, small and medium enterprises (MSMEs), provide cash transfers, expand social welfare and create employment for disadvantaged populations are necessary for inclusive recovery, the measures are insufficient to realise the 2030 targets and "build back better" from the crisis.

2.3 Addressing the knowledge gap and contribution of the study

The preceding subsection provides an analytical overview of literature on multidimensional socioeconomic implications of COVID-19 in Bangladesh and beyond. Findings are structured according to the four impact dimensions under each domain articulated in the study. It indicates that the studies lack a definite objective of comprehensively assessing the COVID-19 impact on SDGs and associating the implications for disadvantaged populations, thus, only indirectly connecting with some SDGs. Hence, few studies recommended incorporating the SDGs into policy interventions disregarding that COVID-19 has made its achievement more crucial to build back better. The present study addresses the research gap by articulating an expert consensus-based index. The index captures the impact on 28 indicators grouped under four SDG pillars based on the analytical framework. Thus, implications from every impact dimension are conveyed irrespective of

[8]Governance logic refers to the setting of objectives, implementing policies and monitoring progress.
Systems logic is to oversee SDG interactions.
Strategic logic is to aid companies develop strategies serving macro policy aims.

[9]The broad domains refer to endowments, economic conditions, and socioeconomic and demographic traits of the vulnerable.

considerable data deficiencies enabling policymaking to address the agenda and hardships of the disadvantaged through the recovery measures.

3. CONSTRUCTION OF THE COVID-19 IMPACT INDEX TO MEASURE IMPACT

The subsequent section details the methodological approaches for formulation of the COVID-19 Impact Index. It highlights the uniqueness of the index and discusses its mathematical derivations.

3.1 Rationale of the index

Recent literature demonstrates the significant prevalence of indices established either on statistical data, expert perception, or both. In macroeconomic literature, indices have been constructed based on available datasets and econometric tools to create composite values for variables that otherwise would have been difficult to measure through a single indicator. For instance, Mugaloglu et al. (2021) constructed an economic uncertainty index using data for 14 macroeconomic indicators and principal component analysis to capture the impact of COVID-19 uncertainty on the Turkish economy.

Within development research, indices have also been formed on industry experts' perceptions. The Corruption Perception Index (CPI), for example, 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, 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 is built upon the approach of the Global Competitiveness Index (2019) and Alibegovic et al. (2020). The latter used a qualitative method to capture impact on the goals by calculating target averages. The averages consisted of final weights (multiplication of scores for impact, orientation, and magnitude)[10] derived for every target of individual goals.

The present study's methodology is thereby novel in terms of a sophisticated quantitative approach. The index is built on expert opinion and accommodates new impact dimensions to capture the perceived impact of COVID-19 on SDG indicators. In doing so, the study closely follows the score aggregation method of GCI (2019) to report pillar-level indices.

3.2 Choice of pillars and indicators

The index is formulated for the three SDG pillars of economic, social, and environmental, the composition of which is based on the categorisation of Bhattacharya, Khan and Salma (2014). In addition, the study incorporates the fourth pillar of governance consisting of indicators of SDGs 16 (peace, justice and strong institutions) and 17 (partnerships for the goals). It helps to address the political economy dimensions of the implications.

[10]In Alibegovic et al. (2020), weights for every target of the 17 goals have been 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 and high magnitude with respective weights of 0.33, 0.66 and 0.99. It is the only impact dimension considered in the study.

Each pillar has seven indicators obtained from the national priority indicators of Bangladesh (Table 2). Three broad concerns have driven choice of the indicators. First, selection from the national priority targets aids in the assessment of whether the priority targets could be attained within the pre-determined timeline by ensuring inclusiveness. Second, the choice is also based on data availability for at least the pre-pandemic period for trend analyses of the indicators and subsequently gauging

