

CITIZEN'S PLATFORM  
Working Paper

8

***Vaccinations,  
Food Consumption  
and Access to  
Health Services***

Debapriya Bhattacharya  
Estiaque Bari  
Fabiha Bushra Khan



Citizen's Platform for SDGs, Bangladesh  
এসডিজি বাস্তবায়নে নাগরিক প্ল্যাটফর্ম, বাংলাদেশ

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The COVID-19 pandemic has wreaked havoc on the decades of progress achieved by countries on strengthening health and food systems and improving economic conditions of the population. While income losses and high inflation meant less affordability of household's food and nutrition necessities, supply disruptions caused by movement restrictions prevented the uptake of essential health services. The consequences were especially aggravated for the left behind groups by the pandemic as their old vulnerabilities were exacerbated and new vulnerabilities were formed. In this vein, the study assessed the direct and indirect health implications of the COVID-19 pandemic on the traditionally and newly disadvantaged communities. The direct health impacts are the COVID-19 testing, infections, and hospitalisations, and the indirect implications consist of two dimensions: food security and maternal and child health. Results from a primary survey of 1600 households from 9 disadvantaged groups across eight divisions in Bangladesh indicate significant reduction of food intake, rise in non-institutional births and inequalities in COVID-19 vaccine uptake among the traditionally and newly disadvantaged groups.



## About the Platform

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**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 has 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. These organisations 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 five years ago, the Platform sought to outline the scope of the partnership between the government and NGOs and explore the role of the 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 the 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. The following years saw the Platform bringing together more than 50 Partner Organisations that actively contributed to documenting Bangladesh's progress towards attaining selected SDGs for review during the High-Level Political Forum (HLPF). The Platform, along with a dozen of its Partner Organisations also prepared a set of thematic policy briefs with a view to contributing the perspectives of non-state actors 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 has introduced 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 eighth of this series.

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



## *Preface and Acknowledgement*

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The present paper analyses the impact of COVID-19 on the health, nutrition and access to maternal and child care for the left behind and pushed behind population groups in Bangladesh. The findings were derived from a 1600 household survey across various disadvantaged groups in Bangladesh. The present paper, along with the proposed research streams, is part of a broader initiative by the Citizen's Platform for SDGs, Bangladesh titled "Strengthening Citizen's Engagement in Delivering SDGs in view of COVID-19 Pandemic".

The authors are pleased to register their deepest gratitude to all the participants of the survey undertaken in the course of preparation of this paper. Their inputs have been critical in shaping and improving the paper. The authors of the present paper appreciate the immeasurable support provided by the survey team coordinated by *Mr Nahid Hasan*.

The authors are particularly grateful to Professor Rehman Sobhan, Chairman, CPD, as well as to the CPD colleagues for their intellectual and organisational support.

Remarkable contributions of colleagues at the Secretariat of the Citizen's Platform for SDGs, Bangladesh are thankfully recognised. Special mention may be made of *Mr Avra Bhattacharjee*, Joint Director, Dialogue and Communication; *Mr Sarwar Jahan*, Senior Dialogue Associate; *Ms Tarannum Jinan*, Senior Administrative Associate; *Ms Farah Nusrat*, Senior Publication Associate; and *Mr Irtaza Mahbub Akhond*, Programme Associate (Communication), CPD. Helpful supports received from *Mr AHM Ashrafuzzaman*, Deputy Director, IT and *Ms Tamanna Taher*, Executive Associate CPD are also recalled.

The inspirations extended by the members of the Core Group and the Advisory Group of the Citizen's Platform for SDGs, Bangladesh are gratefully mentioned.

Finally, special thanks are due to UNDP Bangladesh, ActionAid Bangladesh, High Commission of Canada, CPD, Christian Aid Bangladesh, Friedrich-Ebert-Stiftung Bangladesh, ICCO Cooperation, Plan International and WaterAid for supporting the Citizen's Platform's programme, "Strengthening Citizen's Engagement in Delivering SDGs in view of COVID-19 Pandemic".



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8th FYP	Eighth Five Year Plan
BDHS	Bangladesh Demographic and Health Survey
BIGD	BRAC Institute of Governance and Development
BMET	Bureau of Manpower, Employment and Training
CMSME	Cottage, Micro, Small & Medium Enterprises
CNN	Cable News Network
COVID-19	Coronavirus Disease
DFS	Dhaka Food System Project
DGHS	Directorate General of Health Service
EPI	The Expanded Programme on Immunisation
FAO	Food and Agriculture Organization of the United Nations
FGD	Focus Group Discussion
HIES	Household Income and Expenditure Survey
HIV	Human Immunodeficiency Virus
IFPRI	International Food Policy Research Institute
IUGR	Intrauterine Growth Restriction
LDC	Least Developed Countries
LNOB	Leave No One Behind
MDD-W	Adolescent females' minimum dietary diversity
MSME	Micro, Small & Medium Enterprises
NID	National Identity Card
PPRC	Power and Participation Research Centre
PWD	Persons with disabilities
SBA	Skilled Birth Attendants
SDG	Sustainable Development Goals
SRMNCH	Sexual, Reproductive, Maternal and Newborn Child Health
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WFP	World Food Programme



## 1. INTRODUCTION

### 1.1 Context

COVID-19, a global pandemic and public health crisis, has claimed millions of lives across the globe. As of 21 November 2021, global COVID-19 deaths stood at 5.1 million, while the number of excess deaths<sup>1</sup> has been estimated between 10.8 million to 20.1 million (The Economist, 2021). Bangladesh has been moderately affected by the pandemic, reaching its deadliest month in July 2021 with a record of 6,182 deaths (DhakaTribune, 2021). The health repercussions have not only been confined to COVID-19 infections and fatalities but also manifested in terms of medium-term risks to nutrition, maternal and child health.<sup>2</sup> These indirect health implications of the pandemic could be more severe in terms of its scope and intensity than the direct effects and are a growing concern of public health experts, especially for the disadvantaged communities in resource-poor countries (UNICEF, 2021).

Over the years, Bangladesh has made commendable achievements in health and nutrition. Under-five mortality rates declined substantially from 36 to 28 per 1,000 live births throughout 2015-2019. Neonatal mortality rates also decreased from 20 to 15 per 1,000 live births over the same period, with both rates achieving the 2025 SDG targets. There has also been notable progress in reduction of malnutrition, as well as stunting and wasting of children (GED, 2020). Health and nutrition are one of the priority areas upon which the Eighth Five Year Plan (8th FYP) of the government form strategies for human capital development. The 8th FYP to be implemented over 2021-2025 seeks to accelerate child and maternal nutrition improvements. It also aims to reduce maternal mortality by enhancing access to skilled birth attendants and reproductive health care and lowering early pregnancies (GED, 2020).

Nevertheless, the health care of Bangladesh has been persistently characterised as a system with high levels of inequalities disproportionately experienced by the disadvantaged population. The health inequalities exist due to insufficient health infrastructure, an inaccessible system, and prevalence of unethical behaviour toward the poor. An implication, for instance, is observed by the reliance of majority of the urban poor on informal sources of healthcare and their increased out-of-pocket health expenditures (Shafique, Bhattacharyya, Anwar and Adams, 2018).

The inequalities have also been apparent in access to other essential health care, such as quality maternal and child care services, wherein deprivations of the disadvantaged have led to socioeconomic and district-wise disparities (Save the Children, 2018). According to the Bangladesh Demographic and Health Survey (BDHS) 2017-18, fewer than 18 per cent of pregnant women received quality care.<sup>3</sup> Among those with non-institutional deliveries, only 7 per cent of mothers received postnatal care within two days of delivery, while the same proportion of newborns received all five essential care (Bangladesh Demographic and Health Survey, 2017-18). Furthermore, the disparities are evident

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<sup>1</sup>The number of excess deaths is a measurement technique of changes in total mortality. It is the difference between the number of deaths in a particular region and time (irrespective of causes) and the expected number of deaths without a negative shock (e.g., a disease outbreak).

<sup>2</sup>The study distinguishes between the direct and indirect health effects of COVID-19. The direct impact is the COVID-19 infections and deaths. The indirect impact is the adversity created for nutrition, maternal and child health induced by both supply and demand side factors associated with social distancing measures and reduced household financial capacities.

<sup>3</sup>Quality care is defined as "four or more antenatal visits, with at least one visit from a medical provider, measurement of weight and blood pressure, testing of blood and urine, and receipt of information on potential danger signs during pregnancy" (BDHS, 2017-18).

in urban areas between the urban poor and the remaining population. The rate of skilled birth attendants (SBA) was only 15 per cent in urban slums compared to the total urban rate of 45 per cent (NewAge Bangladesh, 2019).

