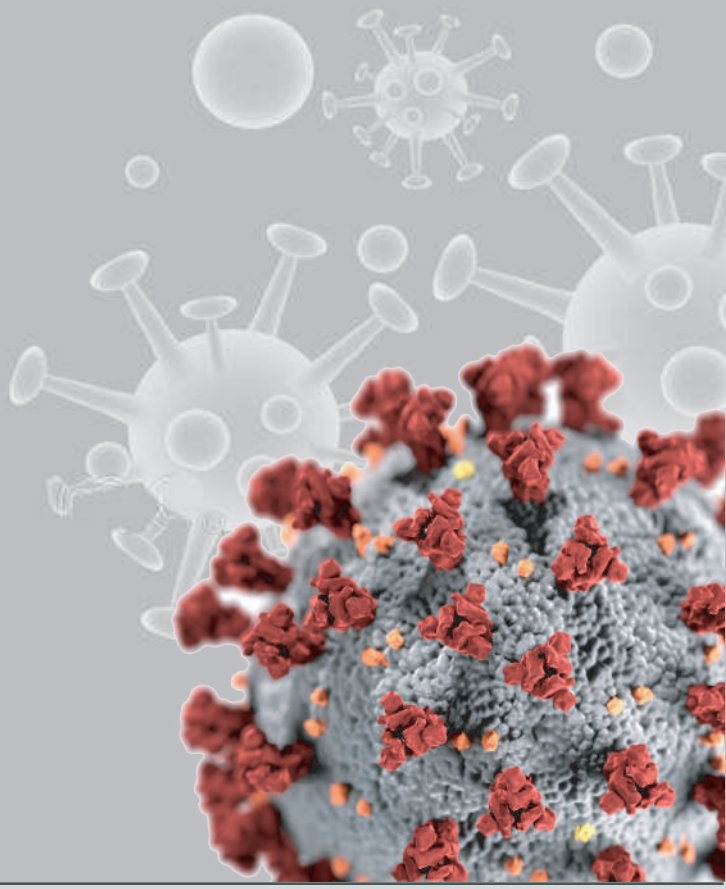

DETERMINING THE IMPACT OF COVID-19 ON NUTRITION

PROJECTION OF THE POSSIBLE MALNUTRITION BURDEN DURING AND POST COVID-19 IN BANGLADESH

SECOND EDITION
August 2020

Bangladesh National Nutrition Council

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SUPPORTED BY
Expert Committee on Food Security and Nutrition

Acronyms

ANC	Antenatal Care
BCC	Behaviour Change Communication
BNNC	Bangladesh National Nutrition Council
BPRP	Bangladesh Preparedness and Response Plan
CIP2	Second Country Investment Plan
COVID-19	Coronavirus Disease 2019
CPD	Center for Policy Dialogue
DGHS	Directorate General of Health Services
DNCC	District Nutrition Coordination Committees
DPE	Directorate of Primary Education
DPHE	Department of Public Health Engineering
EPI	Extended Programme for Immunization
FAO	Food and Agriculture Organization
FLWs	Front-Line Workers
FWCs	Family Welfare Centres
GAM	Global Acute Malnutrition
GDP	Gross Domestic Product
GHI	Global Hunger Indices
GMP	Growth Monitoring and Promotion
HCTT	Humanitarian Coordination Task Team
HPNSP	Health Population Nutrition Sector Programme
IFA	Iron Folic Acid
IFPRI	International Food Policy Research Institute
IPC	Infection Prevention and Control
IYCF	Infant and Young Child Feeding
LBW	Low Birth Weight
LCG-N	Local Consultative Group for Nutrition
LMICs	Low- and Middle-Income Countries
M&E	Monitoring and Evaluation
MAD	Minimum Acceptable Diet
MAM	Moderate Acute Malnutrition
MDD	Minimum Dietary Diversity
MDD-W	Minimum Dietary Diversity for Women
MoDMR	Ministry of Disaster Management and Relief
MoHFW	Ministry of Health and Family Welfare
MoPME	Ministry of Primary and Mass Education
MTR	Mid-Term Review
NGO	Non-Government Organization
NNS	National Nutrition Services
NPAN2	Second National Plan of Action for Nutrition
OMS	Open Market Sale
PFDS	Public Food Distribution System
PNC	Postnatal Care
PPE	Personal Protective Equipment
SAM	Severe Acute Malnutrition
SMART	Specific, Measurable, Achievable, Relevant, Time-Oriented
SMEs	Small and Medium Enterprises
SOP	Standard Operating Procedure
SSNP	Social Safety Net Programme
SUN	Scaling Up Nutrition
THR	Take Home Ration
UNCC	Upazila Nutrition Coordination Committee
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

Contents

Preface

Bangladesh has made immense achievements in economy, food security, health and nutrition, and its progress has been steady since 2010. The country is on track towards achieving its child nutrition goals and nutrition targets by 2025, as set out in NPAN2. The country is also self-sufficient in rice and fish production, and is now driving to achieve safety and diversity of diets to enhance nutrition, which however, is still a challenge.

While recurrent floods and natural disasters continue to torment the country, the advent of the COVID-19 pandemic and its rapid spread has disrupted the lives and livelihoods of the population. Damaging effects are most pronounced among the poor and the most vulnerable. Like in many countries, the current COVID-19 crisis has deeply impacted all known underlying and proximate drivers of malnutrition in Bangladesh. Now it is beyond doubt, that unless appropriate mitigation measures are taken on time and put in place, COVID-19 will jeopardize the nutritional status of vulnerable population groups, in particular children under 5 years of age and women in the reproductive age group in the short, medium and long term. Consequently, it could reverse gains made till date in the country.

In order to mitigate COVID-19's negative impact on nutrition, the Bangladesh National Nutrition Council (BNNC), with support from its high-level Expert Committee on Food Security and Nutrition, other experts and partners has undertaken an initial exercise in April 2020 to assess the COVID-19 malnutrition case burden based on three probable scenarios. This exercise was expanded in July 2020 to create a second edition, with support from United Nations and other partners. The three scenarios that were considered were in alignment with the WHO threshold cut-off levels for Global Acute Malnutrition (GAM). Based on the projected situation, due to the interplay of the deterioration of several underlying factors contributing to malnutrition, there is a dire need for a well-coordinated and harmonized preventive and mitigating approach. The assessment has recommended a multi-sectoral response plan, encompassing food and nutrition security, following a multi-sectoral approach and establishing a monitoring, evaluation, and surveillance system.

This is a living document which will be updated as deemed necessary. I would like to take the opportunity to thank each member of the Expert Committee, development and research partners, and individuals who have contributed through their valuable advice, intellectual thinking, and sharing of documents. I would also like to offer my heartfelt thanks to my colleagues who worked very hard to make this effort a success. I am confident that this document will help effective decision making by policy makers, implementing agencies of the government, development partners and civil society organizations towards improving and sustainably addressing the nutrition and food security situation during this COVID-19 situation in Bangladesh.

Dr. Md. Khalilur Rahman
Director General
Bangladesh National Nutrition Council (BNNC)

Executive Summary

Bangladesh has achieved admirable progress in improving the nutrition status of its population, with child stunting having reduced from 41.3% in 2011 to 31% in 2017- 2018 and wasting having reduced from 15.6% to 8.4%[1]. Moreover, the consumption of a Minimum Acceptable Diet (MAD) has increased from 21.2% to 34.1%, and Minimum Dietary Diversity (MDD) from 24.25% to 37.5% among children during the same period. However, the COVID-19 pandemic and the Government of Bangladesh's related extended general Holiday which commenced on 26 March 2020, Bangladesh Independence Day, and continued until 30 May 2020 is likely to have significantly driven back this progress.

The advent of the COVID-19 pandemic has disrupted the life of the population in general, with its profound detrimental effects on the poor and the most vulnerable. The negative impact of COVID-19 on economic growth, with loss of jobs and reduction in individual earnings will result in more people falling below the poverty line leading to an upsurge in poverty, hunger and malnutrition. If left unaddressed, the socio-economic impacts of COVID-19 will wreak havoc on the nutrition status of under 5 children and women of reproductive age, which could reverse the gains made in Bangladesh to date.

To enable the Government of Bangladesh to respond to this crisis in a swift and effective manner, the Bangladesh National Nutrition Council (BNNC) along with a high-level Expert Committee on Food Secu-rity and Nutrition has taken the lead in assessing and projecting the impact of the COVID-19 pandemic on Bangladesh's food and nutrition outcomes. For that purpose, it has undertaken an exercise to assess the anticipated malnutrition case burden post COVID-19 and develop workable solutions.

Malnutrition significantly increases people's vulnerability to diseases. Moreover, there seems to be a bi-directional relationship between infections of COVID-19 and those suffering from chronic diseases affecting the immune system. For example, where there are already high rates of malnutrition, diarrhea, malaria, HIV/AIDS and TB, people are more susceptible to the virus. Like in many countries, the COVID-19 pandemic has pushed and deepened further all known underlying and proximate drivers of malnutrition in Bangladesh. COVID-19's impact on malnutrition will likely manifest itself through multiple pathways in the short, medium and long term. In the process, social inequalities will contribute to differential impacts.

A recent Lancet modelling exercise estimates that "if routine health care is disrupted and access to food is decreased [.....],the increase in child and maternal deaths will be devastating."[2] For instance, a 50% increase in wasting prevalence could account for an 18-23% increase in child deaths in the next six months. It is assumed that stunting (chronic malnutrition) may fall back from a current level of 31% in 2017-18 (pre-COVID-19) to 36%, as in 2014 or even at 41% as in 2011. Wasting (acute malnutrition) could deteriorate from the current level of 8% in 2017-18 to 14% or even 16%.[3]

The quantity of essential health and nutrition services provided through the health system has increased significantly over the last decade, with the percentage of women between 15 and 49 years of age receiving ANC going up from 67.7% in 2011 to 92.0% in 2017- 2018. The full coverage of immunization and distribution of IFA has also remained high. However, due to COVID-19, both the quantity and quality of services provided has diminished; the number of ANC visits by mothers reduced by 31%, while counselling and IFA distribution at ANC reduced by 33% and 34% respectively. Recent analysis of routine health facility data has shown a drop in essential services provision, including a 73% reduction in admissions of children with severe acute malnutrition for treatment between February and May 2020[4].

[1] Bangladesh Demographic Health Survey 2011, BDHS 2017/18

[2] Timothy Roberton, et. al., Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: a modelling study, Lancet Global Health 2020 (Published online May 12, 2020).

[3] Bangladesh Demographic Health Survey 2011, BDHS 2017/18

[4] Rapid assessment of SAM facilities conducted by UNICEF in April 2020

A country-wide rapid assessment of nutrition facilities regarding their preparedness and functionality reveals that of all 366 units offering treatment for children with SAM, about 73% are nonfunctional. Of the functional facilities, only 2% are considered fully functional and only 5% of units have a sufficient supply of therapeutic milk. About 20% of health care providers noted having inadequate stock of Iron Folic Acid (IFA) for the next three months[5].

To respond to the health emergency, the Government has developed the Bangladesh Preparedness and Response Plan, to support the health system in dealing with competing demands. Moreover, it has increased the total allocation for health in FY 20-21 by 14.65% to BDT. 29,247 crores (1% of GDP / 5.14% of total budget allocations)[6].

Bangladesh has been self-sufficient in rice production since 2012 and has been targeting self-sufficiency in non-cereals as well. The production of major vegetables, leafy vegetables, fruits, and fish, have increased significantly[7]. The normative target for per capita caloric intake from cereals is 60% and lower which currently stands at around 64% for Bangladesh[8]. Even prior to the COVID-19 pandemic, there were significant gaps between actual and desired levels of consumption of fruits, vegetables, animal source foods and pulses[9] . Between January and April 2020, the price of all varieties of rice (per kg) went up, ranging from 7%-46%. Now, because of COVID-19, 24% of people households from urban slums and 15% of rural households who were previously able to consume three meals a day, reduced their food consumption significantly and adopted different coping mechanisms[10]. 70% of households surveyed indicated they were unable to provide a diversified diet to their children aged between 6 and 23 months.

Pre-COVID-19, roughly 39 million people, or 24.3% of Bangladesh's total population, were considered poor, half of which were considered extremely poor and unable to afford the cost of a minimum food consumption basket[11]. It is estimated that the national poverty rate will increase to 35% due to COVID-19. Moreover, employment opportunities for most poor workers in informal sectors in urban and rural areas were significantly curtailed during the lockdown, with 63% of wage earners rendered inactive.

The result has been that roughly one-fourth to one-third of the poor have reduced their expenditure on food[12].

A survey conducted by PPRC indicates that 75% of urban slum dwellers have lost their source of income due to COVID-19, the result of which is that household food expenditure in urban slums dropped by 28%[13]. To support people suffering from reduced incomes and increased food prices, the Government has initiated several measures, such as cash and food distribution, and Open Market Sale (OMS) of foods at subsidized prices. Moreover, it provides fiscal-monetary support to farmers, promotes healthy seeds, integrated pest management, and the safe use of fertilizers to stimulate the utilization of all cultivable lands and ensure supply of safe and diversified foods.

In a survey of small vendors of vegetables, fruits and fish in Dhaka and Chittagong, about 78% of the respondents have reported a decline in sales of more than 50%[14]. Food producing SMEs across Bangladesh have been badly impacted by COVID-19. The poultry industry alone has seen an estimated loss of 11.5 billion BDT and the production of poultry and fish feed fell by 75%. The estimated loss of the agricultural sector could be about USD 630 million, and the hotel- and restaurant- related services could lose USD 510 million.

[5] Rapid assessment of SAM facilities conducted by UNICEF in April 2020

[6] Independent Review of Bangladesh' Development. Centre for Policy Dialogue Budget Recommendations for FY 2020-21 Submitted to National Board of Revenue Bangladesh (4 April 2020).

[7] Monitoring Report 2019 of the Bangladesh Second Country Investment Plan

[8] Household Income & Expenditure Survey (HIES) 2016

[9] Nahar, Quamrun, et al. (2013) "Desirable Dietary Pattern for Bangladesh: Final Research Results", Ministry of Food, GoB

[10] Livelihoods, Coping, and Support during COVID-19 crisis, Dr. Hossain Zillur Rahman, Dr, Imran Matin, PPRC and BIGD 16 April 2020).