Table 2: SDG pillars and indicators of the study

Economic	Social	Environment	Governance
Reduce the proportion of population living below national poverty line below 10% **(SDG Indicator 1.2.1)**	Ensure 100 per cent completion rate of primary education **(NPT 9)**	Ensure 100% industries install and operate waste management system **(NPT 31)**	Increase total government revenue as a proportion of GDP to 20% **(SDG Indicator 17.1.1/ NPT 38)**
Reduce the ratio of income of top 10% population and bottom 10% population to 20% **(NPT 28)**	Reduce the proportion of women aged 20-24 years who were married before age 15 to zero **(SDG Indicator 5.3.1/NPT 14)**	Ensure 100% population using safely managed drinking water services **(SDG Indicator 6.1.1/NPT 17)**	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)**
Reduce the proportion of youth population (15-29 years) not in education, employment or training to 10% **(SDG Indicator 8.6.1/NPT 23)**	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)**	Ensure 100% population using safely managed sanitation services **(SDG Indicator 6.2.1/NPT 18)**	Proportion of the population satisfied with their last experience of public services **(SDG Indicator 16.6.2)**
Proportion of informal employment in non-agriculture/total employment **(SDG Indicator 8.3.1)**	Reduce the prevalence of stunting among children under 5 years of age to 12% **(SDG Indicator 2.2.1/NPT 3)**	Ensure access to electricity for 100% population **(SDG Indicator 7.1.1/ NPT 19)**	Unsentenced detainees as a proportion of overall prison population **(SDG Indicator 16.3.2)**
Average hourly/ monthly earnings of female and male employees **(SDG Indicator 8.5.1)**	Proportion of population with access to affordable medicines and vaccines on a sustainable basis **(SDG Indicator 3.b.1)**	Reduce the number of deaths, missing persons and directly affected persons attributed to disasters to 1,500 per 100,000 population **(SDG Indicator 13.1.1/NPT 32)**	Increase the proportion of individuals using the Internet to 100% **(SDG Indicator 17.8.1/ NPT 39)**
Proportion of small-scale industries with a loan or line of credit **(SDG Indicator 9.3.2)**	Reduce under-5 mortality rate to 25 per 1,000 live births **(SDG Indicator 3.2.1/ NPT 6)**	Enhance forest area as a proportion of total land area to 18% **(SDG Indicator 15.1.1/NPT 34)**	Statistical capacity indicator for Sustainable Development Goal monitoring **(SDG Indicator 17.18.1)**
Ensure 100 per cent pucca roads (suitable for all seasons) **(SDG Indicator 9.1.1/NPT 24)**	Ensure women, children, elderly and persons with disabilities have convenient access to public transport (minimum 20% seats) **(SDG Indicator 11.2.1/NPT 30)**	Increase renewable energy share in total final energy consumption to 10% **(SDG Indicator 7.2.1/ NPT 20)**	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)**

Source: Authors' illustration.

COVID-19 impact on progress based on index values for the dimensions. Third, indicators are included as per their significance for COVID-19 implications for SDGs and reflections of the consequences for the disadvantaged population of Bangladesh.

3.3 Construction of the index

The aggregate index or the index for individual pillars is calculated through successive score aggregation from the indicator to pillar levels, i.e., from the most disaggregated to the highest level. The computation begins with derivation of impact dimension scores for indicators followed by calculating a weighted average score. The pillar index is 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): $s_{ik} = \sum_{q=1}^{n} qki + nki$ 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 are assigned on value judgement of the dimension's significance in COVID-19 impact on SDGs. Thus, intensity holds a weight of 40 per cent and the remaining three dimensions hold equal weights of 20 per cent. Scores for the pillar impact dimensions are 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 international and non-government organisation representatives. 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 the impact dimensions.

The index, however, could not be complemented with data due to limited availability of indicator data. While data for the dimensions are unavailable, mapping numerous government data sources and databases from international organisations such as the World Bank and ILOSTAT reveal the considerable infrequencies in data reporting for SDG indicators. As illustrated in Annex Table 5, 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). On the contrary, the environment pillar has the highest data availability. Six of the seven indicators have pre-pandemic data points, and five indicators have data for the pandemic period. It is followed by data availability for the governance and social pillars considering the pre and during pandemic periods (Annex Table 5). Nevertheless, there is still no trade-off between empirical evidence and knowledge perception since the index aims to capture expert opinion overcoming data shortages which otherwise will not facilitate estimation of the impact on SDGs and disadvantaged.

In summary, the preceding section outlines the methodological approaches for constructing the "COVID-19 Impact Index for SDGs". As the name suggests, the index captures the COVID-19 impact on SDG pillars and indicators in terms of the impact magnitude, impact manifestation, duration, and implications for interconnected SDGs and disadvantaged populations. The impact on each pillar as

conveyed by its aggregate index value is the arithmetic mean of its indicators' final scores. These final scores, in turn, are derived by assigning weights to the scores for each impact dimension for every indicator. However, expert inputs in the construction of the index could not be supplemented with actual data owing to insufficient and infrequent reporting. Similar to pre-COVID period, data-generating initiatives during COVID-19 have been scarce. As a result, only 9 of the 28 indicators have data for 2020, which does not reflect the actual pandemic consequences. Although the index brings forth the COVID-19 implications, restricted data availability impedes its application in quantitative forecasting of mid to long-term trends of SDG indicators, including those subjected to synergistic effects or trade-offs. The following section presents the actual estimations of the pillar and indicator index values.

4. 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 and 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 crisis impact. Implications of findings for policy response follow the interpretations of the result.