Additionally, hunger and food insecurity had been prevalent among the disadvantaged before the pandemic. BDHS 2017-18 estimated that 31 per cent of under-5 aged children were stunted while 9 per cent were severely stunted. The proportion of stunted children were higher in rural areas with region-wise variations.<sup>4</sup>

Amidst the pandemic, are not only the direct health challenges set to exacerbate, but also the current socioeconomic difficulties are likely to be compounded. In 2020, 2.4 billion people did not have adequate food, representing a year-on-year rise of about 320 million people (FAO, 2021). Additionally, child and maternal deaths increased by around 228,000 and 11,000, respectively, in 2020 compared to pre-COVID period (UNICEF, 2021). A considerable severity and range of such indirect effects are likely for Bangladesh, especially the disadvantaged population, given those above existing health-related inequalities.

## **1.2 State of Knowledge: Understanding the Health Implications**

The following subsection provides an overview of the status of food security and maternal and child health in Bangladesh during the COVID-19 pandemic. It highlights the determinants of compromised food intake, state of food insecurity of disadvantaged households or individuals and their coping approaches. It also reviews the pandemic-led implications for maternal and child health.

### ***Food security***

Rising food inflation heightened the economic vulnerabilities of the disadvantaged, coercing them to reduce food expenses. Data from the Dhaka Food System Project (DFS) revealed the increasing trend of food inflation since the first lockdown in Bangladesh, with costs of food baskets driven by hikes in protein prices. This survey of approximately 150 poor communities in Dhaka indicated subdued demand for essential food commodities relative to pre-lockdown levels. Increase in demand after the uplift of the first lockdown was not recovered to pre-COVID levels due to employment loss, lower income, and alterations in consumer purchasing behaviour (FAO, 2020). In terms of the occupational determinants, vulnerability to food insecurity was reported by farmworkers, day labourers, and those involved in microcredit programmes in rural areas (Ahmed et al., 2021). Generally, repercussions of economic losses were observed more among the traditionally left behind groups as the pandemic exacerbated their pre-existing vulnerabilities. A one-unit rise in vulnerability score resulted in a 4.0 percentage point higher probability of losing income due to COVID-19 and 4.6 percentage point lower probability of purchasing essential food commodities (Baird et al., 2020).

These factors led to the worsening of food security since the early phase of COVID-19. The season-adjusted food insecurity rates in April 2020 were twice as high as in the previous year (Egger et al., 2021). During May and June of the same year, a FAO rapid assessment reported more than a third of youths and adolescents in moderate or severe food insecurity, which was higher than pre-pandemic national average and skewed towards males. Moderately food insecure youths had limited financial

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<sup>4</sup>As per BDHS 2017-28, the prevalence of stunting was highest in Sylhet (43 per cent) and lowest in Dhaka and Khulna (26 per cent).

capacity to afford healthy diets, skipped meals, or seldomly had no food. The severely insecure youths, on the contrary, experienced no meals for an entire day, depleted food reserves, or both (FAO, 2020). Moreover, one year into the pandemic, 2.3 per cent of urban slum population faced severe food insecurity and could not recover food expenditure to pre-COVID levels. The households experienced severe dietary deficits where 52 per cent did not consume meat, 72 per cent did not drink milk, and 40 per cent had no fruits in their weekly diets although proportions were slightly lower compared to June 2020 (PPRC-BIGD, 2021). Post the second wave, in September-October 2021, food insecurity remained above the pre-pandemic rates due to elevated mild food insecurities (IFPRI, 2021). The rural households displayed a relatively quicker recovery than urban households, which is also evident in changes in their coping mechanisms since the initial stages of the pandemic.

In the early phases, coping approaches to mitigate the negative economic shocks on food consumption included reduction of non-food and non-health expenditures, utility bills, and use of savings in rural households. Although the use of coping approaches reduced throughout 2021 despite the second wave, savings depletion and credit to purchase food persisted into 18 months of the crisis due to concerns over inadequate food for household members (Ahmed et al., 2021).

### ***Maternal and Child Health***

The lockdown measures disrupted provisions of maternal health services at the onset of the pandemic. In April 2020, antenatal care visits were 50 per cent lower than in April 2019. Despite the recovery in July 2020, the visits remained 20-25 per cent lower than the same period in the preceding year. The negative trends were observed for postnatal care as well (The Population Council, 2020). The primary reasons behind the constrained service delivery and demand were movement restrictions, reduced activity of health centres, supply chain delays, and lack of human resources (UNICEF 2021; Robertson et al., 2020).

Moreover, institutional births were lower by 54 per cent in April 2020 than pre-pandemic levels (UNICEF, 2021). Incidences of child deliveries by untrained midwives occurred due to financial constraints and fear of getting infected by coronavirus at hospitals (BRAC, 2020). These reported disruptions reduced the provision and uptake of services by an unsustainable threshold since a 45 per cent reduction in maternal and child health services for six months could raise maternal deaths by 30 per cent (Ready, 2021).

Non-institutional deliveries and absence of health care workers further led to the missed immunisation of one-fourth of newborns. Immunisation of under-5 aged children was disrupted due to temporary unavailability of The Expanded Programme on Immunisation (EPI), unawareness about vaccination timings, and incorrect placements of vaccination points during the pandemic. There were also cases of ill newborns not being taken to hospitals owing to high transportation costs and fear of contracting the virus (BRAC 2020).

The disruptions persisted for at least eight months after the start of the crisis. A survey conducted by BRAC in October-November 2020 found lower than the national average proportions of women who took the prescribed number of antenatal visits (BRAC, 2020). Although proportions who did not receive postnatal care and delivered at home during the survey period were lower than the national averages, the disruptions were higher in rural areas than in urban.

Interruptions in provision of Sexual, Reproductive, Maternal and Newborn Child Health (SRMNCH) services and food insecurity could raise maternal and child mortality rates in Bangladesh. UNICEF (2021) estimated a 13 per cent increase in child mortality and 9 per cent increase in maternal mortality in Bangladesh in 2020 relative to 2019 due to COVID-19 mitigation measures. The child death proportions were higher than in Afghanistan, Nepal, and Sri Lanka. Furthermore, data from Directorate General of Health Service (DGHS) showed that death during childbirth at hospitals grew by 17 per cent over 2019-2020. Experts considered the mortality rates to be higher in April 2021 when Delta variant infections were widespread (The Business Standard, 2021).

Hence, considerable increase in food insecurity and reduction in the supply and uptake of essential maternal and child health services, particularly during the immediate outbreak, are evident. The severity of these indirect health impacts subsided as the economy reopened, with rural households demonstrating stronger resilience in terms of improvements in food security as opposed to their uptake of essential health services. Nevertheless, the mid-term implications could plausibly prolong, or recovery could be delayed given the current high rate of food inflation. The following sections present the survey findings on the direct and indirect health implications for the disadvantaged population who bear disproportionate brunt of the repercussions and have not been holistically incorporated in the related assessments in existing literature.

### **1.3 Objectives, hypotheses and scope of study**

Against the above backdrop, the broad objective of the study is to generate an assessment of the direct and indirect health implications of COVID-19 for disadvantaged communities. The direct health impacts refer to the COVID-19 testing, infections, and hospitalisations, and the indirect implications consist of two dimensions: food security and maternal and child health. The indirect effects' dimensions are the inevitable consequences of restricted movements, discontinuity of routine, essential health and nutrition services, and contracted economic activities. With an already strained health system, the indirect effects threaten rising food insecurity, nutritional deficiencies, and maternal and child deaths concentrated mainly among the disadvantaged population. In addition, the indirect implications extend to affecting the likelihood of achieving several Sustainable Development Goals (SDGs) targets. This risks the loss of progress and prolonging the stagnation of under-five mortality (SDG 3.2.1), maternal mortality (SDG 3.1.1), stunting, and malnutrition of under-five aged children (SDG 2.2.1 & 2.2.2).

While several studies have generated evidence on the direct and indirect effects, none have conducted an in-depth disaggregated analysis based on the experiences of the disadvantaged communities. In this context, the present study aims to bring forth the direct health impact and the medium-term implications for nutrition and maternal and child health from the perspectives of the traditionally and newly disadvantaged communities. It analyses the demand-side issues among the disadvantaged groups rather than the service providers' perspectives. Accordingly, the following are the three main objectives that the chapter intends to explore:

- a) Identify the COVID-19 challenges of the traditionally disadvantaged and newly disadvantaged communities regarding COVID-19 vaccination, food consumption, and maternal and child health.
- b) Determine the associated coping strategies adopted by the disadvantaged groups during the first wave of the pandemic.

- c) Analyse the strategies of public - sectors to propose more holistic approaches to support the disadvantaged groups.

The scope of the study is limited in terms of choices of the groups within the individual disadvantaged communities, the indirect health repercussions of COVID-19, and timing between the two waves of the pandemic. The study follows the vulnerability classification of Bhattacharya, Khan and Khan (2021), referring to the traditionally disadvantaged groups of low-income urban employees/self-employed, women, children, youth, indigenous and Dalit communities, persons with disabilities (PWD), residents of hard-to-reach areas and newly disadvantaged groups of returnee migrants and CMSME entrepreneurs. The primary evidence for the study denotes the implications of the first wave of the pandemic, and the second wave consequences have been based on secondary information sources.