[11] World Bank (2019). Bangladesh Poverty Assessment: Assessing progress from 2010 to 2016/17. Washington DC

[12] Livelihoods, Coping, and Support during COVID-19 crisis, Dr. Hossain Zillur Rahman, Dr, Imran Matin, PPRC and BIGD 16 April 2020).

[13] Idem. (PPRC)

[14] Syed Muntasir Ridwan, Thoughts on Strategic Bailout of SMEs in Bangladesh, GAIN, 2020.

Vegetable farmers have thereby been forced to lower farmgate prices and sell their products at a loss, despite the fact that prices in urban centers like Dhaka continue to increase; this disjoint is largely attributed to transportation restrictions. The Government has announced a stimulus package of BDT 20 thousand crore, of which BDT 10 thousand crore is exclusively allocated for SMEs as a credit line facility at a subsidized interest rate of 2%.

In 2016, only 27.8% of the eligible households were receiving benefits from Social Safety Net Programmes (SSNP)[15]. A large proportion of poor and vulnerable households still does not have access to these programmes. Moreover, targeting of beneficiaries is not always conducted adequately, and the average size of the benefit is low, which means that the intended impact on poverty reduction from the amount of money spent on these programmes is sub-optimal. The increase in unemployment is expected to result in an increased pressure on SSNP. To deal with this pressure, the Government has prepared a list of an additional 50 lakh beneficiary households to be covered under its social security programs, and increased the allocation for social safety nets programmes to 16.71% in FY20/21 from 14.21% in FY19/20. Moreover, the Ministry of Health and Family Welfare (MoHFW), at the request of the Ministry of Disaster Management and Relief (MoDMR), revised food packages for disaster affected populations, and accordingly, guidelines for disaster preparedness have been finalized and operationalized. About 2.9 million pre- and primary school children receive school feeding assistance. School feeding offers children a regular source of nutrients for their psychological and physical development and helps to reduce the prevalence of anemia by up to 20% in girls. Due to school closures during COVID-19 lockdown, those 2.9 million pupils missed their regular school feeding[16].

In response, the Government, with support of WFP, has started to take in-stock rations of school feeding, along with handouts and leaflets to children's homes. Moreover, the school stipend scheme of students accounts for 55% of the total Social Safety Net beneficiaries -the highest provider, but this came to a halt during the extended Holiday due to school closures[17].

Three possible scenarios have been considered in coming months aligning with the WHO GAM cutoff thresholds for poor, serious, and critical/emergency levels of wasting, and corresponding statistics for Bangladesh in 2011, 2014, and 2017-18. As such, the same three time periods have been used to predict the nutrition situation that might emerge during the COVID-19 period. Thereby, the nutrition status of women of reproductive age, and IYCF conditions among under five children have been taken into consideration. Total wasting of children under the age of five could almost double from over 3.5 million for the next twelve months to 6.6 million. The later would mean that Bangladesh surpassed WHO's threshold for serious or critical levels of wasting, which is 15% and above. This would mean that in the best-case scenario, 5,344 severely malnourished children would require treatment in the next 12 months, while in the worst-case scenario, up to 26,463 malnourished children would require treatment.

Following "The Lancet", which predicts that wasting in Low- and Middle-Income Countries (LMICs) could increase by 14.3% in 2020, wasting levels of Bangladesh could amount to as many as 6.2 million[18]. Of this, the total SAM burden would be 142,876, and MAM would be 6,069,130. The number of children that would therefore require treatment as a result of the impact of COVID-19 would amount up to 14,288- 21,431. A three-pronged action strategy is recommended, which includes (1) a comprehensive food and nutrition security response framework, (2) a multi-sectoral approach, and (3) a robust monitoring, evaluation, and surveillance system.

[15] Household Income & Expenditure Survey (HIES) 2016

[16] The Government has approved the National School Meals Policy in August 2019 and is in the process of developing a School Feeding Project (2020-2025) to cover all of 14.78 million school children by 2025.

[17] Household Income & Expenditure Survey (HIES) 2016

[18] Derek Headey, et. al., Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality, The Lancet Global Health 2020 (Published online July 27, 2020).

1. Introduction

In Bangladesh, the first case of COVID-19 was detected on 8 March, 2020. Since then, there has been a steady rise in the number of cases, as the situation continues to worsen (Figure 1). In order to contain the spread of the potentially deadly virus, the government has undertaken several remedial measures, including imposing extended Government Holidays (Lock-down)** to ensure social distancing since 26 March 2020 till 30 May 2020. During this period, a lockdown was effectively imposed which prohibited people from leaving their homes except in case of absolute emergency. During this lockdown, a substantial number of poor people migrated to rural villages to their home communities.

The Director General of the Bangladesh National Nutrition Council (BNNC) established an Expert Committee on Food Security and Nutrition to undertake an assessment (Annex 2 and 3) in May 2020, and the first version of this report was published and shared widely in the same month. As the pandemic persists, and more and more data are available on its impacts as well as the impacts of the Government's remedial efforts, it becomes vital to continue to assess these data and include them in this report. Moreover, acknowledgement for the present shift from initial emergency response, to development program adaptation is widening. As such, this assessment should be considered as a living document which will be updated by BNNC when necessary.

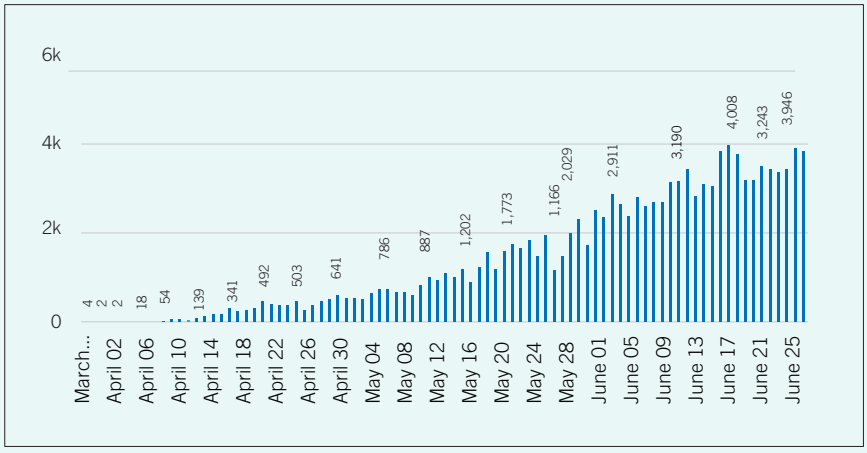

Figure-1 : Trends of COVID-19 in Bangladesh (Source: DHIS2)

Moreover, in support of national governments, the United Nations Development System has developed a global framework for a Socio-Economic Response to COVID-19, which provides a strategy and blueprint for the urgent socio-economic response and complements the humanitarian response. The core purpose is thereby to support the facilitation of processes and actions undertaken by the government and partners to protect the needs of and rights to adequate food and nutrition of people living under the stress of the COVID-19 pandemic. Within this framework, UN partners have joined the BNNC in updating this assessment, the socio-economic recovery framework, and policy recommendations to avoid deterioration of the country's nutrition status and promote the continuation of malnutrition reduction trends.

Nutrition is a multifaceted issue which rests on two main elements: 1) access to health and nutrition services; and 2) access to safe, healthy, and diversified food through nutrition-sensitive food systems. To approach the nutritional status of the population, one has to thereby focus on the most nutritionally vulnerable groups, including pregnant and lactating women, young children, adolescents, marginalized people, and people living in climate change affected areas, emphasizing their right to health and life, considering gender sensitivity at its core. This assessment therefore takes a multi-sectoral approach to assess the impact of COVID-19 on the various underlying determinants of malnutrition.

** Executive jargon imposing lock-down

2. Background

2.1 Pre-COVID-19 nutrition status among under five children

Trends in under-5 nutrition status show that Bangladesh has done well in the last 10 years (Table 1). Moreover, these parameters are comparatively better than the South-East Asia regional average (Figure 2).

Much of this improvement can be explained by the combination of nutrition-sensitive and -specific drivers within a wider enabling environment of pro-poor economic growth of which key factors are improving incomes, smaller family sizes and greater gaps between births, parental and particularly women's education and wider health access[19].

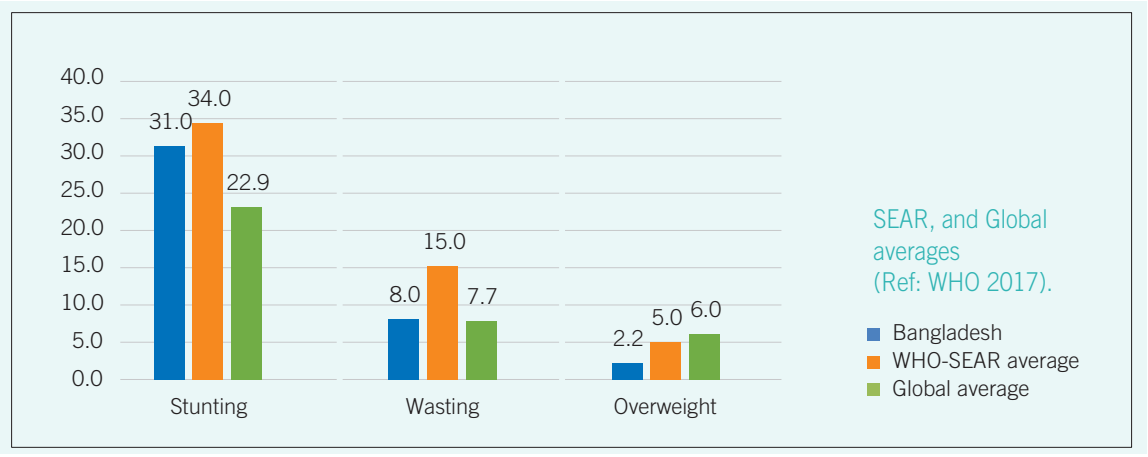

Figure-2: Comparison of proportion of children under five years of age who are malnourished in Bangladesh.

In Bangladesh, 31% of under 5 children are stunted, 22% are underweight and 8% are wasted[20] . Not only is an inverse association between demographic levels of household wealth and nutrition indicators evident, geographically determined differences exist as well. For example, slum children are more malnourished than those living in non-slum areas, and in rural areas malnutrition is higher than in urban areas[21].

Table 1 : Child Nutrition: Rates of IYCF indicators in 2011, 2014 and 2017-18 (BDHS-Surveys)

Indicator	BDHS 2011	BDHS 2014	BDHS 2017-18
Early Initiation of Breastfeeding (EIBF)	47.1%	50.8%	NA
Exclusive breastfeeding (EBF) (0-6 months)	64.1%	55.0%	65.0%
Minimum Dietary Diversity (MDD)	24.2%	26.4%	37.5%
Minimum Acceptable Diet (MAD)	21.2%	23.0%	34.1%

[19] Nicholas Nisbett, Peter Davis, Sivan Yosef & Nazneen Akhtar, Bangladesh's story of change in nutrition: Strong improvements in basic and underlying determinants with an unfinished agenda for direct community level support (2017), available at https://doi.org/10.1016/j.gfs.2017.01.005, last seen on 29/04/2020

[20] National Institute of Population Research and Training (NIPORT), and ICF. 2019. Bangladesh Demographic and Health Survey 2017-18: Key Indicators. Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT and ICF.

[21] Bangladesh Bureau of Statistics (BBS) and UNICEF Bangladesh. 2016. Child Well-Being Survey 2016. Dhaka, Bangladesh (March 2017).

The proportion of underweight among women has decreased from 33% in 2004 to 18% in 2014. Despite this gain, nearly one-third of women are still undernourished, with a body mass index of <18.5 kg/m^2. The prevalence of anemia among adolescent girls, and pregnant women is still at unacceptable levels, with Minimum Dietary Diversity for Women (MDD-W) in 2015 indicating 46%[22].

2.2 Urban nutrition

Bangladesh is experiencing rapid urban population growth, with a growth rate of more than 3.2%, compared to the national rate of 1.4%[23]. Urban nutrition services are part of Bangladesh's primary health care services system. However, these services are divided among different and largely uncoordinated service providers, including governmental, NGO, and private actors.

In 2016, stunting in urban slums was 60% higher than that in non-slums, with alarming absolute numbers[24] (Table 2). The overall Minimum Acceptable Diet (MAD) practices in urban areas is as poor as the national average but significant disparities exist between slum (30%) and non-slum (44%). Micronutrient deficiencies are also significantly higher in urban slum populations than non-slum urban and rural populations[25].

Table 2 : Urban nutrition status in Bangladesh[25]

Urban	Under weight	Stunting	Wasting	Low birth weight	Over-weight	Exclusive Breast-feeding	Minimum acceptable diet
All Urban	20.4	26.3	7.8	13.7	2.7	52.7	38.0
City corporation with slums	30.8	40.4	15.5	15.8	2.7	62.3	29.7
City corporation without slums	17.7	25.2	7.3	11.1	4.1	57.5	44.4
Other municipalities	20.9	25.9	7.6	15.1	2.1	50.0	36.0

2.3 Trends in agriculture and food security pre COVID-19

2.3.1 Food production and availability

The performance of the agricultural sector has been improving significantly in Bangladesh, as demonstrated by the continued annual growth of agricultural contribution to GDP. The country has been self-sufficient in rice production since 2012. In 2018-19, the production of wheat and pulses declined, while the production of beans, major vegetables, leafy vegetables and fruits increased. Bangladesh achieved self-sufficiency in fish production in 2016-17. Despite a decrease in the annual growth in 2018-19, absolute fish production has been increasing. The production of meat, eggs and milk is increasing, but is still insufficient to cover the gap between supply and demand[27].

[22] Monitoring Report 2019 of Bangladesh Second Country Investment Plan of the Food Planning and Monitoring Unit, Ministry of Food (May 2019).

[23] DRAFT NPAN2 monitoring report 2018-2019

[24] Bangladesh Bureau of Statistics (BBS) and UNICEF Bangladesh. 2016. Child Well-Being Survey 2016. Dhaka, Bangladesh (March 2017).

[25] ICDDR-B, GAIN, IPHN, UNICEF. National Micro Nutrients Status Survey, Final Report 2011/12.