4.1 Inter-Pillar comparison

The pandemic affected every SDG pillar and indicators, resulting in the transmission of many consequences to the disadvantaged population. According to the definitions of the numeric scores presented in Annex 1, the exposure of the SDGs and disadvantaged ranged from medium to high impact on the intensity scale. The effects occurred within the short to medium terms and were perceived to prolong into the medium term.[11] In other words, the effects generally manifested within 1 to 3 years of the pandemic and are expected to continue for an equal period. Incidentally, disaggregated impact on the disadvantaged is considered substantial, with index values mainly at the high level.

Economic Pillar

Estimates from the index indicate that the economic pillar experienced a highly negative impact which manifested in the short term (Table 3). Relative to the other three pillars, intensity was highest on the economic pillar (intensity index value of 0.69). This case is illustrated by other secondary literature that depicted a rise in national poverty and youth disengagement, particularly among informal workers and youth, due to reduced work hours, wage cuts, and job redundancies. Given the massive employment and income generation of MSMEs, economic fallouts could potentially intensify in near future as the sector bears substantial losses while being barred from government support (IMF, 2021; Mamun, Ahmed and Islam, 2021). Furthermore, index value of 0.61 for linkages conveys a medium interlinking effect among the indicators, expert justification for which considered a renewed policy focus on social protection amidst the pandemic.[12] Adverse impact on the indicators channelled high disproportionate impact on the disadvantaged (disaggregation index value of 0.71)

[11] Annex 1 provides the definitions of the scoring levels.

[12] A study by Rahman et al (2021a) mentioned the involvement of local government and administration representatives in delivering various support measures to disadvantaged groups during the pandemic, which were found to be aligned with the National Social Security Strategy (NSSS) of Bangladesh.

primarily due to increased vulnerabilities of non-poor and creation of new poor. However, despite the substantial impact severity and relatively quick manifestation, recovery to pre-pandemic conditions could plausibly be observed three years after the second wave of COVID-19. Nevertheless, recovery could still be uneven since the fast rebound of the extreme poor as perceived by experts could be through employment in low-wage, labour intensive work[13] and higher labour force participation of youths at the expense of education discontinuity.

Table 3: Economic pillar of SDGs – Index and rankings

Economic Pillar of SDGs: Indicator and Pillar Indices							
Indicators	**Index for Impact Dimensions**					**Aggregate Index**	**Ranking**
	Intensity	**Manifestation**	**Duration**	**Linkages**	**Disaggregation**		
Reduce the proportion of population living below 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 per cent 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 COVID-19 Impact Index.[14]

[13]Findings by Rahman et al (2021b) using a nationally representative household survey conducted in late January and early February 2021 showed that the incremental jobs observed during the survey period mainly comprised day labourers, self-employed and contributing family members, signaling a rise in informal employment and low-paying jobs.

[14]Definitions or scoring levels of the numeric scores for the SDG pillars are detailed in Annex 1.

Social Pillar

Similar to economic pillar, impact on social pillar was highly negative (intensity index value of 0.66). In contrast to the economic pillar, impact manifested in the medium term since the economic losses took time to be felt. Thus, due to poverty-stricken households' hazardous coping mechanisms, social pillar exerted the highest disproportionate impact, particularly on PWD, ethnic groups, transgender, and sex workers, that the experts highlighted (Table 4). As studies illustrated, poverty-induced compromised food intake eventually led to hikes in malnutrition and under-five mortality, while school closures and financial hardship also caused educational discontinuity of young girls, early marriages, and domestic abuse (Roberton et al., 2020; Baird et al., 2020; UNICEF, 2021a). Moreover, SDG indicators interlinked with those of the social pillar were exposed to an impact of medium intensity.

Table 4: Social pillar of SDGs – Index and rankings

Social Pillar of SDGs: Indicator and Pillar Indices							
Indicators	**Index for Impact Dimensions**					**Aggregate Index**	**Ranking**
	Intensity	**Manifestation**	**Duration**	**Linkages**	**Disaggregation**		
Ensure 100 per cent 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 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 methodology of COVID-19 Impact Index.

Environment Pillar

The environment pillar exprienced medium intensity with effects prolonging into the medium term (Table 5). The effect on interlinked SDGs and the disadvantaged was also perceived to be at a medium-level. The environment pillar experienced the lowest intensity (intensity index value of 0.49) among all the pillars, evident in secondary literature findings of a short-term decline in environmental pollution due to reduced industrial activities (Dellink, 2021). The impact was expected to manifest in the medium term following the outbreak of the second wave of COVID-19. Experts, however, agreed on the risk of inadequate policy focus on environment during the pandemic period due to the relatively low impact and prioritisation of the more obvious socioeconomic consequences.