#### **1.4 Methodological approach and data sources**

The analysis of the pandemic-induced challenges and negative coping mechanisms of the disadvantaged in terms of food consumption and utilisation of timely and complete maternal and child health services is based on primary data derived from a 1600 household survey from 9 disadvantaged groups. The survey was conducted in February 2021 across eight divisions.<sup>5</sup> In this respect, the study uses statistical analyses for evidence-based inference and desk research.

#### **1.5 Layout of chapter**

Following the introduction (Section 1), section 2 is an overview of existing literature on the scope and magnitude of the indirect health implications. Section 3 presents the survey findings on the status of COVID-19 related infections and associated health care challenges. The subsequent two sections delve into the indirect impacts of the pandemic, i.e., implications for nutrition in section 4 and maternal and child health in section 5. Section 6 discusses the inequality in the national COVID-19 vaccination drive and plausible policy lessons for Bangladesh from its South Asian peers. Finally, section 7 provides a consolidation of the findings and policy approaches.

## **2. PREVALENCE OF COVID-19 AND OTHER HEALTH CARE CHALLENGES**

This section presents the survey findings on the direct health impact of COVID-19 on the sample households across the traditionally and newly disadvantaged communities: experience of COVID-19 symptoms, opting for test and choice of centres, positivity rate, and hospitalisation requirement. It also showcases the pandemic-induced challenges faced by the two disadvantaged groups to receive regular health care treatments.

### ***Incidences of COVID-19 among the traditionally disadvantaged and newly disadvantaged communities and their challenges to access regular health care***

Of the total 7,379 members from the 1,600 surveyed households, 36 per cent experienced some COVID-19 symptoms (e.g., fever, cough, sore throat, running nose, or breathing difficulty). However,

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<sup>5</sup>The survey methodology is presented in Chapter 1.

relatively few people went for testing, i.e., 18.2 per thousand and nearly 1.5 per thousand tested COVID-19 positive (Table 2.1).

Nearly four out of five went for testing in public centres, while one out of five went to private arrangements. The cost per person, including transportation, was BDT 406 and BDT 3,098 for public and private centres, respectively. On a relatively positive note, only two cases were found that required hospitalisation (Table 2.1). In general, the incidences of COVID-19 symptoms and infection rates were lower among the surveyed disadvantaged households.

**Table 2.1: Incidences of COVID-19 in sample households**

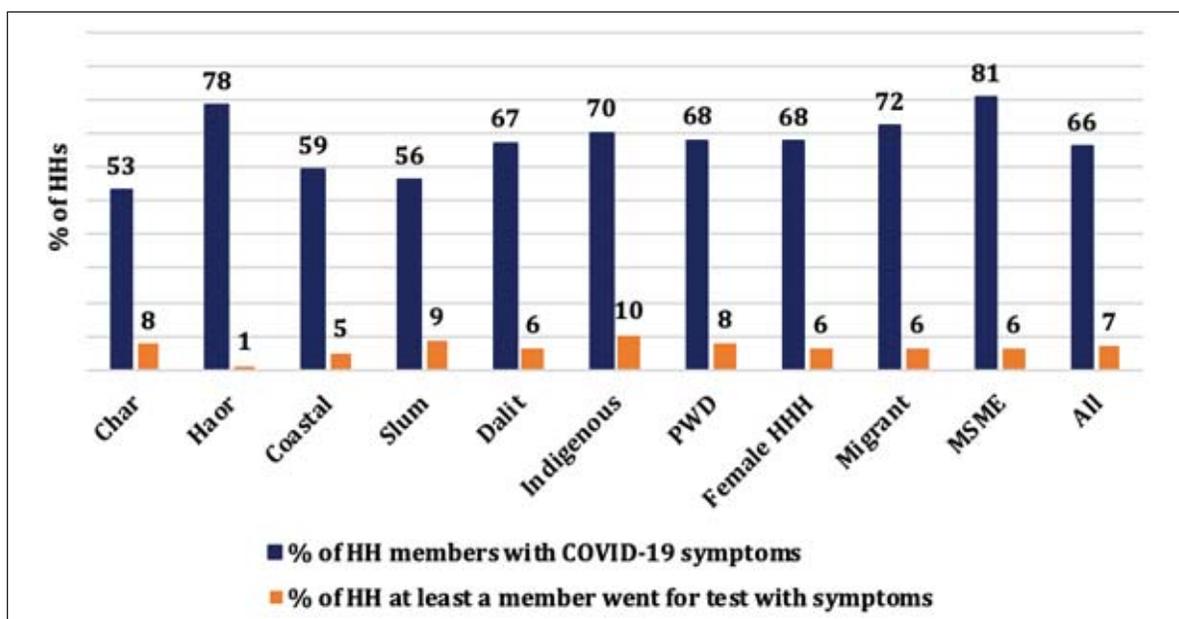
Incidence of COVID-19	Number of People	% of total number of people	Incidences per 1,000
Fever/other symptoms	2,660	36.0	-
No Symptoms	4,719	64.0	-
All	7,379	100.0	-
Went for test	134	-	18.2
Tested Positive	11	-	1.5
Hospitalised Support Required	2	-	-
Test Centre	Percent (%)	Cost per person (in taka)	
Public	80	406	
Private	20	3,098	

Source: Citizen's Platform Field Survey 2021.

At the household level, at least one member had some COVID-19 symptoms in two out of three households. Again, the symptoms were most prevalent among members of MSME, followed by Haor and migrant households. For other groups, at least more than half of the households had members with some COVID-19 symptoms (Figure 2.1).

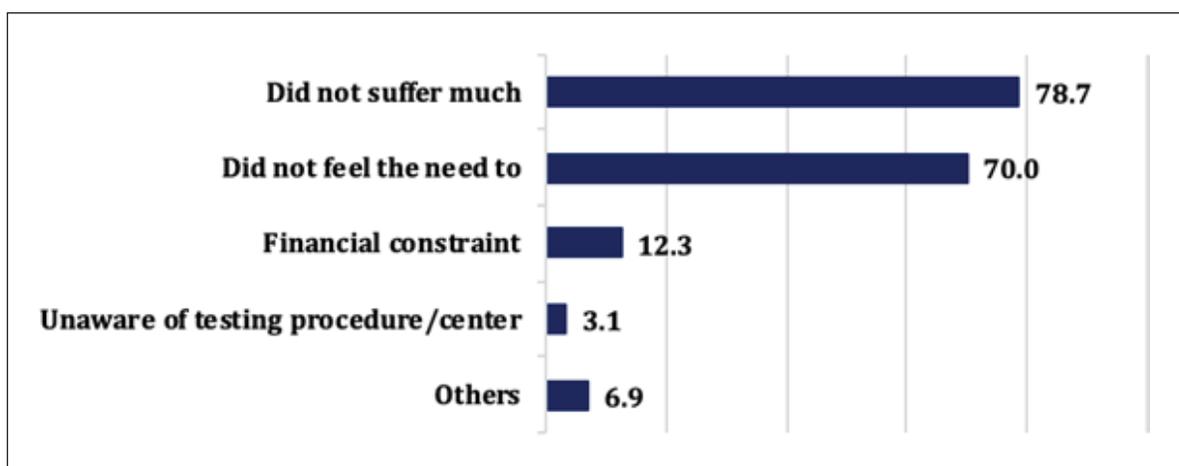
However, only 7.0 per cent of household members went for COVID-19 test during the period. The rate was higher than average among indigenous, slum, and person with disability households (Figure 3.1). Many people felt they did not suffer much or did not feel the need to get tested, which explains the reluctance to go for a test despite having symptoms (Figure 2.2). In addition, nearly 12.3 per cent of persons with symptoms mentioned that they could not afford testing because of financial constraints. During the Platform's focus group discussion (FGD) conducted with the transgender community, one of the respondents mentioned, "Many suffered from COVID-19 but did not opt for testing – simply because we can't afford to test". The emergency contacts of public health services were also unavailable.

**Figure 2.1: Members with COVID-19 symptoms (Percentage of Households)**



Source: Citizen's Platform Field Survey 2021.