[26] Bangladesh Bureau of Statistics (BBS) and UNICEF Bangladesh. 2016. Child Well-Being Survey 2016. Dhaka, Bangladesh (March 2017).

[27] Food Planning and Monitoring Unit, Ministry of Food, Government of the People's Republic of Bangladesh, Monitoring Report 2019 of Bangladesh Second Country Investment Plan (May 2019).

2.3.2 Food consumption and utilization

Diet diversity and quality are important determinants of nutrient adequacy. There is a falling trend in the average per capita intake of rice, moving towards the desirable norms. The overall consumption of cereals has decreased from 70% in 2010 to 64% of daily energy intake/capita nationally in 2016, which is close to the desired dietary target of <60%[28]. While urban areas have already reached this target, rural populations still consume around 65%[29]. From 1995/96 to 2016, the consumption of pulses, vegetables, and fruits has remained largely the same, whereas fish and egg consumption has increased[30]. There are significant gaps between actual consumption and desired levels of consumption of fruits, vegetables, animal source foods (milk and eggs) and pulses[31]. The intake of fruits and vegetables is around half of the WHO/FAO recommendation. The consumption of eggs thereby remains below the recommended amount. The minimum dietary diversity score for women, a proxy for dietary micronutrient adequacy is unsatisfactory among women of reproductive age[32].

2.4 Social protection

2.4.1 Social safety net programs

Bangladesh's National Social Security Strategy (NSSS) provides for support to vulnerable households through various social safety net programs (SSNPs). Spending on SSNPs as a percentage of the total national budget has thereby increased steadily (both in absolute numbers and as a percentage of GDP) between FY 2016-17 and 2018-19, as allocation has increased from 12.88% in 2016-17, to 13.06% in 2017-18, and 13.81% in 2018-19. Data collected through the 2016 Household Income Expenditure Survey (HIES 2016) shows that 27.8% of the eligible households have received benefits from SSNP during the last 12 months. Despite these positive developments, a large proportion of poor and vulnerable households still does not have access to these programmes. Moreover, targeting of beneficiaries is not always conducted adequately, and the average size of the benefit is therefore low, which means that the intended impact on poverty reduction from the amount of money spent on these programmes is sub-optimal.

SSNPs offer multiple ways for integrating nutrition considerations, and prioritization of targeting nutritionally vulnerable groups can be an effective strategy to deliver the social protection programmes' potential nutrition impact. Alongside transfers, simultaneous behaviour change communication (BCC) campaigns on maternal nutrition and IYCF can significantly help improve the child nutritional status and anthropometric outcomes. Adding BCC to transfers (cash and in-kind) leads to an increase in both 'diet quantity' and 'quality' in terms of household caloric intake and increased consumption of diverse food groups by children, resulting in a significant reduction in child stunting at 7.3 percentage points (IFPRI).

2.4.2 School feeding and stipends

The goal of universal education in Bangladesh cannot be achieved unless the nutrition and health needs of children and adolescents are met. Findings from a study in 2013 showed that among school aged children, 21% are still too short for their age and 22% are too thin, while 15% were severely underweight[33].

[28] Preliminary report on Household, Income, and Expenditure Survey 2016, Bangladesh Bureau of Statistics, Statistics and Information Division, Ministry of Planning (October2016).

[29] Monitoring Report 2019 of the Bangladesh Second Country Investment Plan

[30] Bangladesh Bureau of Statistics (BBS), Statics and Informatics Division (SID), Ministry of Planning. June 2019. Report on the Household Income and Expenditure Survey 2016. Dhaka, Bangladesh.

[31] Nahar, Quamrun, et al. (2013) "Desirable Dietary Pattern for Bangladesh: Final Research Results", Ministry of Food, GoB.

[32] Food Planning and Monitoring Unit, Ministry of Food, Government of the People's Republic of Bangladesh, Monitoring Report 2019 of Bangladesh Second Country Investment Plan (May 2019).

[33] Impact Study of School Feeding Program in Bangladesh, Commissioned by the United Nations University in 2004, Published by IFPRI

Children also lack key micronutrients, for example, among school aged children (6-14 years) about 21% were deficient in vitamin A, 40% in Zinc and 40% suffering from iodine deficiency. Prevalence of vitamin D and calcium deficiency is 46%[34].

The Ministry of Primary and Mass Education (MoPME) and its partners are implementing a school feeding program for school children in 104 Upazilas in high-poverty areas. About 2.9 million pre- and primary school children receive school feeding assistance. The Government has approved the National School Meals Policy in August 2019 and is in the process of developing a School Feeding Project (2020-2025) to cover all of 14.78 million primary school children by 2025 in phases.

Two types of food modalities have been considered under the school feeding programme: (i) micronutrient fortified biscuits – as a daily snack of a 75 gm packet of fortified (nutrient enriched) biscuits providing 338 kcal early in the school day for 120 school days a year (3 days per week); and (ii) nutritious cooked meals – hot meals prepared with fortified rice, lentils, fortified vegetable oil and locally procured fresh vegetables and eggs to introduce a variety of food and taste, guaranteeing the consumption of 30% (536 Kcal) of required daily calories, essential micronutrients, protein, and fat.

3. Objectives

As stated above, this report aims to assess the proximate and underlying determinants of malnutrition and the impact of COVID-19, as well as provide a basis for policy recommendations to avoid deterioration of Bangladesh's current nutrition status, and support the country to build back progress on reducing malnutrition to pre-COVID-19 trends[35]. The key objectives of the present document are thereby to:

- Assess and review the impact of COVID-19 and the extended government holiday on proximate and underlying determinants of malnutrition (e.g. reduced access to services, poor health and illness, high unemployment, increased food insecurity, and gender violence, etc.);
- Determine and assess the causality pathways between COVID-19 and malnutrition;
- Estimate the potential burden of acute malnutrition (Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM)[36] as a result of COVID-19's impact on proximate and underlying determinants of malnutrition;
- Develop an outline for a comprehensive multi-sectoral response framework for reducing malnutrition due to COVID-19 and building back progress towards pre-COVID-19 trends;
- Prepare recommendations and serve as a background for developing a policy brief for advocacy with higher level policy makers.

4. Methodology

Desk review of available related documents (published, unpublished), international and national guidelines. In addition, communications with expert professionals working in different disciplines including food security, nutrition and health were major sources of guidance.

[34] Impact Study of School Feeding Program in Bangladesh, Commissioned by the United Nations University in 2004, Published by IFPRI

[35] The 26th of March was a Bangladesh Government Holiday, which the Government decided to extend in order to halt the spread of COVID-19. The Holiday eventually ended on 30 May 2020.

[36] SAM is defined as a very low weight for height (WHZ) at below -3z scores of the median WHO growth standards. MAM is defined as a WHZ between -2 and -3, and Global Acute Malnutrition (GAM), is the combination of all SAM and MAM.

5. Changing economic context due to COVID-19

In Bangladesh, about 8 million people were lifted out of poverty and 5.6 million from extreme poverty (WB, 2019) between 2010-2016[37]. Despite this impressive gain, still over 24.3% (roughly 39 million) of the total 163 million people are considered to be poor, half of which (roughly 20 million) are extremely poor and cannot afford the cost of a minimum food consumption basket. As Dr. Osmani highlighted in his recent publication, according to the World Bank, economic growth in Bangladesh could fall from "over 8 percent in 2018-2019 to as low as […] 1.2-2.9 percent in 2020-21.[38]" The Center for Policy Dialogue (CPD) also estimates that the projected GDP growth of 8.2% in FY2020 is likely to come down to about 2.5%, under the most optimistic scenario if further 'general holidays' are not announced or stricter measures are not enforced during the fiscal year[39]. Prior to the shutdown, almost half of the respondents' average monthly family income was reported to be less than BDT 10,000. This limited income was barely enough to keep their families afloat and now this too has been severely interrupted[40, 41].

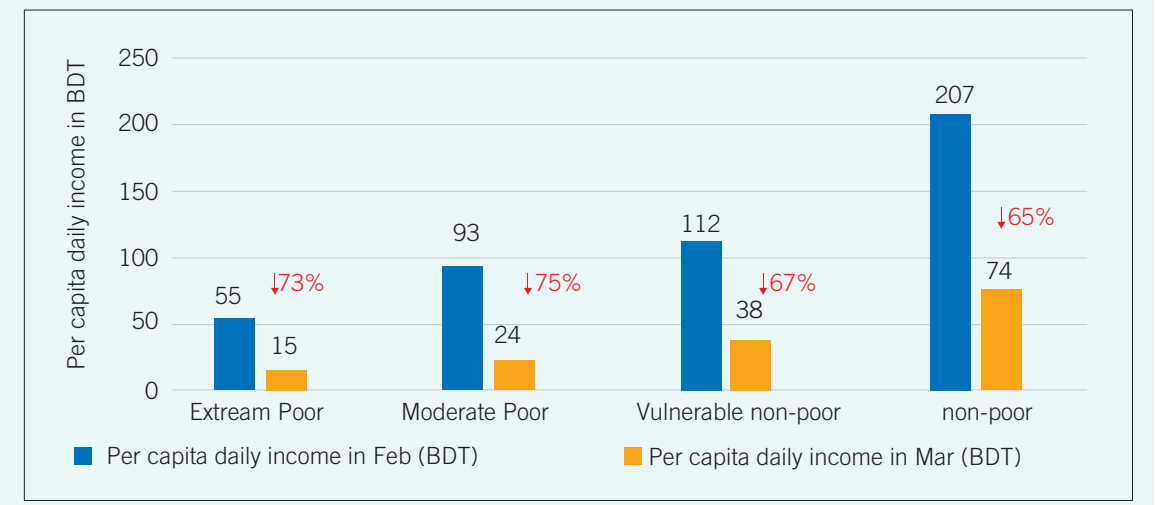

Figure 4: Income Shock across Groups, Source: PPRC-BIGDRapid Response Survey, April 2020

The poor from urban slums, rural areas, and low wage-earning groups from informal sectors alike are disproportionately affected by the negative consequences of the lockdown, the most important measure to contain the virus epidemiologically. It is likely that gains made so far in poverty reduction through social sectors (non-monetary dimensions of wellbeing, e.g. health, nutrition, education, WASH, etc.) over the last two decades are being threatened.

Pre-COVID-19, 24.3% of Bangladesh's total population was considered poor, half of which was considered extremely poor and unable to afford the cost of a minimum food consumption basket[42]. It is estimated that a negative shock on household consumption in the range of 9-25% would lead to an increase in the national poverty rate to 35% due to COVID-19[43].

[37] Bangladesh Poverty Assessment; Facing the old and new frontiers in poverty reduction. World Bank Group (2019).
[38] S.R. Osmani, Coping with COVID-19: The case of Bangladesh, Ulster University UK, (June 4, 2020).
[39] Challenges of Policy making in Times of Pandemics - State of the Bangladesh Economy in FY2020, IRBD, Dhaka (7 June 2020)
[40] World Bank (2019). Bangladesh Poverty Assessment: Assessing progress from 2010 to 2016/17. Washington DC.
[41] BRAC James P. Grant School of Public Health, IMPACT of COVID-19 lived experiences of urban poor in slums during the shutdown, (April 2020).
[42] Bangladesh Poverty Assessment; Facing the old and new frontiers in poverty reduction, World Bank Group (2019).
[43] Independent Review of Bangladesh' Development. Centre for Policy Dialogue Budget Recommendations for FY 2020-21 Submitted to National Board of Revenue Bangladesh (4 April 2020).

Employment opportunities for most poor workers in informal sectors in urban and rural areas were significantly curtailed during the lockdown, with 63% of wage earners rendered inactive. This was more for the slum population (71%) compared to the rural population (55%). About 65% of the people from the lower poverty line, 66% from upper poverty line and 58% from vulnerable[44] (non-poor) were affected. Though the poor from urban slums (82%) were worst affected compared to rural poor, the poor from lower poverty line (78%), upper poverty line (79%) and vulnerable non-poor (71%) were all affected equally. The income of the poor has dropped by more than 70%; and about one fourth to one third of the poor have reduced their expenditure on food[45]. Reverse migration of laborers from the Middle- East will likely add to the number in the unemployed labor force, increasing the strain on GDP. About 1.4 million people have lost their jobs abroad and have returned to the country. Moreover, at least one person from the 34.8% of responded households of the surveyed population have lost their jobs. Though the remittance growth in the first half of FY 20 was 25.5 % (thanks to 2% cash incentive to all remittance receivers for those earning less than 5 lakh).

The result has been that roughly one-fourth to one-third of the poor have reduced their expenditure on food[46]. At the same time, consumption inequality, measured by the Gini coefficient, is expected to rise from 0.32 in 2016 to 0.35 in 2020. In a survey of small vendors of vegetables, fruits and fish in Dhaka and Chottogram, about 78% of the respondents have reported a decline in sales of more than 50%. Food producing SMEs across Bangladesh have been badly impacted by COVID-19.

The poultry industry alone has seen an estimated loss of 11.5 billion BDT and the production of poultry and fish feed fell by 75%. The estimated loss of the agricultural sector could be about USD 630 million, and the hotel- and restaurant- related services could lose USD 510 million. Vegetable farmers have thereby been forced to lower farmgate prices and sell their products at a loss, despite the fact that prices in urban centers like Dhaka continue to increase; this disjoint is largely attributed to restriction of movement due to the lockdown[47].

To mitigate the negative impact of the lockdown on livelihoods, the Government has initiated several measures, including cash and food distribution through local administrative structures, Open Market Sale (OMS) of foods at subsidized prices, increased number of beneficiaries through existing Social Safety Net programs, etc. The Government has also initiated several stimulus packages to prevent the economic meltdown resulting from the lockdown. For example, the Prime Minister (PM) has announced a stimulus package of BDT 5,000 crores for farmers (primarily focusing on small and medium farmers) to boost agricultural production; an additional BDT 9,000 crores for fertilizer subsidy; and a BDT 100 crores to mechanize the harvesting of crops. At the local level, individuals, private, philanthropic, and civil society organizations have been intensifying and extending their help to support poor and vulnerable people. The Government has also announced a stimulus package of BDT 20 thousand crore of which BDT 10 thousand crore is exclusively allocated for SMEs as a credit line facility at subsidized interest rate of 2%.