Table 5: Environment pillar of SDGs – Index and rankings

Environment Pillar of SDGs: Indicator and Pillar Indices							
Indicators	**Index for Impact Dimensions**					**Aggregate Index**	**Ranking**
	Intensity	**Manifestation**	**Duration**	**Linkages**	**Disaggregation**		
Ensure 100% industries install and operate 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% 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 1,500 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 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 methodology of COVID-19 Impact Index.

Governance Pillar

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. However, 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 (Table 6).

Table 6: 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 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 methodology of COVID-19 Impact Index.

Table 7 summarises the index findings reporting the aggregate values and those for the impact dimensions at the SDG pillar level. Across the four pillars, the impact was expected to persist into the medium term, imposing a medium interlinking effect across indicators of each pillar and considerable impact on disadvantaged groups. The aggregate index value of 0.67 for economic and social pillars

signals a high impact of the pandemic but the differentiating feature of the two pillars lies in the specific dimensions. While the economic pillar is characterised by the highest impact intensity manifested in the short term, 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 governance in terms of the lowest intensity, medium-term manifestation, and high disproportionate impact. Unlike the remaining pillars, the relatively low disproportionate impact associated with the governance pillar could be attributed to the favourable political economy factors.

Table 7: A composite table of findings from the COVID-19 impact index

Impact Dimensions	SDG Pillars & Index Value by Dimension				Average index value by dimension
	Economic	Social	Environment	Governance	
Intensity	0.69	0.66	0.49	0.61	0.61
Manifestation	0.72	0.58	0.56	0.72	0.65
Duration	0.55	0.58	0.62	0.56	0.58
Linkages	0.61	0.6	0.55	0.53	0.57
Disaggregation	0.71	0.76	0.68	0.55	0.68
	Aggregate Index Value				
	0.67	0.67	0.58	0.58	

Source: Authors' calculation based on the methodology of COVID-19 Impact Index.

4.2 Intra-Pillar comparison

According to the index estimates, in the economic pillar, five of the seven indicators experienced a high negative impact with aggregate index values between 0.68 and 0.78 (Table 3). Impact on these indicators was perceived to manifest in the short term and impart high disproportionate impact. Among all indicators of the pillar, poverty (SDG 1.2.1) and income inequality (NPT 28) were the most affected. Intensity was largest on income inequality. In 2016, the income of the total population grew by 9.1 per cent annually as opposed to a 7.7 per cent growth in income of the bottom 40 per cent (GED, 2020a). Hence, the highest intensity indicates widening income gaps amidst the pandemic, causing a policy concern for inclusive and sustainable development, especially with expected persistence of long-term deterioration (highest duration index value of 0.69). On the other hand, the strongest disproportionate impact was associated with poverty, with an index value for disaggregation (0.9) slightly higher than income inequality. Before the onset of COVID-19, the rate of poverty reduction decelerated, and the current increasing poverty could push Bangladesh off-track from achieving SDG 1 (No Poverty).

Four of the seven indicators experienced a high impact in the social pillar with aggregate index values between 0.65 to 0.80 (Table 4). These indicators' high impact intensity manifested in the medium term and imparted a highly disproportionate impact. Among all indicators, education (NPT 9) and gender equality (SDG Indicator 5.3.1/NPT 14) were the most affected. Dimension indices for education indicate its significant influence on the pillar with values for linkages and disaggregation being the highest relative to other indicators under four pillars. Experts opined that worsening previous 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), increased burden of unpaid care work, forced marriages, gender-based violence (SDG 5) and child labour (SDG 8). Thus, the implications combined 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 (Table 5). The effects were considered to prolong into the long term, with substantial impacts on the disadvantaged, with index values for disaggregation of 0.75 and 0.79, respectively. The impact on the waste management systems was the largest with significant implications for linked SDGs and the disadvantaged. Due to COVID-19, slow industrial and medical waste treatment and disposal rates threatened waste workers' welfare through reduced income, induced negative coping mechanisms, and psychological ailments. Women waste workers additionally were exposed to domestic abuse, as found by other studies (Patwary and Hossain, 2021). Furthermore, improper medical waste treatment during COVID-19 raised the workers' risks to health hazards (The Daily Star, 2020).

Finally, within the governance pillar, estimates show that government revenue (SDG Indicator 17.1.1/ NPT 38), incidence of corruption (SDG Indicator 16.5.2), and satisfaction with public services (SDG Indicator 16.6.2) were comparatively more affected (Table 6). 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, the substantial impact would now likely require a higher value of financial resources for SDG implementation. On the other side, 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 immunisation, family planning and maternal and child care services, as found in the existing literature (Parveen et al., 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 was a relative improvement in public service delivery during COVID-19 due to the adoption of several initiatives, such as technological innovation in policymaking, behavioural changes and data generating efforts.[15] However, the sustainability of the positive changes could be a concern.