**Figure 2.2: Reasons for not testing for COVID-19 (Percentage of respondents)**



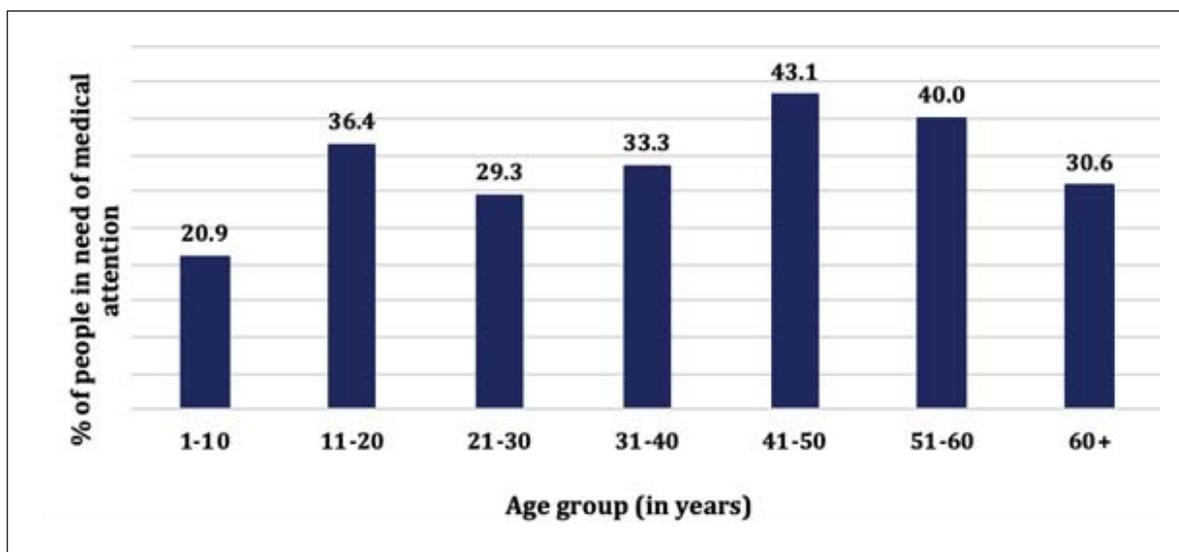
Source: Citizen's Platform Field Survey 2021.

### Challenges to Receive Regular Health Care Services by Gender and Age Cohorts

Since March 2020, one out of every three persons needing regular medical treatment could not opt for it. This was found to be true regardless of gender (Figure 2.3). In different age groups, 43.1 per cent of respondents experienced interruption in regular medical check-ups or follow-up treatment. In addition, 40.0 per cent of those between 51 to 60 years missed regular treatment schedules. The corresponding number of children aged between 0 to 10 was 20 per cent - perhaps suggesting that parents tried their utmost to ensure their child's best possible health care even during the pandemic (Figure 2.3).

The preceding analysis indicates the relatively modest direct impact on the two disadvantaged groups regarding symptoms, infections, and hospitalisation rates. However, the testing rate was low both at

**Figure 2.3: Regular medical check-up or follow-up interrupted by age group (Percentage of respondents)**



Source: Citizen's Platform Field Survey 2021.

the individual and household levels for members with COVID-19 symptoms main reasons for which include minimum physical sickness and finances. Besides the supply-side disruptions, the financial difficulties could also explain the challenges in receiving regular treatment during the pandemic, especially for those close to 60 years of age with limited income-earning opportunities and financial support from family. Indeed, the economic hardships of the disadvantaged groups exacerbated by the pandemic are major concerns than contracting the virus leading to more severe and protracted indirect health effects than the direct impact.

### 3. IMPLICATIONS FOR NUTRITION

Economic downturns, dysfunctional food supply chains, loss of livelihood, and high-income inequality interact through complex mechanisms to augment the pandemic's detriments to food security and nutrition. A study conducted between January-April 2021 by the World Food Programme (WFP) estimated moderate or severe food insecurity for adolescents in Dhaka division to have increased to 55 per cent during the pandemic from the pre-COVID national average of 31.5 per cent. Moreover, adolescent females' minimum dietary diversity (MDD-W) was reduced by 12 percentage points (Ohly et al., 2022). For the disadvantaged communities, these risks to food security and nutrition are expected to intensify manifold.

This section presents the COVID-19 impact on nutrition and dietary patterns of traditionally disadvantaged and newly disadvantaged households through (i) changes in food consumption by average household size and employment status, (ii) determinants of likelihood of households adjusting food intake, and (iii) changes in dietary diversity. The analysis guides the plausible mid-term implications for nutrition of the disadvantaged groups.

#### 3.1 Impact on Food Consumption

During a period of shock, households adopt extensive coping strategies, including compromising quantity and quality of food consumption (Corbett, 1988). According to HIES 2016-17, household

coping responses to income shocks are varied; income shocks tend to be primarily managed with households' resources rather than formal response mechanisms (Genoni et al., 2021). The personal coping approaches were observed during the COVID-19 pandemic and are evident in households' adjustment to food consumption habits.

### **Disadvantaged households with relatively larger sizes reduced food consumption.**

On average, the sample household size (4.6) in the study was larger than the national average of 4.06. The traditionally disadvantaged households with a larger average household size reduced food consumption compared to those with relatively smaller household sizes (Table 3.1). The difference is statistically significant for the Indigenous households within the group, wherein those with 4.6 individuals per household reduced consumption. The finding indicates larger LNOB households need to reduce food expenditure amidst the pandemic, even if the difference in size is only marginal. A higher dependency ratio made the traditionally disadvantaged households increasingly vulnerable to food insecurity during the pandemic. This is in line with studies that show that keeping per capita expenditure constant, food consumption largely falls in poorest countries as household size increases (Deaton & Paxson, 1998).

**Table 3.1: Change in Food Consumption by Average Household Size**

Groups	Change in Food Consumption		
	Average HH Size		
	HH did not reduce food consumption	HH reduced food consumption	P-value
Char	4.11	4.62	
Haor	4.88	5.64	
Coastal	5	4.83	
Slum	4.13	4.38	
Dalit	3.82	4.34	
Indigenous	4.15	4.6	*
PWD	5	4.84	
Female HHH	3.97	4.05	
Migrant	5.28	4.65	*
MSME	4.56	4.7	
All	4.55	4.62	
Newly disadvantaged	5.22	4.61	
Traditionally disadvantaged	4.31	4.62	**

Source: Citizen's Platform HH Survey 2021.

### ***Food consumption declined for a substantially high proportion of disadvantaged households irrespective of job losses***

A higher percentage of households where at least one member lost a job during the pandemic reduced food consumption compared to households with no job loss (Table 3.2). As high as 89.6 per cent of households that experienced job loss reported reduced food intake. The difference is highly significant for both newly disadvantaged and traditionally disadvantaged groups. Among the traditionally disadvantaged, the largest proportion of Char, PWD, and Slum households with job

losses reduced food consumption. Within the newly disadvantaged, the corresponding proportions were from MSME households.

It is critical to note that even without any job loss, a very high proportion of households, precisely 77.5 per cent reduced food consumption. Similar to the case for job loss, a higher percentage of traditionally disadvantaged households relative to the newly disadvantaged reduced food intake without any members losing jobs. This indicates the wage cuts experienced by the earning members of households during the pandemic. Furthermore, the unfavourable food adjustments of the traditionally left behind groups are a consequence of their considerable pre-existing vulnerabilities and limited income smoothing options, which cause them to be increasingly susceptible to adverse shocks.

**Table 3.2: Change in Food Consumption by Employment Status**

Groups	Change in Food Consumption by Employment Status		
	Average HH Size		
	No Job Loss	Job Loss	P-value
Char	72.5	91.23	**
Haor	76.74	88.64	
Coastal	80	81.33	
Slum	88.89	93.08	
Dalit	74.47	90.57	**
Indigenous	76.2	84.52	*
PWD	81.36	94.81	***
Female HHH	78.57	91.2	**
Migrant	62	80	**
MSME	64.29	90.99	***
All	77.53	89.56	***
Newly disadvantaged	62.22	87.45	***
Traditionally disadvantaged	79.22	90.19	***

Source: Citizen's Platform HH Survey 2021.

### 3.2 The Likelihood of Reduced Food Consumption During COVID-19: An Econometric Analysis

Numerous studies which analysed the COVID-19 implications for food security have outlined the negative economic shocks of income loss and financial indebtedness to predominantly cause households to shrink their food baskets relative to the pre-pandemic size. The present study employs a probit regression model to highlight the financial and non-financial factors that influenced the probability of traditionally and newly disadvantaged households reducing consumption during COVID-19.

#### **Financial Determinants**

Change in income: The marginal effects indicate that the likelihood of reduced food consumption at the household level increased with decline in income levels. Although the economic significance is low, as shown by a small magnitude of the marginal effects of percentage change in income, it is highly statistically significant for the traditionally disadvantaged households. However, the pre and post-

pandemic income variations did not influence food consumption decisions of newly disadvantaged households.

**Reduction in food expenditure and non-food expenditure:** Households that reduced food expenses were 12.5 per cent more likely to reduce consumption. The association was statistically significant only for the traditionally disadvantaged households that were 13.3 per cent more likely to reduce consumption.

Also, a reduction in non-food expenditure further increases the probability of households to reduce their consumption by 14.7 per cent. The associated increase in likelihood of lower consumption was 12.2 per cent and 25.7 per cent for traditionally and newly households, respectively. During a period of shock, households attempt to smooth their future food consumption by altering their non-food necessities (Barua and Banerjee, 2020). Thus, the comparatively lower probability of traditionally disadvantaged households could signify their limited financial space to allow for a balanced trade-off between varying kinds of household expenses.

**Savings withdrawal and loan uptake:** Among both the households, the need for savings depletion and loan uptake raised the probability of reducing food consumption. Overall, loan uptake had a higher economic and statistical significance than savings withdrawal, with consumption reducing by 8.27 per cent and 5.69 per cent, respectively. The findings uphold that of Ahmed et al. (2020), who found reverse causalities between loans and household food insecurity.