All these palliative measures are important and necessary, however may not be adequate in response to real needs. Both lives and livelihoods are at risk because of the devastating social and economic effects of COVID-19, and its short and long-term impact on the poor and vulnerable population. It is expected that the impact will be deep and long lasting. Therefore, it is necessary to remain cautious about not allowing this health crisis to turn into a food and nutrition crisis. In view of the status of the economy and employment in Bangladesh described above vis-à-vis the responses by the government, civil society organizations and individuals, it is assumed that COVID-19's impact on livelihoods may be contained to a certain extent and eventually subside by sometime. However, the corresponding timeline to this is unknown.

[44] Notes: The international poverty line has a value of US$1.90 purchasing power parity (PPP). Vulnerable denotes the population living between the national poverty line and twice the national poverty line. Middle class and above denotes the population living above twice the national poverty line

[45] Livelihoods, Coping, and Support during COVID-19 crisis, Dr. Hossain Zillur Rahman, Dr, Imran Matin, PPRC and BIGD (16 April 2020).

[46] Livelihoods, Coping, and Support during COVID-19 crisis, Dr. Hossain Zillur Rahman, Dr, Imran Matin, PPRC and BIGD (16 April 2020).

[47] Syed Muntasir Ridwan, Thoughts on Strategic Bailout of SMEs in Bangladesh, GAIN, 2020.

The following assessment is therefore meant to shed light on this issue, and provide a basis on which to support the Government of Bangladesh to address and improve the underlying determinants of malnutrition in a timely and adequate manner, avoiding deterioration and ensuring Bangladesh continues to be on track towards achieving its targets under the Sustainable Development Goals and reaching Middle-Income status.

6. Causality pathways between COVID-19 and nutrition

Adequate nutritional intake and uptake are essential to ensure a healthy immune system. Following from this, the reverse is true as well. Malnutrition significantly increases people's vulnerability to diseases. Moreover, there seems to be a bi-directional relationship between infections of COVID-19 and those suffering from chronic diseases affecting the immune system. For example, where there are already high rates of malnutrition, diabetes, heart diseases, diarrhea, malaria, HIV/AIDS and TB, people are more susceptible to the virus. Malnourished children may not mount up the usual obvious reactions to the viral threats, such as fever, because of their compromised immune system. When infections go unnoticed, the risk is high for these children to die. Like in many countries, the COVID-19 pandemic has pushed and deepened further all known underlying and proximate drivers of malnutrition in Bangladesh. COVID-19's impact on malnutrition will likely manifest itself through multiple pathways in the short, medium and long term. In the process, social inequalities will contribute to differential impacts.

As demonstrated in Figure 5, and explained further below, all underlying determinants of malnutrition (e.g. increased morbidity, inadequate access to various services and their low limited uptake, food insecurity, low income and employment opportunities, etc.) have already deteriorated substantially. A recent Lancet modelling exercise estimates that "if routine health care is disrupted and access to food is decreased […], the increase in child and maternal deaths will be devastating"[48]. A 10-50% increase in wasting prevalence could account for an 18-23% increase in child deaths in the next six months

The pathways to malnutrition which have been widely established and discussed were taken as a basis on which to further understand the impact of COVID-19 on malnutrition, as represented by Figure 5. As depicted, the immediate consequences of COVID-19 and the subsequent lockdown impact the underlying determinants of malnutrition, such as food security, behaviors and practices, and access to health and nutrition services, the combination of which eventually leads to poor dietary intake and utilization, combined with increased occurrence of illness, with malnutrition and increased morbidity and mortality as a final consequence. .

[48] Timothy Robertson, et. al., Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: a modelling study, Lancet Global Health 2020 (Published online May 12, 2020).

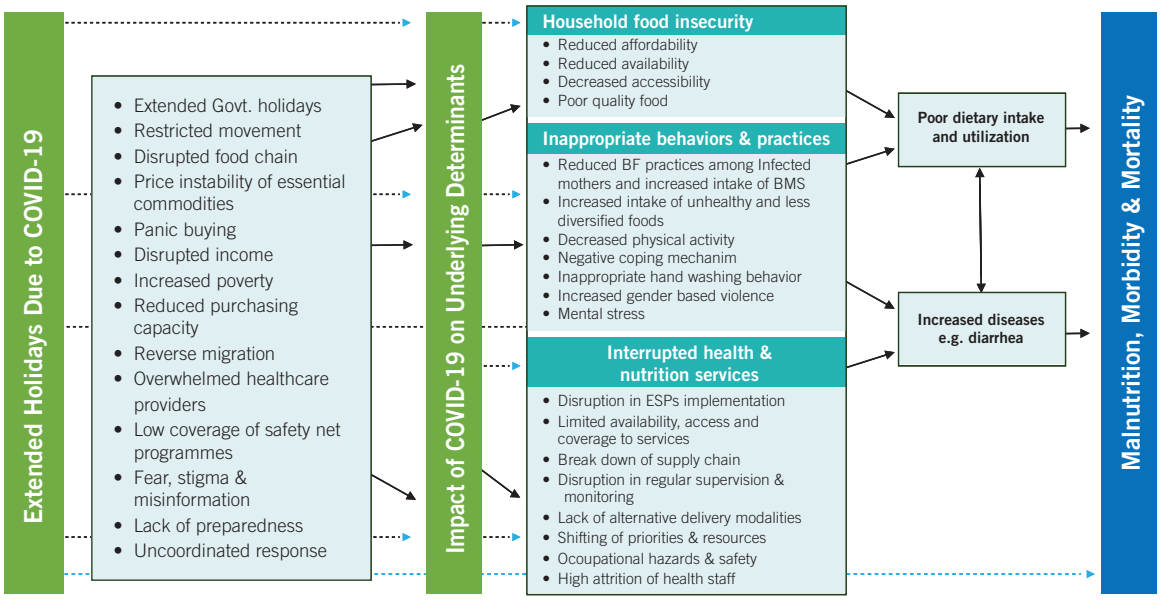

Figure- 5: COVID-19 and Malnutrition Causality Pathways

7. Review of the current situation and impact of COVID-19 on different sectors relevant to nutrition

The details of the negative impact of COVID on each of the underlying determinants on access to food and nutrition are explained below.

7.1 Impact of COVID-19 lockdown on access and uptake of nutrition relevant services

In general, due to COVID-19 and associated lockdown, access to various services (e.g. food, health, nutrition, WASH, education, social safety-net programs, etc.) has been compromised in all areas by many population groups.

7.1.1 Continuity of health and nutrition services and impact on coverage

A Lancet modeling exercise conducted in 118 LMICs including Bangladesh suggests that with the decrease in health coverage between 10-58% and an increase in wasting prevalence between 10-50% over the next six months, deaths among under five children would increase by 10-45% and maternal deaths by 8-39% per month.

Reduction in four critical interventions (parenteral administration of uterotonic, antibiotics, anticonvulsants and clean environments) would account for an additional 60% of maternal deaths. A shortage of antibiotics for pneumonia and neonatal sepsis, and oral rehydration solution for diarrhea together would account for about 41% of additional child deaths. The increase in wasting prevalence would account for 18-23% additional child deaths [49].

Women and children seeking health services will be at risk of COVID-19 unless health service providers are able to take proper precautions such as Triage, use of Personal Protective Equipment (PPE) and Infection Prevention and Control (IPC).

[49] Timothy Robertson, et. al., Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: a modelling study, Lancet Global Health 2020 (Published online May 12, 2020).

Standard training on COVID-19 management and prevention is largely lacking for all types and levels of Front-Line Workers (FLWs). Concerns for spreading the infection to family members is precipitating mental health problems for the FLWs, which is an issue that needs to be addressed urgently[50]. There is an indication that the overall drop in use of and access to health services is largely caused by the fear of transmission of COVID-19, and government restrictions on movement[51]. For example, there was a substantial reduction of 41% in institutional deliveries in March 2020 compared to March 2019[52]. When looking at the statistics within 2020, a consistent reduction in institutional deliveries can be observed between February and June, by as much as 60%. About 43% of health care workers mentioned hearing about pregnant women dying in their area and 25% of health workers noted women are not coming to healthcare facilities[53].

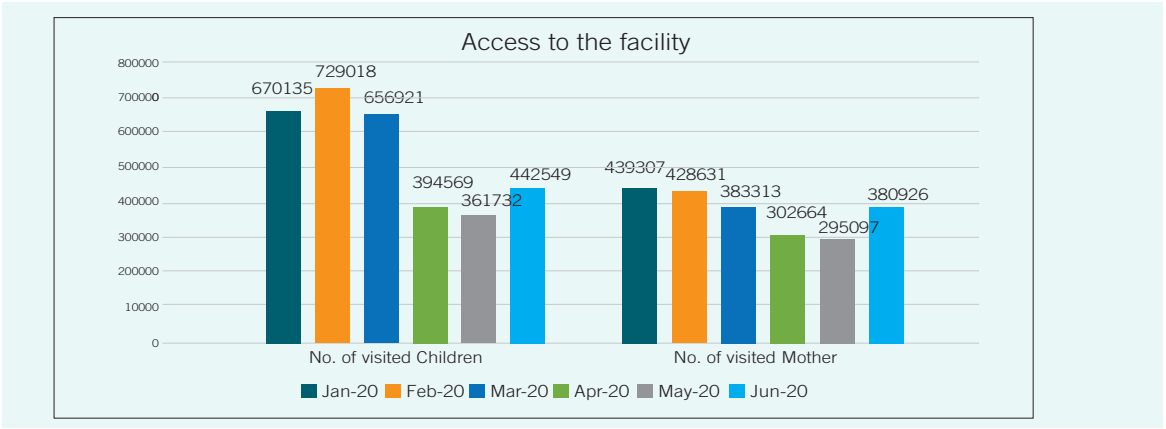

Figure 6 : Number of children and mothers visiting the health facility

There was a downward trend in the number of visits to Community Clinics by children and mothers between February and May 2020. The visits of children and mothers reduced by 50% and 31% respectively (Figure 6). In addition, 4+ visits for Ante Natal Care (ANC) services declined by 34%. Counselling at ANC visits has gone down by 36%, while IFA distribution at ANC reduced by 34%[54]. This means that not only did the quantity of services provided go down, so did the quality of the services. Screening of children for SAM continues to be low at 35%. Admissions for treatment in the SAM facility of SAM children with medical complications reduced by as much as 84% between February and April 2020.

A country-wide rapid assessment of nutrition facilities regarding their preparedness and functionality reveals that of all units offering treatment for children with SAM, about 73% are nonfunctional. Of the functional facilities, only 2% are considered fully functional and only 5% of units have a sufficient supply of therapeutic milk.

About 20% of health care providers noted having inadequate stock of Iron Folic Acid (IFA) for the next three months[55]. It is encouraging to see, that service delivery numbers are improving again. For instance, SAM admissions have gone up again, to a reduction of just 40% in June as compared to February[56] (Figure 8). Moreover, counselling and IFA at ANC have increased again to 11% and 14% respectively in June compared to February (Figure 7). It must be noted, though, while an improvement was observed, service delivery has not yet returned to pre COVID-19 levels.

[50]Independent Review of Bangladesh' Development. Centre for Policy Dialogue Budget Recommendations for FY 2020-21 Submitted to National Board of Revenue Bangladesh (4 April 2020).
[51] UNICEF Weekly SitRep Reports #5
[52]UNICEF Report #5; DHIS2, MoHFW, April 2020
[53]COVID-19: Bangladesh, Multi-Sectoral Anticipatory Impact and Needs Analysis, HCTT, 2020.
[54] DHIS2, MoHFW
[55, 56] UNICEF-MoHFW rapid assessment

Many children have missed their vaccinations, as only 25-30% of planned immunization activities were conducted up to April 2020. The measles and rubella campaign which targets 34 million children aged from 9 months to 9 years has been postponed. Children receiving their third dose of pentavalent vaccine are below targets by 16% in March, 52% in April and 55% in May[57]. Sporadic outbreaks of vaccine-preventable diseases, including measles and diphtheria, have already been seen in parts of Bangladesh[58]. Any further outbreak of vaccine preventable diseases, especially measles because of the interruption in vaccination, and disruption in essential nutrition services including ANC will have a profound negative impact on child and maternal nutrition due to reduced coverage and access of various essential maternal and child health services.

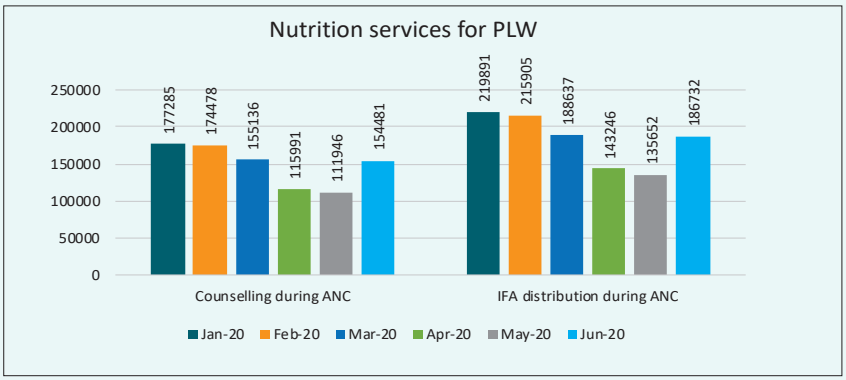

Figure 7: Counselling and IFA during ANC

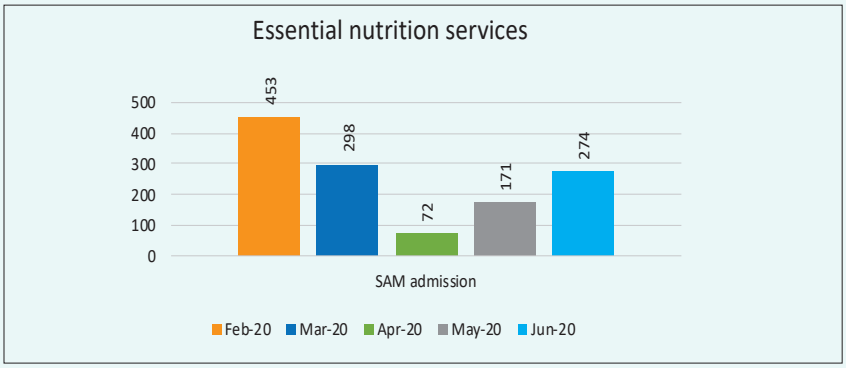

Figure 8: SAM admissions for treatment

Downward trends are also observed for the family planning services at Family Welfare Centres (FWCs) during the same period. For example, the distribution of oral contraceptive pills has reduced by 14% in May, 2020. Consequently, a baby boom is likely in the aftermath of the lockdown period, which also increases the likelihood of short birth spacing, threatening the nutrition status of both mother and child.