The preceding discussion identifies each pillar's highly affected SDG indicators and their defining impact dimensions as reflected by respective high index values. Poverty and income inequality in the economic pillar were exposed to high intensity and channelled "very high" disproportionate impact. The same findings can be drawn for education and early marriage in the social pillar, though intensity on education was at the "very high" level. Waste management operations with the highest index value in the environment pillar were perceived to experience the high intensity and disproportionately affect the disadvantaged, with repercussions prolonging into the long term. Lastly, government revenue in the governance pillar was affected at the "very high" intensity level. Due to a lack of time-series data, neither can a post-2019 trend analysis of indicators be conducted nor can the aggregate index values of indicators be fitted in a forecasting exercise to quantify SDG delivery possibilities by 2030 in Bangladesh.

The aforementioned findings coincide with trends observed for SDG goals at the global and regional levels. According to the SDG Progress Report of the Secretary-General, the exact extent of diversion from achieving the 2030 targets due to COVID-19 remains obscure (ECOSOC, 2021). Nevertheless, the impact could be gauged by the increasing global poverty, causing SDG 1 to stay unattained by 2030.[16] Global income inequality also rose, as evident in the fall in the average income of the bottom

[15]The Bangladesh government undertook several data generating initiatives during COVID-19 associated with health issues. Besides 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 (Bhattacharya et al., 2022).

[16]SDG 1 (No Poverty) will not be achieved by 2030 due to the ongoing COVID-19 pandemic, climate change and conflict (ECOSOC, 2021).

40 per cent by 2.2 per cent as opposed to only 0.5 per cent for the top 40 per cent (Sanchez-Paramo et al., 2021). Global progress in reducing child marriage is likely to be reversed, led by an estimated 10 million child marriages in the upcoming decade (UNICEF Bangladesh, 2021b). Moreover, from a regional viewpoint, educational losses were massive in South Asia, where 400 million students already faced disruptions since early 2020.

5. 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 COVID-19, and the unprecedented shocks have significantly enhanced the risks of swelling the previous challenges and endangering the principle of leaving no one behind. In this vein, the study outlines COVID-19 implications for SDGs from the disadvantaged perspective. It serves the notion of the Platform's first working paper that assessment of consequences from an SDG lens is necessary to inform mid-term 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 effects of the pandemic on economic, social, environment, and governance pillars of SDGs. The pandemic largely intensified economic vulnerabilities perceived to prolong for one to three years post the second wave of COVID-19 in Bangladesh. In contrast, the impact on the environment was expected to be of the lowest magnitude among the other pillars. However, given the complete resumption of economic activities, the intensity-index value for the environment pillar could increase as pollution levels continue to rise. Impact on the social pillar transmitted the highest disproportionate effect to the disadvantaged. These asymmetric effects were also channelled via the governance pillar despite its lowest index value for disaggregation.

The intra-pillar analysis facilitated the identification of SDG indicators which are the various transmission mechanisms of the disproportionate impact on the disadvantaged. The high 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 significant adverse impact on waste workers.

Given the previously discussed understanding and assessment of the implications, the study makes three importent 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 sufficient time series (data for at least 20 years) and the latest numbers after the onset of COVID-19 in Bangladesh. It would aid in quantifying the impact and inform of necessary revisions of national priority targets, reconsider funding requirements, and formulate plans to integrate SDGs into the recovery measures.

Second, the SDGs should be used to guide post-pandemic recovery, facilitated by timely data availability. As a resent of the losses, public expenditure will need to prioritise poverty eradication, education, and health sectors. Simultaneously, the significance of the linkage dimension demonstrates that governments need to intricately consider synergies and trade-offs created for interlinked SDGs while devising policies. Thus, the focus should not only be on mitigating the rise in school dropouts of underprivileged children but also be accommodating the derived consequences of nutritional deficiencies, child labour, early marriages, and gender-based violence. It 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 impact on a particular goal.

Third, policies coherent with SDGs to "build back better" will need to mitigate governance bottlenecks. It would be achieved through prompt actions towards reducing corruption in the allocation and distribution of the various government support to overcome distribution leakages, ensure adequate coverage of required population and maintain regularity of disbursements.

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ANNEXES

Annex 1: Impact Dimensions, Scoring Levels and Corresponding Scores

The tables below list the different levels into which each impact dimension is classified and the respective numeric representation of those levels.

Intensity: Intensity is divided into five scoring levels, which are very high impact, high impact, medium impact, low impact, and no impact. To rate the intensity, the following table lists the numeric scores for five Likert response options.