Traditionally disadvantaged households that withdrew savings were 5.2 per cent more likely to reduce food intake than an 8.5 per cent higher probability of lowering consumption for households that took loans.

The magnitude of the marginal effects of savings withdrawal was higher for newly disadvantaged households than the traditionally disadvantaged where use of savings raised the likelihood of lower consumption by nearly 12.6 percent. The lower value of average marginal effects of savings withdrawal for traditionally disadvantaged households could result from their constrained access to formal financial coping mechanisms. On the other hand, newly disadvantaged households which required loans were 8.6 per cent more likely to compromise their nutritional needs.

**Sale of livestock:** Households that sold livestock to cushion the financial shocks had a 7.3 per cent higher probability of reducing food consumption across all respondent groups, with a statistically significant effect ( $p < 0.1$ ).

### ***Non-Financial Determinants***

**Urban residence:** Households of urban residents were 3.2 per cent more likely to reduce food consumption. The effect is highly significant for the urban traditionally disadvantaged households, which had a 5.4 per cent higher probability of reducing consumption than their rural counterparts. Since the urban food basket is comparatively larger than the rural basket, the urban traditionally disadvantaged households had a feasible opportunity to reduce overall food consumption during the shock. The effect, on the contrary, was not significant for urban newly disadvantaged households. **Political affiliations:** It could be assumed that better-connected households may be better able to manage their regular dietary requirements, at least in terms of the daily quantity. The effect, however,

was slightly significant for the newly households, where they were 8.9 per cent less likely to reduce food intake.

The analysis above provides overarching evidence of the substantial influence of financial factors in inducing households to reconsider their regular dietary needs in terms of the number of determinants and their economic significance. Furthermore, these different vulnerability indicators indicate the importance of government support to aid disadvantaged households to cope and recover sustainably. Nevertheless, analysing three different kinds of government support (in-cash, in-kind, and a combination), the econometric exercise showed no significant effect of the support measures on households' food consumption decisions. This could refer to the inadequacy of the relief systems or governance-related inefficiencies that hindered eligible households from accessing the support packages.

**Box 3.1: Pandemic induced economic shocks, dietary deficiency and insufficient support: Experiences of the traditionally disadvantaged groups**

***Urban Floating Population***

After the onset of the second wave of the COVID-19 pandemic in Bangladesh, domestic workers, construction workers, autorickshaw pullers and van drivers reported their persistent reduced monthly or daily earnings relative to the pre-pandemic levels. The daily income of transportation workers reduced to an average of BDT 500 while van pullers' earnings decreased by more than 60 per cent compared to the pre-COVID level. Their disposable income was further lowered due to payment of charges for breach of lockdown restrictions and bribes to policemen and local thugs. The financial distress of the vulnerable groups was further exacerbated by insufficient government assistance which were directed more towards the politically affiliated. With no financial cushioning mechanisms and public food support, most of the respondents could afford a lower quantity of food below the households' daily requirements. Food security was threatened more during the second lockdown due to financial indebtedness of households.

***Transgender Community***

Although inadequate, during the first lockdown in April 2020, members of the transgender community received food assistance from government relief packages. The support, however, dried out in the second phase of the lockdown. The need for savings withdrawal, loan, sale of assets and lack of intended support from microfinance groups led to food insecurity in the community.

Source: Citizen's Platform FGD 2021.

**3.3 Adjustment in Food Consumption**

Reduction in food consumption had to be adjusted through compromising essential nutritional needs and dietary diversity that spiked hunger and malnutrition. With supply chain disruptions and income erosion, households, particularly the disadvantaged sought to downsize their food baskets consuming less protein and micronutrients (FAO, 2020). Hence, the pandemic has jeopardised populations' health and well-being, leading it to be a policy concern for both emerging and developing countries.

The most prevalent strategies to adjust for lower consumption were (i) reduction in protein items, (ii) reduction in meal items and protein intake, (iii) and reduction in meal, item and protein intake.

On average, a staggering 85.6 per cent of the surveyed households reported reduced food consumption. The highest proportion of households (53.6 per cent) adjusted the reduction through lowering number of items in a meal and protein intake. This strategy to cope was largely prevalent in Haor, MSME, and Slum households precisely 62 per cent, 61.4 per cent, and 58.3 per cent of

households, respectively. The second most common strategy was to reduce the number of protein items undertaken by a higher proportion of newly disadvantaged households (25.7 per cent) than the traditionally disadvantaged (16.2 per cent), observed for 27.3 per cent of migrants and 23.3 per cent of MSMEs.

The results align with a recent study that found nearly 47.0 per cent of low-income individuals reported a decrease in the frequency of meals, 73.0 per cent consumed less quantity of food while 83 per cent reduced their protein intake (Mostafa et al., 2021).

**Table 3.3: Adjustment in Food Consumption**

Adjustment in Food Consumption								
Groups	No food reduction	Reduction in number of meals only (M)	Reduction in items (I)	Reduction in protein items (P)	Reduction in meal and item (M+I)	Reduction in meal and protein intake (M+P)	Reduction in item and protein intake (I+P)	Reduction in meal, item and protein intake (M+I+P)
Char	17	0	1	12	2	4	40	24
Haor	18	0	5	13	1	0	62	1
Coastal	19	0	4	22	2	3	44	6
Slum	8	0.5	1.5	11.25	2.5	2	58.25	16
Dalit	17	1	2	18	1	2	46	13
Indigenous	19.33	-	1.67	24	-	-	52.67	2.33
PWD	8.27	-	2.16	13.67	2.52	2.16	54.68	16.55
Female HHH	14.35	-	0.84	19.83	0.84	0.84	53.59	9.7
Migrant	25.77	-	1.03	27.32	-	-	45.88	-
MSME	10.59	-	-	23.31	-	-	61.44	4.66
All	14.44	0.19	1.75	18.31	1.13	1.25	53.56	9.38
Newly disadvantaged	17.43	-	0.57	25.71	-	-	53.71	2.57
Traditionally disadvantaged	13.6	0.24	2.08	16.24	1.44	1.6	53.52	11.28

Source: Citizen's Platform HH Survey 2021.

The previous discussion highlights the unfavourable nutritional adjustments of disadvantaged households during the pandemic. The exacerbation of pre-existing vulnerabilities and financial shocks have induced households to reduce food intake regardless of employment status through hazardous dietary adjustments.

After the immediate onset of the pandemic, the Government of Bangladesh swiftly announced a range of stimulus measures to combat the economic and social fallouts of the crisis. Yet, the packages were thwarted by implementation inefficiencies, and as of March 2021, only Tk. 8000 crore (only 32 per cent) of the total Tk. 25000 crore package allotted to the disadvantaged population segments (The Daily Star, 2021). Also, expansion of food transfer programmes such as the Food Friendly Programme fell short of delivering the total allocation of rice to beneficiaries (Chowdhury et al., 2021). Moreover, the post-budget packages consisted of additional Tk. 3200 crore allocation for the disadvantaged, wherein fiscal transfer and food support were still inadequate (Citizen's Platform for SDGs, 2021).

In the absence of support schemes, looming uncertainty over future food affordability threatens rise in malnutrition at the household level and stunting of young children. Before the pandemic, improvement in food security and nutritional status was observed in terms of total energy but not in the share of energy obtained from protein and fat (Begum et al., 2014). A further reduction in protein intake would likely heighten food insecurity and malnutrition to risky levels. Furthermore, micronutrient deficiency due to poor diet quality would deteriorate young adolescents' psychological and pubertal development. Food insecurity could also adversely affect maternal nutrition and intrauterine growth restriction (IUGR), with longer-term consequences for maternal and child mortality.

#### **4. IMPLICATIONS FOR MATERNAL AND CHILD HEALTH**

The subsequent section presents the survey findings for the impact of the pandemic on maternal and child health. The implications for maternal health have been assessed regarding the pandemic-induced disruptions in institutional births, antenatal and postnatal care uptake, while the impact on child health has been analysed through the incidence of missed essential immunisations during the pandemic.

##### **4.1 Incidence of Non-institutional Births**

Half of the surveyed women in the sample gave birth at home during the pandemic. The proportion is higher than the national average of non-institutional births, 46.6 per cent in the pre-pandemic period (UNICEF, 2019). A rural-urban disaggregation of non-institutional births showed the rates to be 62.3 per cent in rural and 41.8 per cent in urban areas, higher than the pre-pandemic national averages of 51 per cent of rural home births and 32 per cent of urban home births (BDHS 2017-18).

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

Every surveyed woman from Haor and PwD households reported delivering at home during the pandemic within the rural, traditionally disadvantaged households. This was followed by 83 per cent of women from coastal and 58 per cent of women from indigenous households. However, the lowest proportion of home deliveries was observed for the rural slum women, although the corresponding ratio in the urban areas was considerably high. In the urban coastal households, more than 66 percent of women delivered at home in the urban coastal households.

Within the newly disadvantaged households, all of the surveyed women from rural MSME households gave birth at home though the proportion of urban respondents was comparatively lower.