In addition, most vulnerable communities are likely to have insufficient information on symptoms of COVID-19 and procedures to be followed. According to a multi-sectoral anticipatory impact and needs analysis, about 39% of respondents do not know who to contact in case of display of COVID-19 symptoms; 49% reported that health facilities are inaccessible[59]. Moreover, effects on mental health are significant, with 83% of respondents reporting experiencing mental stress.

57 COVID-19 Response Weekly Report 10, 8 June 2020, UNICEF, Bangladesh Country Office

58 UNICEF Weekly Report #6

59 COVID-19: Bangladesh, Multi-Sectoral Anticipatory Impact and Needs Analysis, HCTT, 2020.

Predicted Impact

- In the aftermath of COVID-19, gains made in delivery of nutrition services may be partially diminished as indicated above, putting a million women and children at risk of high malnutrition, morbidity and mortality in the coming months.
- The reduction in access to counselling services could also lead to a decrease in breastfeeding and an increase in the use of infant formula or other substitutes.
- Since many children have missed their essential vaccinations, there may be an outbreak of vaccine-preventable diseases which might have a negative impact on nutrition outcomes and increased childhood deaths.
- The potential baby boom due to low utilization of family planning services may result in health systems being overloaded, increased maternal and child malnutrition due to low birth spacing.
- Due to COVID-19, child nutrition will be affected through deterioration of various underlying factors. For example, separation of babies from COVID-19 infected mothers because of fear of transmission and social stigma, limited access and utilization of health facilities, diversion of health care staff away from routine maternal and child health and nutrition services, and potentially increased promotion of breast-milk substitutes.
- Women and children will be double hit by both macro- and micronutrient deficiencies. It is already evident that with the incidence of COVID-19, the access to health services has been reduced due to closure of facilities and in some instances refusal to go to health facilities because of fear. Due to mothers' malnutrition as well as poor ANC and IFA and Vitamin A supplementation services at facilities due to COVID-19 (Figure 7), Low Birth Weight (LBW) and child and maternal mortality rates might increase.

Government and partners responses

The allocation for health in FY 2020-2021 is BDT 29,247 crore, which is 1% of GDP and 5.14% of total budget allocations. Allocation for the ministry has thereby increased by 13.65% from the outgoing fiscal year's allocation of BDT 25,733 crore.

The Directorate General of Health Services (DGHS) has issued guidelines to continue routine immunization during the COVID-19 pandemic in line with UNICEF and WHO global and regional advisories. The guidelines for the continuity of essential nutrition services in the context of COVID-19 for health hcare providers were finalized, endorsed and circulated to all districts and partners[60]. The routine immunization sessions are catching up and continuing both in fixed and outreach sites as an essential service that combats disease outbreaks. However, the number of immunization sessions performed has been substantially reduced due to the COVID-19 pandemic.

The Mid-Term Review (MTR) of the Fourth Health Population Nutrition Sector Programme (4th HPNSP) 2017-2022, recommended to include nutrition services into the Extended Programme for Immunization (EPI) platforms. This has been accepted by the Planning Wing of the Ministry of Health and Family Welfare, who has committed to including it as a key activity in its FY 2020-2021 plan.

7.2 Impact of COVID-19 lockdown on food security

Since 2000, all Global Hunger Indices for Bangladesh (GHI) have improved, such as undernourishment, childhood stunting, and child mortality[61]. However, the COVID-19 pandemic and subsequent extended

[60] UNICEF SitRep #12

[61] Global Hunger Index 2019 Bangladesh, Concern Worldwide and Welt Hunger Hilfe (2019).

Government Holiday, are expected to have significant negative impact on these indices. The Annual Monitoring Report of the Country Investment Plan on Nutrition Sensitive Food Systems (2020) has highlighted that the gains made in reducing the prevalence of population-level undernourishment and food insecurity are likely to have been reversed owing to the COVID-19 crisis. Some preliminary estimates also point to impact on the most vulnerable and poor who have been the hit the hardest, making it clear that inequity is a maker and a marker of malnutrition.

7.2.1 **Food markets and food price**

As a result of the COVID-19 lockdown and disruptions in the supply chain, vendor businesses are way down — by as much as 80-90%, which has created confusion and panic among the population. Between January and April 2020, the price of all varieties of rice (per kg) has gone up ranging from a 7%- 46% increase. The highest increase was seen in coarse Aman (41%) and coarse Boro (33%) varieties of rice. The second highest increase was in coarse medium Aman (29%) and coarse medium of Boro (24%) as well. Price of pulse (Musur dal local) has increased by 24%. As both the coarse varieties and dal (dal-bhat) are mostly eaten by poor and lower middle-class population, any increase in price of these items would have a devastating effect on food consumption of the poor. In addition, the price of all types of meat, like mutton, beef and broiler chicken has increased by 3%, 4% and 56% respectively, which reduces the accessibility of animal protein significantly for the poor and lower middle-class. Even the prices of vegetable oils like soybean and mustard oil have increased. The price of iodized salt has remained unchanged[62]. All this has contributed to reduced access to sufficient food intake and diverse diet by the poor.

7.2.2 **Access to food and consumption in urban and rural areas**

Lockdown restrictions did significantly impact food and nutrition security, with a substantial increase seen in the price of essential items. The result was a drop in per capita food expenditure across the board, with a reduction of up to 32% among urban slum dwellers, and 24% among rural poor. 75% of survey respondents recorded insufficient access to food at home, while up to 91% did not have sufficient money to buy food. About 66% reported that their main challenge during the lockdown was to buy food with markets being closed[63].

A survey conducted by PPRC thereby indicates that 75% of urban slum dwellers lost their source of income due to COVID-19, the result of which is that household food expenditure in urban slums dropped by 28%[64]. Now, because of COVID-19, 24% of households from urban slums and 15% of rural households who were previously able to consume three meals a day, reduced their food consumption significantly and adopt different coping mechanisms[65]. 70% of households surveyed indicated they were unable to provide a diversified diet to children between 6 and 23 months[66]. The reduction was highest among households from the lower poverty lines (25%), compared to 19% in the upper poverty line and 11% from vulnerable non-poor households. In addition, people were adopting numerous coping strategies to manage household food insecurity, for example, by cutting back on foods, selling assets, borrowing from neighbors and friends[67]. Many have become vendors, vegetable sellers or food sellers to earn money[68].

[62] http://www.dam.gov.bd/price_graphical_report; Dr.Shafiun N Shimul, Institute of Health Economics (IHE), University of Dhaka.
[63] COVID-19: Bangladesh, Multi-Sectoral Anticipatory Impact and Needs Analysis, HCTT, 2020
[64, 65] Livelihoods, Coping, and Support during COVID-19 crisis, Dr. Hossain Zillur Rahman, Dr, Imran Matin, PPRC and BIGD (16 April 2020).
[66] COVID-19: Bangladesh, Multi-Sectoral Anticipatory Impact and Needs Analysis. HCTT. 2020
[67] Livelihoods, Coping, and Support during COVID-19 crisis, Dr. Hossain Zillur Rahman, Dr, Imran Matin, PPRC and BIGD (16 April 2020).
[68] Impact of COVID-19 on Food Security & Urban Poverty, Weekly Situation Report, Dhaka Food Systems, FAOv

As a result, a substantial number of the urban poor has not been able to eat properly for nearly two months. More than 75% are relying on very basic food items such as potatoes, rice, lentils, and only have a limited intake of vegetables, fruits, milk, and meat. Eggs were comparatively more affordable. Those with access to open land, along ponds and riverbanks or fields in the urban periphery have been able to grow and consume vegetables. Food assistance is being offered, but it is not enough, and it is untargeted[69].

The impact of COVID-19 on food security and nutrition is further exacerbated by the blow of recent super cyclone Amphan. This cyclone has affected 10 million people and created major challenges to access to food in four districts in the coastal South[70]. It has damaged almost 200,000 hectares of crops. Losses in livestock and fisheries were also reported. The loss of livelihoods has challenged dietary diversity[71].

Predicted Impact

- Consumption of diverse diets will largely depend on the access to food. Both the quantity and quality of food (diversified and nutrient dense foods) accessible to the poor are expected to be further compromised due to diminished earning opportunities, reduced income, and a rise in food prices, etc. resulting from the COVID-19 lockdown.
- Significant impacts have been observed and are further anticipated on food value chains (especially those relying on import and export), and prolonged impacts can include limited access and distribution, reduced food diversity, and have impact on upcoming planting seasons.
- Limited livelihood options due to disruption of food value chains (with high dependency among most vulnerable groups for daily or seasonal work), compounded by limited access to food, will lead to increased indebtedness and negative coping mechanisms.
- In addition, due to increased food insecurity, minimum dietary diversity (MDD) and minimum acceptable diet (MAD) from 38% and 34% respectively in 2017-2018 (pre COVID) may deteriorate[72].
- Lack of adequate access to diversified food may negatively affect immune systems and add to the burden of malnutrition and also susceptible to COVID-19.

7.2.3 The impact of COVID-19 on Small and Medium Enterprises (SMEs) and availability of nutritious food

Food producing SMEs across Bangladesh have been badly impacted by COVID-19. The poultry industry alone has seen an estimated loss of 11.5 billion BDT (USD 135 million) and the production of poultry and fish feed fell by 75%. The dairy industry has also been hit hard due to the products' perishability and the decline in production of various dairy-based sweets. This fall in demand has required dairy farms to considerably reduce their sales price. Similar trends are reported for fish, with sales volumes and prices having fallen significantly due to low demand and transportation shortages, e.g., the average number of trucks carrying fish from Rajshahi, in Western Bangladesh, to Dhaka has dropped by over 80%[73]. Fish farmers are thus forced to sell at low prices. Wheat prices have gone down by about 9%, while the price of tomatoes went down by as much as 56%[74].

[69] Impact of COVID-19 on Food Security & Urban Poverty, Weekly Situation Report, Dhaka Food Systems, FAO

[70] HCCT Cyclone Amphan Report Monitoring Dashboard, 12 July 2020.

[71] Preliminary Analysis of Cyclone Amphan Impact, Food and Nutrition Security Cluster, Bangladesh

[72] Bangladesh Demographic and Health Survey 2017/18, National Institute of Population Research and Training, Ministry of Health and Family Welfare, DHS Programme ICF (November 2019).

[73] Syed Muntasir Ridwan, Thoughts on Strategic Bailout of SMEs in Bangladesh, GAIN, 2020.

[74] http://www.dam.gov.bd/price_graphical_report; Dr.Shafiun N Shimul, Institute of Health Economics (IHE), University of Dhaka.

Vegetable farmers have also been forced to lower farmgate prices and sell their products at a loss, despite the fact that prices in urban centres like Dhaka continue to increase; this disjoint is largely attributed to transportation difficulties.

The estimated loss of the agricultural sector could be about USD 630 million, and the hotel- and restaurant- related services could lose USD 510 million. The seafood industries have almost been wiped out as losses in the crab industry alone have reached as much as USD 46.9 million. In a survey of small vendors of vegetables, fruits and fish in Dhaka and Chittagong, about 78% of respondents have reported a decline in sales of more than 50%. Around 34% of the vendors have experienced a decline in wholesale food prices, primarily in the vegetable market[75]. Another major factor, contributing to the impact of the pandemic is the lack of availability of financing to the SMEs.

It is generally reported that those SMEs dealing with fresh foods (e.g. dairy, vegetables, animal-source foods) are the most impacted due to restricted movements. In addition, small and micro businesses tend to have been more impacted than medium-sized businesses, as they cannot afford to bear the costs and lost cash flow. Encouragingly, Government and partners are working to protect access to food, but these measures are likely to fall short of what is truly needed. The majority of SMEs does not have access to formal credit channels. Their informal access to finance is through wholesale suppliers which have substantially declined. SMEs make up almost 70% of these industries, and this poses a great risk to the food system of Bangladesh as SMEs struggle to navigate the impact of COVID-19 on their businesses[76].

Retailers have responded to market incentives for expanded e-commerce under the lockdown, and have rapidly increased home delivery of food in urban areas through their websites.

Predicted Impact

- Consumption of diverse diets will largely depend on access to food. Both the quantity and quality of food (diversified and nutrient dense foods) accessible to the poor will likely be further compromised due to diminished earning opportunities, reduced income, and a rise in food prices, etc. resulting from the COVID-19 lockdown.
- Diminished marketing and sales opportunities may disincentivize farmers to continue business (in particular poultry rearing).
- Significant impact has been observed and are further anticipated on food value chains (especially those relying on import and export).
- Limited livelihood options due to disruption of food value chains (with high dependency among most vulnerable groups for daily or seasonal work), compounded by limited access to food, may lead to increased indebtedness and negative coping mechanisms.
- Income from remittances and export-oriented industries will go down drastically in FY 2020 (about a fall of USD 3.3 billion).

Box 1: Rapid assessment of food and nutrition security in the context of COVID-19 in Bangladesh [77]

Summary of the findings of the rapid assessment by FAO in the context of COVID -19 Bangladesh points to the following:

- Food grain availability in private and public stocks could be sufficient for up to one month of consumption–and there is potentially another 6 months' worth of consumption ready to be

[75, 76] Syed Muntasir Ridwan, Thoughts on Strategic Bailout of SMEs in Bangladesh, GAIN, 2020.
[77] DRAFT Report as of 27 April 2020, FAO Situation Report #2, FAO; Impact of COVID-19 on Dhaka's food markets and food price.

harvested, although this may be threatened partially by flash floods and shortages of labour and machinery.