Annex Table 1: Intensity – Scoring Classifications and Numeric Scores

Scoring Levels	Numeric Scores
Positive Impact	
Very high impact	+1
High impact	+0.75
Medium impact	+0.5
Low impact	+0.25
No impact	0
Negative Impact	
Very high impact	-1
High impact	-0.75
Medium impact	-0.5
Low impact	-0.25
No impact	0

Source: Authors' classification.
Note: For interpretation of the calculated indicator scores and index values for the pillars, scoring levels for rounded figures are determined according to the figure's proximity to the respective numeric scores.

Time Lag: Impact manifestation consists of four scoring levels, i.e., immediate, short term, medium-term and long term. Impact duration has five scoring levels: permanent impact, impact prolonging into the long term, medium-term or short term, and temporary impact. The following table lists the scores for the two time dimensions.

Annex Table 2: Duration – Scoring Classifications and Numeric Scores

Scoring Levels	Numeric Scores
Impact Manifestation	
Immediate	1
Short term	0.75
Medium term	0.5
Long term	0.25
Impact Duration	
Effect is permanent	1

(Table 2 contd.)

(Table 2 contd.)

Scoring Levels	Numeric Scores
Prolongs into the long term	0.75
Prolongs into the medium term	0.5
Prolongs into the short term	0.25
Effect wears off immediately	0

Source: Authors' classification.
Note: Immediate refers to within a month; short term is within one year; medium-term is within 1 to 3 years; long term is more than three years.
For interpretation of the calculated indicator scores and index values for the pillars, scoring levels for rounded figures are determined according to the figure's proximity to the respective numeric scores.

Linkage: Linkages consist of five scoring levels, and the scores for the extent of either the positive or negative linkage are listed in the table below.

Annex Table 3: Linkage – Scoring Classifications and Numeric Scores

Scoring Levels	Numeric Scores
Either Positive (Synergy) Or Negative Impact (Trade off)	
Very high linkage	1
High linkage	0.75
Medium linkage	0.5
Low linkage	0.25
No linkage	0

Source: Authors' classification.
Note: For interpretation of the calculated indicator scores and index values for the pillars, scoring levels for rounded figures are determined according to the figure's proximity to the respective numeric scores.

Disaggregation: The disaggregated impact on the vulnerable are categorised into very high impact, high impact, medium impact, low impact, and absence of any disproportionate impact. The scores for the severity of the disproportionate impact are according to the following table.

Annex Table 4: Disaggregation – Scoring Classifications and Numeric Scores

Scoring Levels	Numeric Scores
Very high impact	1
High impact	0.75
Medium impact	0.5
Low impact	0.25
No disproportionate impact	0

Source: Authors' classification.
Note: For interpretation of the calculated indicator scores and index values for the pillars, scoring levels for rounded figures are determined according to the figure's proximity to the respective numeric scores.

Annex 2: Status of Pre-COVID & COVID Period Data Availability of SDG Indicators Considered in the Study

Annex Table 5: Data Availability of SDG Indicators

Indicators	Pre-COVID data availability (2018-2019)	COVID period data availability (2020-2021)
SDG Indicator 1.2.1 (NPT 2) Proportion of population living below the national upper poverty line, by region	2018 (21.8%) 2019 (20.5%)	-
SDG Indicator 2.2.1 (NPT 3)* Prevalence of stunting among children under 5 years of age	2018 (30.9%) 2019 (28%)	-
SDG Indicator 3.2.1 (NPT 6)* Under-5 mortality rate	2018 (32.3%) 2019 (30.8%)	2020 (28%)
SDG Indicator 3.b.1 Proportion of the target population covered by all vaccines included in their national programme	2018 (86%) 2019 (83.9%)	-
NPT 9 Ensure 100% completion rate of primary education	2018 (97.59%) 2019 (95.5%)	-
SDG Indicator 5.2.1 Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner, in the last 12 months, by form of violence and by age group	-	-
SDG Indicator 5.3.1 (NPT 14)* Proportion of women aged 20-24 years who were married or in a union before age 15	2018 (19.3%) 2019 (15.48%)	-
SDG Indicator 6.1.1 (NPT 17)* Proportion of population using safely managed drinking water services	2018 (57.59%) 2019 (58.04%)	2020 (58.51%)
SDG Indicator 6.2.1 (NPT 18) Proportion of population using safely managed sanitation services	2018 (36.69%) 2019 (37.68%)	2020 (38.67%)
SDG Indicator 7.1.1 (NPT 19)* Proportion of population with access to electricity	2018 (91.8%) 2019 (93.4%)	2020 (96.2%)
SDG Indicator 7.2.1 (NPT 20) Renewable energy share in the total final energy consumption	2018 (3.15%) 2019 (3.25%)	2020 (3.49%)
SDG Indicator 8.3.1* Proportion of informal employment in total employment, by sector and sex	Last available: 2017	-
SDG Indicator 8.5.1 Average monthly earnings of female and male employees, by occupation, age group and persons with disabilities	Last available: 2017	-
SDG Indicator 8.6.1(NPT 23)* Proportion of youth (aged 15-24 years) not in education, employment or training	Last available: 2017	-
SDG Indicator 9.1.1(NPT 24) Proportion of the rural population who live within 2 km of an all-season road		-
SDG Indicator 9.3.2 Percentage of small-scale industries with a loan or line of credit		-

(Annex Table 5 contd.)