Across the groups in both locations, migrant households had the lowest proportion of home births. However, the comparatively larger rates of non-institutional births in migrant households amidst the pandemic could be explained by their higher than national average income in the pre-pandemic period enabling their affordability of private child delivery services.

**Table 4.1: Place of Birth (Home) by Rural-Urban Settlement**

Place of Birth (Home) by Rural-Urban Settlement		
Groups	Rural	Urban
Char	37.50	-
Haor	100.00	-
Coastal	83.33	66.67
Slum	33.33	57.89
Dalit	0.00	40
Indigenous	57.89	-
PWD	100.00	50
Female HHH	50.00	0
Migrant	33.33	25
MSME	100.00	41.67
All	62.30	41.82
Newly disadvantaged	42.86	33.33
Traditionally disadvantaged	64.81	48.39

Source: Citizen's Platform HH Survey 2021.

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

Contrary to rural coastal and indigenous households, home births reported for the households of rural haor, PwD, female HHH, and MSME merely signal the manifestation of pre-COVID trends. On the other hand, home births in PwD, coastal, slum, MSME, and migrant households in urban areas were primarily driven by the pandemic. Studies show that the use of facilities declined in Bangladesh due to service disruptions, transportation restrictions, and the fear of contracting the virus (UNICEF 2020; USAID, 2020).

**Table 4.2: Place of Birth (Home) due to COVID-19**

Place of Birth (Home) by Force		
Groups	Rural	Urban
Char	66.67	-
Haor	7.69	-
Coastal	40.00	50
Slum	0.00	54.55
Dalit		
Indigenous	63.64	-
PWD	0.00	50
Female HHH	0.00	0
Migrant	0.00	33.33
MSME	0.00	40
All	31.58	47.83
Newly disadvantaged	0	37.50
Traditionally disadvantaged	34.29	53.33

Source: Citizen's Platform HH Survey 2021.

## 4.2 Missed Antenatal Check-up

***A higher percentage of expecting mothers in the two disadvantaged communities undertook all required antenatal care visits than the shares who missed all prescribed check-ups.***

The pregnant women of disadvantaged urban communities, in particular, were not restricted by the pandemic to visit clinics for antenatal care. No pregnant women of newly disadvantaged communities and only 6.7 percent of those in the traditionally disadvantaged missed antenatal care visits (Table 4.3). Furthermore, 100 per cent of the surveyed pregnant women from urban coastal, dalit, female HHH, and MSME responded to have undertaken all required antenatal check-ups. The finding contradicts the evidence of the pandemic-induced limited availability and uptake of antenatal care presented in literature. This could be owed to the survey period of the current study when services were partly resumed, and the economy was not under lockdown.

Nevertheless, it should be noted that, in rural areas, half of the pregnant slum women in traditionally disadvantaged communities and one-third of the migrants in the newly disadvantaged communities reported to have not received antenatal care.

**Table 4.3: Missed Check-up (Pregnant Women) by Rural-Urban Settlement**

Missed Check-up (Pregnant Women) by Rural-Urban Settlement								
Groups	Rural				Urban			
	All	One	Few	None	All	One	Few	None
Char	-	50.00	-	50.00	-	-	-	-
Haor	25.00	-	-	75.00	-	-	-	-
Coastal	-	-	-	100.00	-	-	-	100
Slum	50.00	-	0.00	50.00	7.14	-	14.29	78.57
Dalit	-	50.00	-	50.00		0		100
Indigenous	22.22	-	11.11	66.67	-	-	-	-
PWD	33.33	-		66.67	33.33	-	-	66.67
Female HHH	-	-	-	100.00	-	-	-	100
Migrant	33.33	33.33	-	33.33	33.33	33.33		33.33
MSME	-	-	-	100.00	-	-	-	100
All	23.08	3.85	11.54	61.54	6.25	12.5	0	81.25
Newly disadvantaged	33.33	33.33	-	33.33	0.00	0	-	100
Traditionally disadvantaged	21.74	4.35	8.7	65.22	6.67	13.33	0	80

Source: Citizen's Platform HH Survey 2021.

## 4.3 Missed Postnatal Check-up

***High proportions of new mothers also did not miss postnatal check-ups, although particular traditionally disadvantaged groups could not follow up with the required visits.***

Resembling the reported figures for antenatal care, all of the surveyed new mothers from urban female HHH and MSME undertook essential postnatal care during the pandemic. However, the rates of new

mothers from urban coastal and dalit households who missed none of the postnatal visits decreased drastically by 33.3 and 60 percentage points, respectively, compared to their corresponding shares for antenatal care. The trend was also observed for their rural counterparts. Likewise, the proportion of new mothers in urban slums who received all postnatal care fell by 31.2 percentage points compared to the respective share who had received their complete antenatal check-ups.

**Table 4.4: Missed Check-up (Mother-PNC Visit) by Rural-Urban Settlement**

Missed Check-up (Mother-PNC Visit) by Rural-Urban Settlement								
Groups	Rural				Urban			
	All	One	Few	None	All	One	Few	None
Char	12.50	-	50.00	37.50	-	-	-	-
Haor	-	7.69		92.31	-	-	-	-
Coastal	-	-	50.00	50.00	-	-	33.33	66.67
Slum	33.33	0.00	0.00	66.67	15.79	31.58	5.26	47.37
Dalit	66.67	-	0.00	33.33	40	-	20	40
Indigenous	21.05	15.79	10.53	52.63	-	-	-	-
PWD	-	0.00	-	100.00	25	-	-	75
Female HHH	-	50.00	-	50.00	0	-	-	100
Migrant	16.67	-	-	83.33	16.67	-	-	83.33
MSME	-	-	-	100.00	-	-	-	100
All	14.75	16.39	4.92	63.93	12.73	14.55	3.64	69.09
Newly disadvantaged	14.29	-	-	85.71	8.33	-	-	91.67
Traditionally disadvantaged	14.81	18.52	5.56	61.11	16.13	25.81	6.45	51.61

Source: Citizen's Platform HH Survey 2021.

#### 4.4 Child Immunisation

***A higher proportion of the traditionally disadvantaged households missed their child's immunisation than the newly disadvantaged.***

A disaggregated view of the overall rural-urban figures in Table 4.5 indicates that young children of rural traditionally disadvantaged households mainly were not immunised with essential vaccinations during the pandemic. Among the groups in the traditionally disadvantaged community, the highest proportion of Dalit households (20 per cent) reported having missed their child's immunisation. This share is also noticeably higher than the vulnerable groups in the newly disadvantaged community and across rural-urban locations.

The cases of missed child immunisation have also been reported by relatively larger shares of rural PWD and coastal households. On the contrary, only the comparatively smaller proportion of rural migrant households did not immunise their children in the newly disadvantaged community. Although migrant households had the highest rate of institutional births, their comparatively lower child immunisation rates could be attributed to the movement restrictions and the halt of essential services during the pandemic.

**Table 4.5: Missed Immunisation by Rural-Urban Settlement**

Missed Immunisation by Rural-Urban Settlement		
Groups	Rural	Urban
Char	5.26	-
Haor	2.13	-
Coastal	16.67	0
Slum	6.67	0
Dalit	20.00	8.49
Indigenous	0.00	5
PWD	19.05	-
Female HHH	-	-
Migrant	6.25	0
MSME	0.00	0
All	5.30	4.50
Newly disadvantaged	4.17	0.00
Traditionally disadvantaged	5.56	6.67

Source: Citizen's Platform HH Survey 2021.

The preceding section highlighted the COVID-19 implications for maternal and child health of Bangladesh's traditionally and newly disadvantaged groups. The case of home childbirths and missed child immunisations were higher among the traditionally disadvantaged groups than the newly disadvantaged ones. In contrast to the widely cited disruptions in maternal care in existing literature, the current study found relatively lower proportions of mothers from disadvantaged households who missed antenatal and postnatal care visits. Mothers from coastal and dalit households and the urban slums could not follow-up with the required postnatal visits.

In Bangladesh, during the first 40 weeks after COVID-19, 2.4 million babies were projected to be born, accounting for 2.07 per cent of the total global estimate. However, unsafe non-institutional child deliveries combined with reduced demand and supply of necessary health care services for mothers and newborns have risked maternal and child health. Ante and post-partum haemorrhage and eclampsia and preeclampsia, the most common causes of maternal deaths in Bangladesh, are likely to exacerbate due to increased home births. In addition, the low rates of antenatal care visits could result in maternal malnutrition and low birth weights of children, and the consequence is likely to be severe for poorer households (The World Bank, 2021). In the long term, undernourishment of children born in poor households will deteriorate human capital formation. Thus, ranging from unintended pregnancies, pregnancy complications, and unsafe abortions, the consequences could be as severe as stillbirths and maternal, neonatal, and child deaths.