- Most food commodity supply chains have been disrupted. In particular, poultry, dairy and fisheries are under severe stress. This can impact the access to good quality protein and bioavailable micronutrient rich foods. The prices of rice, lentils, and beef increased, while that of wheat-flour and eggs decreased. There is need to consider the inclusion of eggs in the food baskets & food-based interventions being rolled out in the current emergency situation.
- Overall, the COVID-19 situation which has severely affected food access and prices, will have marked long implications for protein and micronutrient adequacy of diets, access to healthy diets which can affect nutrition outcomes.
- There is a major challenge to deliver the raft of new policies in response to COVID-19, and to coordinate interventions across ministries and across development partners.

7.2.4 **Government and partners response**

With a view to ensuring food security, the Prime Minister in her 31-point directive mentioned the utilization of all cultivable lands, providing fiscal-monetary support to farmers, and continuation and broadening of all currently operating food distribution programmes under the various social safety nets.

Moreover, the government plans to procure about 11.5 lakh MT of rice and 6.0 lakh MT of paddy rice during the ongoing Boro season. Attaining the procurement of Boro will be critically important this year as the government needs to distribute higher amounts of food grains in view of COVID-19 and cyclone Amphan. Until 1 June 2020, the government allocated 1.82 lakh MT of rice, half of which has been distributed. As of 27 May 2020, the government had 11.4 lakh MT of rice and wheat as public stock which was 13.9 lakh MT at this point of the previous year.

In order to improve access to food by the poor, the government along with the private sector and civil society organizations, has initiated several support programs. These include food and cash relief, open market sale of essential food items at subsidized prizes, expansion of the safety net programs, incentives, etc. Coverage of social protection has been committed to be expanded greatly to include the 'new poor'. The Government, for this purpose, has prepared a list of 50 lakh household beneficiaries to be covered in response to COVID-19. However, the impact of these initiatives will largely depend on adequate targeting of the poor who need them most, the type and the amount of food distributed and how efficiently and effectively they are distributed to the intended beneficiaries in a timely manner.

At the request of the MoDMR, the MoHFW formed an 11-member Technical Expert Committee on 12 March 2020 for the revision of the food packages for the disaster-affected population.

Under the leadership of the Director General, Bangladesh National Nutrition Council (BNNC) and the Line Director of the National Nutrition Services (NNS), the Technical Expert Committee developed food package for both general disaster and COVID-affected populations. The food package considered the requirements of a combination of staple and non-staple food items for different age- and target groups considering cost, nutritive value, safety, availability, accessibility, transportation, distribution, storage facility and food preparation possibilities amidst the Covid-19 situation[78].

[78]Report on Food Packages for Disaster Affected Population, Technical/Expert Committee, April, 2020

7.3 Impact of COVID-19 lockdown on social protection

7.3.1 Continuity of children education in schools and access to nutrition sensitive services

As part of the measures implemented by the Bangladesh government to control the COVID-19 pandemic, all schools and education institutions have been closed, resulting in over 42 million children (including those who were already out-of-school) without access to education.

All educational institutions in the country and primary schools are closed for over two months and all activities including school feeding activities and food distribution at school level are suspended. In addition, some of the school-based nutrition programs, for example, IFA supplementation to adolescent girls, and nutrition education programs have already been discontinued.

Predicted Impact

- The closure of schools will have multiple consequences beyond the education sector itself. For example, about 2.9 million pupils will miss their regular school feeding (fortified biscuits). About 75g packet and 50g packet of biscuits are given to primary and preprimary school children respectively 3 days per week. The biscuits provide 338 kcal/day to primary school children and 225 Kcal/day to pre-primary school children and meet 67% of their daily micronutrient requirements. School feeding offers children a regular source of nutrients for their mental and physical development and helps to reduce the prevalence of anaemia by up to 20% in girls. In addition, school meal programs serve as one of the Social Safety Net programs. The monetized value of school feeding is estimated on average an equivalent to about 10% of a household's income. Secondly, the stipend scheme of students accounts for 55% of the total Social Safety Net beneficiaries - the highest provider.[79]
- Therefore, any pause in monetary support and food through school feeding to the children from poor families during this economic hardship conditions will further deepen their poverty and worsen their nutritional status.
- It is also anticipated that without this support, boys from poor families may dropout from education and join the child labour to support their families and the girls may end up in childhood marriage, and risk domestic violence and sexual abuse. Continuity of both school feeding and school stipend programs can help to halt this catastrophic situation and further reduce poverty among the poor and vulnerable families. Discontinuity of IFA supplementation for adolescent girls and nutrition education would further exacerbate the situation.

Government and partners responses

To ensure school children do not miss out on this daily source of nutrition, the Government and WFP are taking in-stock rations to children's homes. Ministry of Primary and Mass Education (MoPME), Directorate of Primary Education (DPE) and WFP have jointly developed a guideline for distributing biscuit for school children at their households' level in 104 upazillas (sub-districts) covering 2.9 million primary school children along with hand out and leaflet on Take Home Ration (THR) amidst COVID-19.

DPE has distributed fortified biscuits as THR to around 2.9 million children in 104 upazilas. MoPME will distribute around 296 MT fortified rice, 127 MT red lentils and 58 MT fortified oils among 410,000 Government primary school children in "16 school meal upazilas", of those 104 upazilas where the THR were distributed. Apart from this, WFP has distributed biscuit to 195,340 pre-primary and primary school children at their doorsteps as THR in 10 upazillas as of May 2020. Moreover, the Government has decided to increase school stipends by 50%.

[79]Household Income and Expenditure Survey 2016, Bangladesh Bureau of Statistics (BBS)

The Ministry of Social Welfare has made budget available to increase the number of beneficiary households to be covered under its social security programs in response to COVID-19 by 50 lakhs for cash transfers of BDT 2500 per beneficiary. In addition, the Ministry of Food has allocated budget to cover another 50 lakh beneficiaries with subsidized food support.

Government has increased the allocation to 16.71% in the 2020 FY budget amounting about 3% of the total GDP as per recommendation of the National Social Security Strategy (NSSS-2015).

7.4 Continuity of Water, Sanitation and Hygiene (WASH) services

WASH is a key strategy to contain the transmission of COVID-19, and also has significant impact on nutrition outcomes. The Humanitarian Coordination Task Team (HCTT) conducted a study on the impact on COVID-19. In this study, about 48% of respondents use safely managed drinking water services, 75% practice hand washing with water and soap and 64% use basic sanitation services. About 42% respondents implied hygiene materials are not easily accessible. Only 70% of health care facilities have a functional basic water source[80].

Predicted Impact

- Lack of maintenance of water and sanitation services specially in climate vulnerable areas and urban slums which could lead to water borne diseases and will impact the nutrition situation;
- Community level solid waste management workers could fall into high health risk;
- Increase in prices of the hygiene Products (soap, hand sanitizer, etc.).

Government and partners responses

Till 4 June a total of 9,698 hand pumps were repaired, 133 piped water systems chlorinated, 169,498 bars of soap distributed and 1,100 hand washing devices constructed in public places by DPHE with technical and financial support from UNICEF covering about 1,019,500 people (591,820 women).

Till date the DPHE with support from UNICEF have provided an uninterrupted water supply across the country for 4.45 million people (out of a target of 10 million) during the COVID-19 period.

8. Projection of possible malnutrition burden during COVID-19

The burden of malnutrition is measured primarily in levels of stunting, wasting, and underweight among children of under 5 years. As explained above, the nutrition situation of Bangladesh has been improving steadily over the last few decades. As demonstrated in table 3, stunting (chronic malnutrition), wasting (acute malnutrition), and underweight (combination of acute and chronic malnutrition) have reduced significantly since 2011. In this section, predictios have been made on the basis of current and projected wasting for the next 12 months, as a result of a deterioration of all underlying factors as explained in the pathways to malnutrition in figure 5, including access to services and food due to COVID-19.

At the time of writing of the first version of this document, in April 2020, the international research community had not yet published any predictions or projections on the impact of COVID-19 on malnutrition. As such, BNNC had developed its own methodology, by seeking alignment with WHO threshold levels for Global Acute Malnutrition.

[80]COVID-19: Bangladesh, Multi-Sectoral Anticipatory Impact and Needs Analysis, HCTT, 2020.

Subsequently in May 2020, as referred to above, "The Lancet" published a modelling study estimating the impact of COVID-19 on malnutrition in 118 LMICs using the LiST methodology[81]. Moreover, in July, "The Lancet" published another impact projection, based on this first modelling study, and macro-economic and micro-economic analysis of multiple indicators across countries concluded that wasting may increase by 14.3% in 2020[82]. These studies were not yet taken into account in the first version of this assessment, but have been incorporated here.

Table 3 : Child Malnutrition: Status of under-five child nutrition indicators (stunting, wasting and under-weight) in 2011, 2014 and 2017-18 (BDHS surveys).

Indicator	BDHS 2011		BDHS 2014		BDHS 2017-18	
	Overall (<-2SD)	Severe (<-3SD)	Overal l (<-2SD)	Severe (<-3SD)	Overall (<-2SD)	Severe (< 3SD)
Stunting	41.3%	15.3%	36.1%	11.6%	30.8%	8.9%
Wasting	15.6%	4.0%	14.3%	3.1%	8.4%	1.5%
Underweight	36.4%	10.4%	32.6%	7.7%	21.9%	4.1%

To estimate projected levels of wasting, reference was made to the WHO thresholds for Global Acute Malnutrition (GAM)/wasting, as projected in table 4. When comparing these thresholds to the latest known Bangladesh statistics on malnutrition, it became apparent that Bangladesh has improved since 2011 along the lines of WHO's thresholds, with 2011 wasting levels corresponding to critical GAM levels, 2014 to serious GAM levels and 2017-18 to poor GAM levels. As such, for the present analysis, the WHO thresholds were taken as a vantage point for further analysis on which to base predictions on wasting in Bangladesh over the next 12 months.

Table 4 : Global Acute Malnutrition (GAM) prevalence WHO thresholds

Classification	GAM prevalence
Acceptable	<5%
Poor	5<10%
Serious	10<15%
Critical/Emergency	≥15%

It is expected, on the basis of above analysis of the impact of COVID-19 on underlying factors to malnutrition, that malnutrition among all age groups, and in particular among women and children, will increase significantly in the short and medium term. Acute malnutrition among young children will be more pronounced due to acute shortage of food, and lack of access to essential health and nutrition services. The deterioration of underlying factors to malnutrition due to COVID-19 could lead Bangladesh back from the current wasting level of 8% in 2017-18 (pre COVID-19) to the serious level of malnutrition of 14% in 2014 or even to the critical level of malnutrition at 16% in 2011 (Table 3).

The following assumptions were derived from the analysis of the impact of COVID-19 on underlying factors of malnutrition above, and used for determining the burden of malnutrition and related morbidity and mortality in the next 12 months:

- Due to poor economy and extreme levels of unemployment among vulnerable populations, an approximate additional 17.5 million new poor will be added to the current total of about 39.6 million poor, making it a total of approximately 57 million.

[81] Timothy Robertson, et. al., Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: a modelling study, Lancet Global Health 2020 (Published online May 12, 2020).

[82] Derek Headey, et. al., Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality, The Lancet Global Health 2020 (Published online July 27, 2020).

- Access to services (health, nutrition, WASH, education, etc.) has already deteriorated and will be further reduced substantially.
- Case burden for SAM with medical complications, a subset of SAM cases needing hospital admission for management of associated medical complications, is about 15% globally (as per international guidelines), and about 9-10% in Bangladesh[83].
- Food security levels have already deteriorated and will likely further deteriorate substantially in the coming months, with acute malnutrition as a consequence.
- Poor access to food may result in compromised immune systems, contributing to high morbidity leading to malnutrition.
- Support for the poor through social safety nets is insufficient and this will remain unchanged despite Government intentions to reach universal coverage. Poor and new poor are therefore at heightened risk of becoming malnourished.
- Social safety net programmes targeting the reduction of vulnerability of pregnant and lactating women as well as children are providing insufficient relief, due to limited coverage of beneficiaries, inadequate targeting, insufficient support (in food/cash), and inadequate nutrition SBCC, failing to reach 'new poor'; vulnerable pregnant and lactating women would remain vulnerable.
- The case burden of COVID-19 is mostly concentrated in urban areas.
- All gains made so far in nutrition status among under-five children are at risk of erosion to malnutrition levels seen in 2014, and in extreme cases closer to 2011.

8.1 Targeting of SAM and MAM

In the situation projections below, SAM and MAM calculations were made both for the entire country, as well as for 26 priority districts, selected through assessment of how they are affected by poor access to nutrition services and food. The 26 priority districts were selected on the basis of the following benchmarks: (1) high priority districts identified by the NAWG/HCCT; (2) high prevalence of Severe Acute Malnutrition (SAM); (3) high number of admitted SAM cases in 2019; (4) with current bed capacity for admission of SAM patients. With these benchmarks, 25 priority districts were selected, and in addition, Gazipur was included because of its high SAM caseload and vulnerability of its population to the economic impact of COVID-19, due to its high concentration of garments workers who work in an industry which is particularly severely hit. Gazipur is also one of the highly COVID-19 affected districts. Approximately 61% of the total under-five children and 72% of malnourished children are from these 26 districts.

8.2 Three possible scenarios of malnutrition following WHO threshold levels for GAM

In calculating the case burden of Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM), three possible scenarios have been considered in coming months aligning with the WHO GAM cutoff threshold, and corresponding statistics for Bangladesh in 2011, 2014, and 2017-18. As such, the same three time periods have been used to predict the nutrition situation that might emerge during the COVID-19 period. Thereby, the nutrition status of women of reproductive age, and IYCF conditions among under five children have been taken into consideration.

To sketch the scenarios, two national databases were used. The first is the Bangladesh Demographic and Health Survey, or BDHS, which was also referred to above and corresponds to WHO cutoff thresholds for three analogue years, and is widely accepted by the Government and stakeholders. The second is the Multiple Indicator Cluster Survey, MICS, which was added to calculate wasting and severe wasting following the Lancet's prediction of a 14.3% increase in wasting, because it is the most recent pre COVID-19 data available, and because of its inclusion of district-level data, where BDHS only includes data up to the division level. To calculate wasting levels for the next 12 months, the BBS population projection for 2021 was used.