(Annex Table 5 contd.)

Indicators	Pre-COVID data availability (2018-2019)	COVID period data availability (2020-2021)
NPT 28 Reduce the ratio of income of top 10% population and bottom 10% population to 20		-
SDG Indicator 11.2.1 (NPT 30) Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities		-
NPT 31 Ensure 100% industries install and operate waste management system		-
SDG Indicator 13.1.1 (NPT 32) Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	2018 (22%) 2019 (43.18%)	-
SDG Indicator 15.1.1 (NPT 34)* Forest area as a proportion of total land area	2018 (14.47%) 2019 (14.47%)	2020 (14.47%)
SDG Indicator 16.3.2 Unsentenced detainees as a percentage of overall prison population	2018 (81.3%) 2019 (79%)	2020 (79%) 2021 (80.9%) (?)
SDG Indicator 16.5.2 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 16.6.2 Proportion of the population satisfied with their last experience of public services	2018 (39.69%)	-
SDG Indicator 16.9.1 (NPT 36) Proportion of children under 5 years of age whose births have been registered with a civil authority, by age	2019 (56.2%)	2020 (66.78%)
SDG Indicator 17.1.1 (NPT 38)* Total government revenue as a proportion of GDP, by source	2018 (11.6%) 2019 (12.48%)	-
SDG Indicator 17.8.1 (NPT 39)* Proportion of individuals using the Internet	2018 (56.6%) 2019 (60.4%)	2020 (43.5%)
SDG Indicator 17.18.1 Statistical capacity indicator for Sustainable Development Goal monitoring	2019 (36.6%)	-

Source: Authors' compilation based SDG Tracker, World Bank & ILOSTAT estimates.

Note*: Contains data from international sources.

Colour codes indicate data availability within selected year range. No data ☐ 50% data ☐ 100% data ☐

Annex 3: List of Experts Consulted for Construction of the COVID-19 Impact Index (in alphabetical order)

A. Economic pillar (08 August 2021)

1. Mr Ashekur Rahman, former Assistant Resident Representative, UNDP Bangladesh
2. Mr Estiaque Bari, Senior Lecturer, Department of Economics, East West University
3. Dr Imran Matin, Executive Director, BRAC Institute of Governance and Development (BIGD), BRAC University
4. Mr Issam Mosaddeq, Economic Adviser, Foreign, Commonwealth and Development Office (FCDO) Bangladesh
5. Mr Kamran T Rahman, former President, Bangladesh Employers' Federation (BEF) and Chairman and Managing Director, Pubali Jute Mills Ltd
6. Mr Kazi Faisal Bin Seraj, Country Representative, Bangladesh, The Asia Foundation
7. Dr Mohammad Abdur Razzaque, Chairman, Research and Policy Integration for Development (RAPID)
8. Professor Mustafizur Rahman, Distinguished Fellow, Centre for Policy Dialogue (CPD)
9. Dr Nazneen Ahmed, Country Economist, UNDP Bangladesh and Senior Research Fellow (on leave), Bangladesh Institute of Development Studies (BIDS)
10. Mr Razekuzzaman Ratan, President, Socialist Labour Front
11. Dr S M Zulfiqar Ali, Senior Research Fellow, BIDS
12. Dr Sayema Haque Bidisha, Professor, Department of Economics, University of Dhaka and Research Director, South Asian Network on Economic Modeling (SANEM)
13. Ms Subhra Bhattacharjee, Strategic Planner and Head of United Nations Resident Coordinator's Office, United Nations in Bangladesh

B. Social pillar (09 August 2021)

1. Dr Kazi Iqbal, Senior Research Fellow, BIDS
2. Ms Maheen Sultan, Senior Fellow of Practice and Head of Gender and Social Development Cluster, BIGD
3. Mr Md Ashiq Iqbal, Social and Economic Analysis Specialist, Social Policy, Evaluation, Analytics and Research (SPEAR), UNICEF Bangladesh
4. Dr Morseda Chowdhury, Director, Health, Nutrition and Population Programme, BRAC
5. Mr Mostafizur Rahaman, Program Manager, Campaign for Popular Education (CAMPE)
6. Ms Nazme Sabina, Chief Executive, DevResonance Ltd.
7. Mr Reefat Bin Sattar, Director – Programme Development and Quality, Save the Children in Bangladesh