## 5. EXPERIENCE OF COVID-19 VACCINATION OF THE DISADVANTAGED POPULATION

Bangladesh began administering COVID-19 vaccines on 27 January 2021, followed by mass vaccination on 7 February 2021, prioritising frontline workers and elderly population aged 55 years and above. Till 5 March 2022, 75 per cent of the population received the first dose, and 67 per cent received the second dose. The rates, however, are comparatively lower for the third dose, where only 9 per cent of those who received the double dose were given the booster shot. Nevertheless, these aggregate figures conceal the significant inequities within the vaccine administration system.

This section identifies the disadvantaged groups with low levels of willingness and vaccine uptake, their socioeconomic traits and possible factors behind vaccine hesitancy, low registration and inoculation rates. It further brings insights into the best practices of national and South Asian countries to ensure an inclusive vaccination system.

### **5.1 The Vaccination Drive and Inequality**

According to the Asian Development Outlook Supplement (2021), Bangladesh ranked seventh only above Afghanistan in vaccinating the entire population. As of 27 December 2021, only 27 per cent of the population in Bangladesh were completely vaccinated (Our World in Data, 2021). The low rates of vaccination signal the case of a “shadow inequality” in the COVID-19 vaccination drive.

A cross-sectional online survey across nine low- and middle-income countries found a lower willingness to vaccinate among people with low educational attainment and limited knowledge of COVID-19, those with low income, and females and youths because of misconceptions about the vaccine side-effects (Bono et al., 2021). Vaccine hesitancy was mainly prevalent among disadvantaged communities in Bangladesh from the initial phases of the vaccination drive. A household survey conducted from December 2020 to January 2021 revealed the high vaccine refusal rates among agriculture workers, day-labourers, homemakers, slum dwellers, semi-urban and rural communities due to low confidence in the healthcare system, reluctance towards maintaining health protocols, limited awareness, lack of access to digital devices and digital literacy (Abedin et al., 2021).

Surveys conducted among different marginalised communities during March and June 2021 indicated an improved knowledge and understanding of COVID-19 and vaccine-related facts and information,<sup>6</sup> although misconceptions about the virus, vaccine efficacy, and side effects were still reported (CARE Bangladesh 2021; BRAC University, 2021). Despite the increased awareness, according to the survey of CARE Bangladesh in March 2021, only 6 per cent of the surveyed marginalised groups were found to have registered for vaccine, while merely 4 per cent received at least one dose. A higher proportion of those who registered for vaccines was assisted by peers or local stationery stores with computer facilities signalling the case of digital restrictions among marginalised communities. Similarly, the socioeconomic inequalities in COVID-19 vaccination have also been highlighted by Goswami and Labiba (2021). An online purposive random sampling showed the discrepancy between the vaccination rates of household heads and their domestic help in Dhaka in April 2021. In contrast to household heads, domestic workers above 40 years were unvaccinated primarily due to insufficient awareness, access to digital devices, the internet, digital literacy, and NIDs. Moreover, data from the Bangladesh COVID-19 Vaccination Dashboard depict no gender-based discrepancy in administering the first and second doses of COVID-19 vaccination. However, in the third dose administration, while 66 per cent of eligible males received the booster rate, the rate was low at 35 per cent for females.

Various media sources have highlighted the continuing incidence of vaccination inequality. More than six months after the beginning of vaccine administration, there were marked district-wise disparities in vaccine uptake. Due to a centralised public healthcare system, vaccine administration was concentrated in Dhaka despite increasing positivity rates in other divisions (Tasneem, 2021). Recently, almost seven lakh people in Chattogram were yet to receive the first dose due to acute shortages of vaccines which prevented pregnant women from being inoculated within a medically stipulated time

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<sup>6</sup>However, according to the survey conducted by BRAC University, misconceptions and superstitious beliefs about COVID-19 disease and vaccination were observed among urban slum dwellers (BRAC University, 2021).

(Azad, 2021). Across marginalised communities, migrant workers encountered difficulties receiving vaccinations required by their host nations since their designated centres offered Sinopharma<sup>7</sup> (Dhaka Tribune, 2021). In addition, members of the transgender community have been excluded from the vaccination campaign. They experience humiliation and ignorance at vaccination centres due to misspecifications of gender identities on their NIDs, absence of separate gender selections for transgender people in the registration app, and inadequate digital literacy (Deepto, 2021; Jahin, 2021). Similarly, the administration of booster doses will likely overlook the disadvantaged segments without government prioritisation since most have not received the second dose due to the need for online registration (The Business Standard, 2021).

## **5.2 Policy Response and Cross-Country Lessons**

Policies undertaken by the government of Bangladesh, has to a certain extent, addressed the hurdles of marginalised and vulnerable segments of the population in receiving COVID-19 vaccination. In August 2021, the Directorate General of Health Services (DGHS) devised a careful plan to inoculate breastfeeding and pregnant women who, upon registration, will be counselled by doctors to receive vaccines at centres with hospital facilities. A vaccination drive was also conducted in one of the largest slums of the capital city, where slum dwellers were vaccinated without any prior online registration and even those with no NIDs. International agencies, non-government organisations, and volunteers were also engaged to vaccinate the marginalised in different districts and divisions and displaced people in the camps of Cox's Bazar (reliefweb, 2021). Lately, the launch of the Bureau of Manpower, Employment and Training (BMET) Ami Probashi app has facilitated prioritised vaccine registration of migrant workers, ensuring timely vaccinations with the required brand. Nevertheless, the policies have fallen short of adequately targeting and covering wider marginalised groups' segments. In this view, the vaccination strategies of the peer South Asian countries can provide valuable policy guidelines in attaining an inclusive and equitable vaccination campaign in Bangladesh.

Bhutan's vaccination success story is a classic model for Bangladesh to vaccinate the people of remote and hard-to-reach areas. Bhutan successfully vaccinated 90 per cent of target population within a week through implementation of a national COVID response plan which included establishments of cold chain storage facilities in health centres of remote areas, community engagement such as development partners, local leaders and youth volunteers to aware people in the response efforts and demonstration of strong leadership and governance (UNICEF 2021; CNN 2021). Bangladesh could rightly adopt Bhutan's policy to digitise the vaccine management system. This should equip the government with real-time data on vaccination stocks across health centres and which communities are being left behind in the campaign to ensure quick, equitable, and efficient vaccine administration (UNDP, 2021). The focus of the vaccination drive in Maldives has also been on providing equity through vaccination of the entire population regardless of nationality and legal status (UN 2021).

Furthermore, the strategic approaches of targeting specific marginalised communities for vaccination have been demonstrated by India. As such, government of Bangladesh could consider the supervised home-based vaccination of persons with disabilities (PWD), inoculation of waste workers and rag pickers by including them in the category of front line workers, as well as mobile vaccination facilities like "Vaccine on Wheels" in India to vaccinate HIV patients, sex workers, construction workers and street vendors (The Times of India, 2021a; The Times of India, 2021b; News18 2021).

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<sup>7</sup>A vaccine which is not yet widely accepted by several nations.

If implemented by public authorities, these best practices will provide an opportunity to overcome the low registration rates among disadvantaged communities. Although vaccine hesitancy reduced and knowledge improved, low registration rates and lack of willingness could persist in being a concern behind the lower rates of second and third doses of the vaccine.

## **6. CONCLUSION AND POLICY OUTLOOK**

The COVID-19 pandemic has resulted in numerous consequences of varying scope and intensity across countries. The extensive nature of the health repercussions enables those to be categorised into direct and indirect impacts. While the direct impact has been moderate, the indirect effects have resulted in the most significant adverse consequences for disadvantaged communities prolonging into the long term and affecting the national development ambitions. The foremost negative indirect effect has been the growing food insecurity and associated nutritional deficiencies, followed by adverse maternal and child health outcomes. The chapter has outlined the direct and indirect health implications of COVID-19 for Bangladesh's traditionally and newly disadvantaged communities and further presents findings from secondary literature on COVID-19 vaccination inequality, which could potentially compound the aforementioned indirect health challenges.

Firstly, survey findings reveal lower food intake by nearly 86 per cent of disadvantaged households. Indigenous groups of relatively larger average household size were compelled to reduce consumption. Among households that compromised food intake, 90 per cent were driven due to loss of employment, noticeably observed for char, PWD, slum, and MSME households. However, over 77 per cent of households where no member has lost jobs also reported decreased consumption. The change in household consumption behaviour was adjusted through reduced quantity of meal items and protein intake primarily by haor, MSME, and slum households.

Secondly, home births were exceptionally high in traditionally disadvantaged households. In rural areas, 100 per cent of the surveyed women from haor and PWD households gave birth at home, and in the urban areas, more than 50 per cent of the slum and coastal women delivered at home. However, contrary to rural households, home births in urban disadvantaged households were consequence of the pandemic. Also, contradicting other studies, the survey indicated no significant disruption in antenatal and postnatal visits. Nevertheless, certain groups within the traditionally disadvantaged community were unable to follow through with the required course of postnatal care. Furthermore, notably large shares of children in the rural traditionally disadvantaged households of dalit, PWD, and coastal missed immunisations.