[83] Integrated nutrition surveys report (SMART/SQUEAC/SENS Methodology & Health Facility Assessment), conducted by ACF in different upazillas of Cox's Bazar district.

8.2.1 Scenario one (Poor GAM level)

Under this scenario the lockdown has been lifted on May 30th and the underlying drivers have not deteriorated further. Pre COVID-19, the prevalence of GAM rate was 8.4% (6.9% MAM and 1.5% SAM) which is at the poor level according to WHO cutoff threshold. This may remain unchanged, partly because of various preventive measures taken by the government and other partners which might have a positive impact on nutrition, and overall resilience generated by the various socio-economic well-being initiatives including safety net programs undertaken for the poor over the last two decades. In this scenario, while there is a possibility that there might be a small rise in the overall GAM level during this period, the total GAM rate will remain below 10%. The data are displayed in Annex 1, and discussed here below.

- **Projected burden of acute malnutrition - Nationally**

  The total number of under-five children in the entire country are 16,311,000 (Annex 1.1). Under scenario one, the GAM burden for the whole country would be 3,563,322 for the next 12 months, of which MAM and SAM would be 3,508,886 and 53,435 respectively. Of the total 53,435 SAM cases, about 5,344 (10%) would require hospital-based management and treatment for medical complications. Using the international guideline (15%) estimated total burden of SAM cases who will be needing hospitalization in SAM management centre would be 8,015 (Annex 1.2).

- **Projected burden of acute malnutrition - Priority districts**

  The total number of under-five children in 26 priority districts are 9,958,447. The estimated total burden of GAM cases would be 2,174,924 of which 2,142,300 and 43,624 MAM and SAM cases respectively (Annex 1.1). About 4,362 (10%) would require hospital-based management and treatment for medical complications. Using the international guideline (15%) estimated total burden of SAM cases who will be needing hospitalization in SAM management centre would be 4,894 (TAnnex 1.2).

8.2.2. Scenario two (Serious GAM level)

The COVID-19 pandemic and Government-imposed extended general Holiday have a prolonged impact on the economy of Bangladesh. There will be moderate deterioration of underlying factors. In this scenario, the level of malnutrition will increase to a WHO serious cutoff threshold (GAM=10-<15%) level, due to deterioration of access to health and nutrition services and food. The level of GAM cases may reach the level of 2014 (BDHS), which was 14.3%.

- **Projected burden of acute malnutrition - Nationally**

  Under scenario two, the GAM burden for the whole country would be 6.064,429 for 12 months, of which MAM and SAM would be 5,876,432 and 187,997 respectively (Annex 1.1). Of the total SAM cases, 10% or about 18,800 would require hospital-based management and treatment for medical complications. Using the international guideline (15%) estimated total burden of SAM cases who will be needing hospitalization in SAM management center would be 28,200 (Annex 1.2).

- **Projected burden of acute malnutrition - Priority districts**

  The estimated total GAM burden would be 3,702,550 of which 3,587,770 and 114,779 MAM and SAM cases respectively (Annex 1.1). Of the total SAM cases about 11,480 (10%) would require hospital-based management and treatment for medical complications. Using the international guideline (15%) estimated total burden of SAM cases who will be needing hospitalization in SAM management centre would be 17,217 (Annex 1.2).

8.2.3 Scenario three (Critical/Emergency)

The second lockdown may be required sometime in the future if the COVID-19 situation deteriorates further. There will be further substantial deterioration of underlying factors, as various preventive measures taken by government and partners will not have substantive positive impact.

Food value chain will breakdown and deteriorate significantly. Consequently, the level of GAM will increase to critical/emergency WHO cutoff threshold (15% and above). It is assumed that the level of GAM cases may reach to the level of 2011 (BDHS) which was 16%.

- **Projected burden of acute malnutrition - Nationally**

  Under scenario three, the GAM burden for the whole country would be 6,615,741 for 12 months, of which MAM and SAM would be 6,351,111 and 264,630 respectively (Annex 1.1). Of the total SAM cases, about 26,463 (10%) would require hospital-based management and treatment for medical complications. Using the international guideline (15%) estimated total burden of SAM cases who will be needing hospitalization in SAM management centre would be 39,695 (Annex 1.2).

- **Projected burden of acute malnutrition - Priority districts**

  The estimated total burden of GAM cases in 26 high priority districts would be 4,039,146 of which 3,977,580 and 161,566 MAM and SAM cases respectively (Annex 1.1). Of the total SAM cases about 16,157 (10%) would require hospital-based management and treatment for medical complications. Using the international guideline (15%) estimated total burden of SAM cases who will be needing hospitalization in SAM management centre would be 24,235 (Annex 1.2).

8.3 Possible Scenario for wasting following "The Lancet"

According to "The Lancet", it is expected that LMICs will, on average, experience a 14.3% increase in wasting because of the impacts of COVID-19 on socio-economic determinants. For Bangladesh, this would mean that wasting would go up from 5,434,825 to 6,212,005[84]. Of this, the total SAM burden would be 142,876, and MAM would be 6,069,130. The number of children that would therefore require treatment as a result of the impact of COVID-19 would amount up to 14,288 (at 10%), or 21,431 (at 15%).

9. Recommendations

Based on the projected alarming situation, there is a dire need for a well-coordinated and harmonized preventive and mitigating approach to prevent hunger and malnutrition. A three-pronged multi-sectoral action strategy is recommended, which includes (1) a comprehensive food and nutrition security response framework, (2) a multi-sectoral approach, and (3) a robust monitoring, evaluation, and surveillance system.

9.1 Develop a comprehensive food and nutrition security response framework

The economic and non-economic costs of COVID-19 across all sectors, especially on poor and vulnerable populations, on a short, medium- and long-term basis are evident and inevitable. The burden of acute and chronic malnutrition amid under-five children and women which could lead to significantly increased morbidity and mortality is expected to be enormous. Therefore, a comprehensive multi-sectoral food and nutrition security response framework followed by a plan in order to prevent and manage efficiently the negative impact COVID-19 might be having on nutrition in the future is necessary, and aligning with the Bangladesh Preparedness and Response Plan (BPRP) is essential. The response framework should address the following key issues:

[84] Calculated on the basis of MICS data 2019

9.1.1 Building back and strengthening on-going essential nutrition services

The COVID-19 pandemic has affected the access and utilization of nutrition services delivered through health facilities and other relevant sectors especially by the most vulnerable, due to fear, social stigma, lack of confidence in the health system, movement restrictions, and closure of health facilities. There has been an overall reduction in access to and utilization of health and nutrition services in terms of fewer women seeking facility care for their ANC/PNC services, deliveries, nutrition interventions, vaccination of children and family planning services.

Regarding targeting, while covering the entire country is desirable, a phased approach may be applied for implementing the responses in case of capacity and resource constraints. Though all population age groups will be affected, global and local data suggest that women and young children are less susceptible to Corona virus infections themselves, compared to men and the elderly population. However, young children and women of reproductive age are affected more from the indirect impact of COVID-19. Moreover, malnourished children and women may be at a higher risk of getting and fighting the infection. They are victims of collateral damages and spillover effects caused by COVID-19. The immediate response may therefore start in 26 priority districts identified by the HCCT 2020 and the number of SAM cases and admissions per district[85], further expanding them progressively in other districts in phases based on needs, capacity and available resources.

Recommendations

a. Identify challenges and organize catch-up activities to ensure the provision of a defined set of prioritized essential nutrition and health services, (e.g. EPI, IMCI-N, Vitamin A supplementation, ANC/PNC, Family planning services, NCDs, etc.) in all health facilities.

b. Develop and implement SOP/guidelines along with supportive supervision and monitoring to ensure the quality of services for maternal, child and adolescent nutrition, considering the COVID-19 situation, which would include taking measures to avoid unintended actions by service providers and caregivers, such as separation of babies from COVID-19 infected mothers because of fear and social stigma.

c. Ensure rational allocation of resources for targeted COVID-19 programs along with prioritized essential nutrition services to mitigate further disruption and deterioration in service delivery.

d. Avoid diversion of health care staff away from routine essential services for mother and children. Motivate and incentivize the existing health workforce and recruit to fill current vacancies to ensure service delivery of essential nutrition services.

e. Strengthen procurement and supply chain management to ensure uninterrupted and adequate supply of essential nutrition commodities including anthropometric materials, and relevant tools for GMP, supplies (IFA, calcium tablets, therapeutic milk, therapeutic milk preparation kit).

f. Explore innovative or alternative approaches to deliver essential nutrition services (e.g. mobile messaging, tele counselling, helpdesk services, etc.).

g. Develop an e-learning platform for capacity building for service providers on essential nutrition services, including psychosocial support.

h. Strengthen community engagement and mobilization of various community platforms (CG, CSG, MSG, nutrition clubs), and involve volunteers at the community level for supporting essential nutrition services delivery to serve the most vulnerable.

i. Create awareness on uptake of essential health, population and nutrition services through social media and SBCC engagement through different communication modalities, including innovative engagements of PSA, theatre, and other media platforms (religious leaders, influential people, etc.).

[85]COVID-19: Bangladesh, Multi-Sectoral Anticipatory Impact and Needs Analysis, HCTT, 2020

9.1.2 Support farmers, food supplies and all the actors in the nutrition-sensitive food system

As discussed above, it is expected that the consumption of diverse diets will suffer, as it largely depends on the access to food, and access to adequate quantity and quality of food are expected to be compromised due to diminished earning opportunities, reduced income, and a rise in food prices, largely due to interrupted food chains. Impacts of COVID-19 on the food value chain will have a significant negative impact on food security. Due to increased food insecurity, MDD and MAD may deteriorate. Access to adequate quantity and quality food needs to be restored through strengthened food value chains.

Recommendations

a. Strengthen the food supply chain and management system through effective linkages with the private sector.
b. Ensure continued and sustainable production of nutritious agricultural produce by supporting an uninterrupted supply of agricultural inputs.
c. Support farmers to continue and increase agricultural production, by providing subsidies and protective stimulus packages.
d. Protect agricultural produce by supporting efficient and safe storage of food at the place of production, protecting farmgate prices.
e. Ensure hygiene and social distancing at wet markets to keep them open in a safe manner.
f. Apply WHO guidelines on hygiene and safety in the context of COVID-19 on agricultural input industries.
g. Strengthen market monitoring to closely monitor food prices and markets, including food safety, through the establishment of a transparent routine monitoring system.

9.1.3 Strengthen and promote nutrition-sensitive social protection

The poor from urban slums, villages and new poor have been hit the hardest. People are adopting negative coping mechanisms to manage household food insecurity either by reducing the number of meals consumed, or by borrowing money. Despite good progress, Bangladesh is still at a serious hunger level and the COVID-19 situation has further exacerbated this. In order to prevent any forthcoming erosion in gains made in GHI, it is essential to address food insecurity and access to services among the most vulnerable population groups, in line with CIP2 and NPAN2, using common implementation platforms.

Recommendations

a. Efforts should be made to expand multiple social protection programs, especially cash and food-based programs to prevent hunger and malnutrition, targeting vulnerable groups across the life cycle from urban, rural and new poor cohesively by various government sectors, development partners, civil society organizations and the private sector.
b. Push for continuity of nutrition sensitive interventions and promote linkages with nutrition specific services by engaging all possible platforms (e.g. safety net programs with health/nutrition delivery platforms) working together in a coordinated manner.
c. Conduct a national food insecurity survey using the food insecurity experience scale (FIES) to measure severity of household food insecurity and assess actual impact.
d. Improve diversity of food package by including nutritious food items.
e. Explore innovative approaches to resume payment of student stipend and school feeding programs respecting the social isolation.
f. Strengthen efforts to ensure an appropriate Public Food Distribution System (PFDS) and cash transfers to vulnerable groups through ICT-based PFDS, by maintaining an updated list of beneficiaries, mobile phone-based online money transfers, and information to beneficiaries through SMS.

9.1.4 Focus on addressing both poor and non-poor vulnerable population living in urban areas, including slum dwellers of priority districts, while ensuring gender sensitivity in terms of food security and nutrition

A significant reduction in income among the urban poor leads to compromised food consumption and nutritional deprivation, which will inevitably have a huge impact on the nutritional status of children living in these areas. Efforts should be made to sustain the minimum services for the vulnerable children and women in urban areas. To mitigate the social and economic impact of COVID-19, adequate resources should be allocated for addressing these urban vulnerabilities.

Recommendations

a. Prioritization should be put on support to the most vulnerable and disadvantaged, including women headed households, floating population, urban slum dwellers, differently able people with special needs, marginal farmers, and new poor.

b. Promote categorical universal coverage of essential nutrition services for the urban nutritionally vulnerable, by working with NGOs and the private sector service delivery centers, aligned with global guidelines for the continuation of essential nutrition services.

c. Establish and strengthen coordination mechanisms with NGOs, the private sector, and civil society organizations to support efficient management and coordination of programmes targeting the vulnerable at the national and sub-national level, with a focus on urban areas.

d. Establish a monitoring system on essential nutrition service delivery, to ensure harmonization of monitoring, to understand coverage and utilization trends in urban areas, and including COVID-19 considerations.

e. Ensure that all measures and policies addressing vulnerable people are gender-sensitive and do not further widen the gender gap. Social protection services should continue to operate and ensure sensitization against gender-based violence and early marriage, promote sexual and reproductive rights and services, and protect children from abuse and neglect at home.

9.1.5 Support Small and Medium Enterprises (SMEs) for food and nutrition security

Protecting and stimulating the production of key nutritious foods will be critical. Due to issues affecting production to transport, the food reaching wet markets has tangibly reduced and will be further reduced if SMEs and farmers are not incentivized and adequately supported.

Recommendations

a. Facilitate forward contracts and predetermined fair prices with clusters of SMEs to mitigate loss of perishable food and protect SMEs without disrupting food supplies.

b. Provide technical assistance to strengthen SME business models, including the use of online marketing and improved packaging to lengthen products' shelf life.

c. Support SMEs with broader financial packages such as soft microcredits, to stimulate employment and provide working capital.

d. Support the private sector to create incentives for safe food production, and distribution of nutrient-dense foods.

e. Strengthen public-private partnerships to use the websites of retailers to disseminate accurate food safety information in relation to COVID-19.