8. Dr Sabina Faiz Rashid, Dean and Professor, BRAC James P Grant School of Public Health, BRAC University
9. Mr Sanjeeb Drong, General Secretary, Bangladesh Adivasi Forum
10. Dr Shafiun Nahin Shimul, Associate Professor, Institute of Health Economics, University of Dhaka
11. Mr Shazzad Khan, Sr. Programme Coordinator, Manusher Jonno Foundation (MJF)
12. Ms Shima Moslem, Joint Secretary, Bangladesh Mahila Parishad
13. Mr Shimul Sen, Senior Assistant Chief, Poverty Analysis and Monitoring Wing, General Economics Division (GED)
14. Dr Wameq Azfar Raza, Health Specialist, The World Bank

C. Environment pillar (10 August 2021)

1. Dr Dwijendra Lal Mallick, Fellow, Bangladesh Centre for Advanced Studies (BCAS)
2. Dr Mohammad Mahfuz Kabir, Research Director, Bangladesh Institute of International and Strategic Studies (BIISS)
3. Professor Mohammad Tamim, Pro-Vice Chancellor, BRAC University
4. Ms Raisa Sultana, Lecturer, Department of Geography & Environment, Faculty of Earth and Environmental Sciences, University of Dhaka
5. Mr Sajid Iqbal, Environment Lead (INSS), Americas and the Caribbean, Royal Commonwealth Society
6. Dr Sakib Bin Amin, Associate Professor, Department of Economics, North South University
7. Mr Sharif Jamil, General Secretary, Bangladesh Poribesh Andolon (BAPA)
8. Dr Sharmind Neelormi, Professor, Department of Economics, Jahangirnagar University
9. Advocate Syeda Rizwana Hasan, Chief Executive, Bangladesh Environmental Lawyers Association (BELA)

D. Governance pillar (11 August 2021)

1. Dr Abdullah Al Faruque, Professor, Department of Law, University of Chittagong
2. Dr Asif Mohammad Shahan, Associate Professor, Department of Development Studies, University of Dhaka
3. Dr Badiul Alam Majumdar, Global Vice President and Country Director, The Hunger Project
4. Mr Iqbal Mahmood, former Director, Governance Program, The Asia Foundation
5. Dr Kazi Maruful Islam, Professor, Department of Development Studies, Faculty of Social Sciences, University of Dhaka and Senior Research Fellow, RAPID

6. Mr Mashfique Ibne Akbar, Private Sector Development Adviser, Growth & Private Sector Team, Department for International Development (DFID)
7. Mr Md Sydur Rahman Molla, Programme Manager, Embassy of Switzerland in Bangladesh
8. Dr Mirza M. Hassan, Senior Research Fellow, BIGD
9. Barrister Sara Hossain, Executive Director, Bangladesh Legal Aid and Services Trust (BLAST)
10. Ms Sarah Sabin Khan, Research Officer, UNDP Bangladesh

The multidimensional impact of COVID-19 has resulted in dire consequences for the delivery of Sustainable Development Goals (SDGs). It has created uncertainties about their full attainment by 2030. At the same time, the vulnerable population in Bangladesh have been exposed to the disproportionate impact of the pandemic, putting the core theme of the agenda, "leave no one behind." under threat. In this context, the post-pandemic recovery policies have to "build forward better", targeting fuller implementation of the SDGs. The present study seeks to contribute by filling the existing knowledge gap by exploring the COVID-19 implications for SDG implementation, particularly for the vulnerable population in Bangladesh.

The study has developed a novel methodological approach which comprises two broad techniques. At the outset, a framework was created for analysing the consequences of the pandemic on delivery of the SDGs with specific reference to "leave no one behind" groups. The framework was informed by three critical issues, i.e., (i) understanding impact, (ii) measuring impact, and (iii) policy response to impact. Each of these three issues was examined from four vantage points, namely (i) intensity, (ii) time, (iii) linkages, and (iv) disaggregation.

The said framework was later applied to build a unique experts' perception-based index, namely the "COVID-19 Impact Index". The structured analysis, guided by the framework, allows the index to capture the multifaceted impact of the pandemic as reflected on the four SDG pillars (economic, social, environment and governance) based on a set of 28 indicators. The findings provide valuable insights for developing post-COVID poilicies and interventions for achieving the SDGs at the disaggregated level. The framework and the estimated "COVID-19 Impact Index" may be put to use in other developing countries too.

Citizen's Platform for SDGs, Bangladesh
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