Thirdly, although knowledge about COVID-19 vaccination improved and vaccine hesitancy lessened throughout 2021, the vaccination drive continues to be marked by stark inequalities. As is now firmly considered that vaccine inequality would lead to destructive mutations of the virus, emerging variants and uneven recovery would compound the socioeconomic adversities. The resulting underemployment, strained health systems, and irregular availability of essential services would only aggravate the nutritional, maternal, and child health-related challenges.

Thus, threats to food security urgently call on the government to allocate sufficient and targeted direct cash transfers and food support to the most disadvantaged groups, i.e., char, haor, indigenous, PWD, slum, and MSME households. Furthermore, such targeted interventions should be continued, and quantity raised if households' financial hardships intensify with the emergence of new variants

of COVID-19 and the resulting uneven recovery. A robust monitoring mechanism and functional body would be required to ensure that the right holders receive the support packages and are not benefited only by the politically affiliated.

To counteract the rising trend of urban home births, demand-side financing schemes could incentivise pregnant women and health care providers towards institutional deliveries. One such means could be the resumption of the maternal vouchers based on a targeted approach wherein mothers who deliver at institutions receive cash allowances. In addition, the medical staff is also incentivised based on whether they conduct normal deliveries or C-sections. Supply-side disruptions for both maternal health and child immunisation services, on the contrary, could be minimised through the involvement of non-governmental organisations. In this connection, the urban primary health care project could be a guiding model for the government.

Concerning the COVID-19 vaccine inequality, mass vaccination for attaining full coverage of the eligible population will be significantly facilitated by local production of the vaccines. Since Bangladesh is prepared to produce vaccines, the much-debated patent waiver will be beneficial, given a transfer of technology and knowledge. An active engagement of public representatives in advocating for the patent waiver will prove valuable, especially after Bangladesh graduates from the group of least developed countries (LDC) due to an established system of domestic vaccine production and supply chain. Nevertheless, the patent waiver is not a sufficient condition for achieving vaccine equality within Bangladesh. It has to be complemented with targeted approach to locate, make aware, and vaccinate the disadvantaged groups, addressing their digital barriers, simplifying registration processes, and building vaccination centres in hard-to-reach areas.

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## ANNEXES

### Annex 1: Technical Appendix

Using descriptive statistics, the maternal and child health implications are analysed via cases of missed antenatal and postnatal care visits, non-institutional births and missed child immunisations. The impact on nutrition is assessed through the possibility of food consumption reduction during the pandemic and identification of coping strategies for reduced food intake.

The study further undertakes an econometric analysis to determine the factors behind food consumption reduction. The approach is to identify structural models for the incidence of 'reduction in food consumption'. The paper utilises the following standard binomial Probit model to examine influence of some independent variables on the likelihood of lower household food intake during the pandemic:

$$Prob[Y_i=1] = \Phi (\alpha_0 + \alpha_1 \text{Changeinincome}_i + \alpha_2 \text{Jobloss}_i + \alpha_3 \text{HHsize}_i + \alpha_4 \text{HHsizesquared}_i + \alpha_5 \text{Urbani} + \alpha_6 \text{Newshock}_i + \alpha_7 \text{Network}_i + \alpha_8 \text{Reductioninfood\_expense}_i + \alpha_9 \text{Reductioninnonfoodexpense}_i + \alpha_{10} \text{Privatesupport}_i + \alpha_{11} \text{Govermentsupportincashi} + \alpha_{12} \text{Govermentsupportinkindi} + \alpha_{13} \text{Govermentsupportboth}_i + \alpha_{14} \text{Savingwithdrawal}_i + \alpha_{15} \text{Loan}_i + \alpha_{16} \text{Saleoflivestock}_i + u_i)$$

where  $i = 1 \dots n$  households and  $\Phi$  represents the cumulative distribution function operator for the standard normal. Using STATA, the analysis is done adjusting the model for heteroscedasticity.

The coefficients of independent variables measure the likelihood of the households reducing food consumption if there is a change in the variable before and after the pandemic. For simplicity, this study uses percentage as a unit for measuring the effects of independent variables on the binary dependent variable.

The study further benefits from secondary information sources particularly the household level surveys conducted by national think tanks such as Centre for Policy Dialogue, Citizen's Platform for SDGs, BRAC Institute of Governance and Development and South Asian Network on Economic Modeling. The findings from secondary surveys fed into the review of COVID-19 vaccination inequalities as well as the pandemic-induced socioeconomic difficulties.

**Annex 2: Regression Analysis of Factors affecting Food Consumption Reduction Decision**

Variables	All Groups		LNOBS		PNOBS	
	Probit coefficient	Marginal effects	Probit coefficient	Marginal effects	Probit coefficient	Marginal effects
Change in Income	-0.00563** -0.0024	-0.000832** -0.000351	-0.00857*** -0.00278	-0.00121*** -0.000386	-0.000247 -0.00679	-3.30E-05 -0.000907
Lost Job	-0.0246 -0.105	-0.00364 -0.0155	0.0104 -0.117	0.00146 -0.0165	-0.115 -0.296	-0.0154 -0.0397
HH Size	0.136 -0.107	0.0201 -0.0157	0.258* -0.154	0.0364* -0.0216	-0.381* -0.2	-0.0510** -0.0256
HH Size Squared	-0.00979 -0.009	-0.00145 -0.00133	-0.0176 -0.0145	-0.00248 -0.00203	0.0281** -0.0143	0.00376** -0.00183
Urban	0.215* -0.112	0.0318* -0.0166	0.383*** -0.13	0.0541*** -0.0183	-0.421 -0.295	-0.0562 -0.0382
New Shock	-0.0689 -0.109	-0.0102 -0.0161	-0.106 -0.126	-0.015 -0.0177	-0.372 -0.315	-0.0497 -0.0416
Network	-0.0974 -0.121	-0.0144 -0.0179	-0.0594 -0.135	-0.00838 -0.019	-0.663* -0.361	-0.0886* -0.0471
Reduction in Food Expense	0.849*** -0.167	0.125*** -0.0237	0.942*** -0.21	0.133*** -0.0281	0.51 -0.377	0.0681 -0.0495
Reduction in Non-Food Expense	0.998*** -0.214	0.147*** -0.0321	0.861*** -0.252	0.122*** -0.0363	1.921*** -0.428	0.257*** -0.0597
Private Support	0.386** -0.167	0.0570** -0.0243	0.477** -0.195	0.0673** -0.0274	0.118 -0.39	0.0158 -0.0518
Government Support in Cash	-0.0772 -0.474	-0.0119 -0.0743	0.41 -0.524	0.0506 -0.0561		
Government Support in Kind	0.0737 -0.117	0.0109 -0.0172	-0.052 -0.129	-0.00742 -0.0184	0.433 -0.405	0.055 -0.0477
Government Support in Both	0.163 -0.208	0.0234 -0.0289	0.0395 -0.215	0.00549 -0.0296	0.422 -0.823	0.0537 -0.0961
Withdrawal Savings	0.385** -0.168	0.0569** -0.0246	0.370* -0.213	0.0522* -0.0297	0.944*** -0.352	0.126*** -0.0455
Took Loan	0.560*** -0.12	0.0827*** -0.017	0.602*** -0.145	0.0850*** -0.0194	0.643** -0.281	0.0859** -0.0358
Sold Livestock	0.489* -0.29	0.0723* -0.0426	0.504 -0.332	0.0712 -0.0466	0.779 -0.697	0.104 -0.0908
Local Government Support						
Constant	-0.369 -0.301		-0.721* -0.399		1.204* -0.654	
Observations	1,522	1,522	1,233	1,233	288	288
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Source: Citizen's Platform HH Survey 2021.

The COVID-19 pandemic has exposed the health of citizens, their access to essential health services and food security to unprecedented challenges. The effects, however, are not equal across the population and more complex and severe for the disadvantaged groups originating from their economic, social, and geographical vulnerabilities. The implications extend to the Sustainable Development Goals (SDGs) as well, risking the loss of progress achieved, particularly the stagnation of under-five mortality (SDG 3.2.1), maternal mortality (SDG 3.1.1), stunting, and malnutrition of under-five aged children (SDGs 2.2.1 & 2.2.2). The present paper seeks to contribute by filling the existing knowledge gap on the health implications of the COVID-19 pandemic on the traditionally and newly disadvantaged communities in Bangladesh.

The study has analysed the health implications of the pandemic along two dimensions, i.e., the direct and indirect health impacts. The direct impacts refer to the COVID-19 testing, infection and hospitalisation rates. The indirect impacts include the effects on food security and maternal and child health. In doing so, a 1600 household survey was conducted from nine disadvantaged groups across eight divisions in Bangladesh. The findings provide valuable insights into the demand-side issues of the disadvantaged groups concerning COVID-19 vaccination, food consumption and maternal and child health. It also puts forth the associated coping strategies adopted and analysis of public strategy, which aided propositions of holistic policy approaches in the paper to support the disadvantaged groups.



Citizen's Platform for SDGs, Bangladesh

এসডিজি বাস্তবায়নে নাগরিক প্ল্যাটফর্ম, বাংলাদেশ

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