9.2 Multi-Sectoral approach

All underlying drivers of malnutrition are at play today and will persist even in the post COVID-19 period. They cut across many sectors and were further exacerbated by the extended Government Holiday. The resulting unintentional food and nutrition security impacts are unavoidable. In order to avoid deterioration of nutrition status, both direct access to essential nutrition services, and access to food need to be ensured, warranting a well-coordinated multi-sectoral approach. With regards to access to food, two key lifeline programs, namely the social safety net programmes and an uninterrupted food value chain system have to be continued and further stimulated.

Recommendations

a. Enhance and upscale inter-sectoral coordination mechanisms for nutrition, including activating the Executive and Standing Technical Committees of BNNC and inter-ministerial forum to revitalize multi-sectoral coordination mechanisms to provide policy directions and technical guidelines to the aligned sectors.
b. Actively engage nutrition support platforms such as the HPNSP and related Nutrition Development Partners Group and the Local Consultative Group for Nutrition (LCG-N) to provide technical assistance for nutrition-related interventions and programmes.
c. Accelerate advocacy by BNNC to increase coverage and allocation, and strengthen the relevant programs of the 22 ministries to contribute directly or indirectly to protect nutrition situation from any future deterioration.
d. The Socio-Economic Response Framework through which the United Nations agencies jointly and cohesively support the Government's efforts to complement humanitarian support with socio-economic development support should be completely aligned with national programs, systems, and networks. The five pillars upon which the framework rests, as well as their sub-groups, should be shaped in close collaboration and alignment.
e. Collaborate with the Scaling Up Nutrition (SUN) movement and its networks to profit from their knowledge bank and evidence generated through research and innovation.
f. Support the establishment of and work through the District Nutrition Coordination Committees (DNCC) and Upazila Nutrition Coordination Committees (UNCC) to ensure multi-sectoral nutrition planning and implementation at the sub-national level.

9.3 Monitoring, Evaluation and Surveillance system

Understanding nutritional and household food insecurity is critical for formulating appropriate policy and designing effective programs to manage hunger and food insecurity, and the nutritional consequences related to COVID-19 and similar epidemics and pandemics. Therefore, the Government needs to regularly assess the nutrition and food insecurity status of the urban and rural households of Bangladesh during the ongoing COVID-19 pandemic. There is a dire need for a robust monitoring and evaluation system that will assess the efficacy and impact of the programs and interventions. The M&E system will have to be based upon SMART, practical, and feasible indicators. Moreover, a surveillance system is required for assessing the burden of food and nutrition insecurity as well as the directions in which the indicators are going (up/down).

Recommendations

a. Conduct an assessment to understand the extent of the impact of COVID-19 on nutrition quickly and implement a national survey to assess the nutrition and food insecurity status of the urban and rural households of Bangladesh during the ongoing COVID-19 pandemic.
b. Establish Sentinel Nutrition Surveillance System to assess nutrition situation trends and the implementation of essential nutrition services.

c. Strengthen and align routine data collection and analysis across sectors, and establish feedback mechanisms.

d. Strengthen monitoring of multi-sectoral nutrition activities implementation through DNCCs and UNCCs at the sub-national level.

9.4 **Develop a policy brief**

Based on this technical document a short policy brief should be developed for advocacy to mainstream nutrition in every response plan, and for mobilization of resources for developing, implementing and monitoring of a costed response framework for food and nutrition security across different domains/sectors, encompassing the short, medium and long-term horizons for Bangladesh.

Annexures

Annexures

Annex 1: Scenarios of burden of acute malnutrition

Annex 1.1: Burden of Acute Malnutrition for 12 months period[86]

Area		Children aged 0-59 months	Estimated burden (in numbers) based on BDHS[88] 2017-18 statistics			Estimated burden (in numbers) based on BDHS[26] 2014 statistics			Estimated burden (in numbers) based on BDHS[26] 2011 statistics		
			GAM	MAM	SAM	GAM	MAM	SAM	GAM	MAM	SAM
Bangladesh	[89]Based on BBS projected population for 2021	16,311,000	3,562,322	3,508,886	53,435	6,064,429	5,876,432	187,997	6,615,741	6,351,111	264,630
26 Priority districts	BBS projected population for 2021	9,958,447	2,174,924	2,142,300	32,624	3,702,550	3,587,770	114,779	4,039,146	3,877,580	161,566

Annex 1.2 Need for in-patient care for complicated SAM cases[87]

Area	Proportion of SAM cases need inpatient-care	Based on burden for 12 months (according to BDHS 2017-18)	Based on burden for 12 months (according to BDHS 2014)	Based on burden for 12 months (according to BDHS 2011)
Bangladesh	10.0%	5,343	18,800	26,463
	15.0%	8,015	28,200	39,695
26 Priority districts	10.0%	3,262	11,478	16,157
	15.0%	4,894	17,217	24,235

[86] Burden (acute malnutrition) = N*P*K, Where N = Population, P = Prevalence, K = Incidence Correction Factor (K = 1+ t/7.5; for 12 months K = 1+12/7.5 = 2.6

[87] Integrated nutrition surveys report (SMART/SQUEAC/SENS Methodology & Health Facility Assessment), conducted by ACF in different upazillas of Cox's Bazar district.

[88] Divisional statistics for corresponding districts

[89] Population Projection of Bangladesh: Dynamics and Trends 2011-2016, BBS, November 2015

Annex-2 : List of members and other contributors of the Expert Committee on Food Security and Nutrition

1.	Dr. Md. Khalilur Rahman	Director General Bangladesh National Nutrition Council (BNNC)	Chairman
2.	Dr. AFM Iqbal Kabir	Team Leader (Nutrition International NTEAM's TAN-UK Aid)	Vice chairperson-1
3.	Dr. Tahmeed Ahmed	Senior Director Nutrition and Clinical Services, ICDDRB	Vice chairperson-2
4.	Prof. Nazma Shaheen	Institute of Nutrition and Food Science, University of Dhaka	Member
5.	Mr. Hajiqul Islam	Research Director, FPMU	Member
6.	Dr. Gazi Ahmed Hasan	Deputy Program Manager, National Nutrition Services	Member
7.	Dr. Md. M. Islam Bulbul	Deputy Program Manager, National Nutrition Services	Member
8.	Dr. Akhter Ahmed	Country Representative, IFPRI Bangladesh	Member
9.	Dr. Md. Mohsin Ali	Nutritionist	Member
10.	Ms. Asfia Azim	Member Nutrition Cluster,UNICEF, Bangladesh	Member
11.	Md. Mainul Hossain Rony	Cluster Coordinator Food Security Cluster, Bangladesh	Member
12.	Ms. Farhana Sharmin	National Consultant Nutrition & Food Safety, WHO, Bangladesh	Member
13.	Dr. Md. Akhter Imam	Deputy Director, BNNC	Member Secretary

Special thanks to:

1.	Ms. Piyali Mustaphi	Chief, Nutrition Section, UNICEF, Bangladesh
2.	Dr. Lalita Bhattacharjee	Senior Nutrition Advisor, GoB-FAO-USAID-EU Meeting the Undernutrition Challenge Programme, Bangladesh
3.	Dr. Golam Mohiuddin Khan	Nutrition Specialist, Nutrition Section, UNICEF-Bangladesh
4.	Md. Habibur Rahaman	Nutrition Consultant for BNNC, UNICEF, Bangladesh
5.	Ms. Rudaba Khondker	Country Director, Bangladesh, GAIN, Bangladesh
6.	Ms. Saiqa Siraj	Country Director, Nutrition International, Bangladesh
7.	Ms. Tonima Sharmin	Nutrition Program Officer, World Food Program (WFP), Bangladesh
8.	Ms. Farzana Akter	Head of Capacity Strengthening, School Feeding Program, WFP, Bangladesh
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12.	Syed Muntasir Ridwan	National Coordinator, SUN Business Network, Bangladesh
13.	Mr. Taufiqur Rahman	Capacity Building Specialist, ACF, Bangladesh
14.	Dr. Purnima Menon	IFPRI-New Delhi office
15.	Dr. Eadara Srikanth	Asia TAN Project Manager, Nutrition International
16.	Dr. Rupinder Sahota	Asia TAN Project Officer, Nutrition International
17.	Ms. Lisanne Achterberg	Nutrition Advocacy and Multi-Sectoral Approach Officer, UNICEF
18.	Ms. Bhami Vora	Nutritionist Specialist, MUCH project, FAO

Annex-3 : Government Order to form the Expert Committee on Food Security and Nutrition

একই তারিখ ও স্মারকের স্থলাভিষিক্ত হইবে

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
বাংলাদেশ জাতীয় পুষ্টি পরিষদ কার্যালয়
আইপিএইচ ভবন (৩য় তলা), মহাখালী, ঢাকা-১২১২
ফোন নং- ০২-৯৮৬১৮২৯, ই মেইল- dgbnncbd@gmail.com
ওয়েবসাইট- https://bnnc.portal.gov.bd

স্মারক নংঃ বাজাপুপ/এম এন্ড ই/১১-৫৪/ ২০১৮/১০৮..... তারিখঃ ২৭-০৪-২০২০

বাংলাদেশের জনগণের পুষ্টির মান উন্নয়নের লক্ষ্যে পুষ্টি বিষয়ক গবেষণা কার্যক্রম বাস্তবায়নের লক্ষ্যে এবং Covid-19 পরবর্তী পরিস্থিতি মোকাবিলায় করণীয় নির্ধারণের লক্ষ্যে নিম্নলিখিত সদস্যগণের সমন্বয়ে রিসার্চ স্ট্রাটেজি এবং অগ্রাধিকারমুলক গবেষণা কার্যক্রম পরিচালনা করার জন্য একটি Expert committee on Food Security and Nutrition গঠন করা হইলঃ

১। ডা. মো. খলিলুর রহমান, মহাপরিচালক, বিএনএনএসি	সভাপতি
২। ডা. এ এফ এম ইকবাল কবির, পরামর্শক, বি এন এন সি	সহ সভাপতি-১
৩। ডা. তাহমিদ আহমেদ, সিনিয়র ডাইরেক্টর, নিউট্রিশন এন্ড ক্লিনিক্যাল সার্ভিসেস,আই সি ডিডি আর,বি এবং মেম্বার, SUN একডেমিয়া নেটওয়ার্ক	সহ-সভাপতি-২
৪। অধ্যাপক নাজমা শাহীন, খাদ্য ও পুষ্টি বিজ্ঞান ইনস্টিটিউট, ঢাকা বিশ্ববিদ্যালয়	
৫। জনাব হাজীকুল ইসলাম, রিসার্চ ডিরেক্টর, এফপিএমইউ	সদস্য
৬। ডা গাজী আহমেদ হাসান, ডি পি এম, জাতীয় পুষ্টি সেবা, মহাখালি, ঢাকা	সদস্য
৭। ডা মফিজুল ইসলাম বুলবুল, ডি পি এম, জাতীয় পুষ্টি সেবা, মহাখালি, ঢাকা	সদস্য
৮। জনাব আকতার আহমেদ, কান্ট্রি রিপ্রেজেন্টেটিভ, ইন্টারন্যাশনাল ফুড পলিসি রিসার্চ ইন্সটিটিউট, বাংলাদেশ	সদস্য
৯। ডা. মো. মহসিন আলী, পুষ্টিবিদ,	সদস্য
১০। মিস আসফিয়া আজিম, সদস্য, নিউট্রিশন ক্লাস্টার	সদস্য
১১। মো মাইনুল হাসান রনি, ক্লাস্টার কো-অর্ডিনেটর, ফুড সিকিউরিটি ক্লাস্টার, বাংলাদেশ	সদস্য
১২। মিস ফারহানা শারমিন, পরামর্শক, বিশ্ব স্বাস্থ্য সংস্থা	সদস্য
১৩। ডা. মো. আকতার ইমাম, উপ পরিচালক, বাংলাদেশ জাতীয় পুষ্টি পরিষদ কার্যালয়,	সদস্য সচিব।

কার্যপরিধিঃ

১। জাতীয় দুর্যোগ ও জরুরী প্রয়োজনে বিশেষত COVID-19 পরবর্তী জনগণের খাদ্য নিরাপত্তা ও পুষ্টির আশু চাহিদা নিরূপনসহ দুর্যোগ ও অপুষ্টির পারস্পরিক সম্পর্ক নির্ধারণে প্রয়জনীয় সার্ভে/ গবেষণা করা।
২। অপুষ্টির হুমকি মোকাবিলায় বহুখাতবিভত্তিক কার্যক্রম বাস্তবায়নে দুর্যোগকালীন বাধা সমূহ চিহ্নিত করা এবং তার প্রতিকারে প্রয়োজনীয় পরামর্শ প্রদান করা।
৩। দুর্যোগ পরবর্তী ঝুকিপূর্ণ জনগোষ্ঠীর বিশেষত নারী ও শিশুদের অপুষ্টি মোকাবিলায় প্রয়োজনীয় পরামর্শ প্রদান।
৪।SUN কান্ট্রি অগ্রাধিকার কার্যক্রমের অংশ হিসেবে পুষ্টি বিষয়ক রিসার্চ স্ট্রাটেজি প্রস্তুতে সহায়তা প্রদান করা। মোকাবিলায় অপুষ্টির বিভিন্ন অবস্থা মোকাবিলার জন্য প্রয়োজনীয় পরামর্শ প্রদান করা।
৫। কমিটি যেকোন সময় সভায় মিলিত হতে পারবেন এবং প্রয়োজনে অনধিক ২/৩ জন সদস্য কো-অপ্ট করতে পারবেন।

ডা. মো. খলিলুর রহমান
মহাপরিচালক
বাংলাদেশ জাতীয় পুষ্টি পরিষদ কার্যালয়
মহাখালী, ঢাকা

অনুলিপিঃ সদয় অবগতি ও কার্যার্থে, জ্যেষ্ঠতার ভিত্তিতে নহেঃ

১। সচিব, স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়, স্বাস্থ্য সেবা বিভাগ, স্বাপকম। দৃ আঃ একান্ত সচিব।

২। অতিরিক্ত সচিব, জনস্বাস্থ্য ও বিশ্বস্বাস্থ্য, স্বাস্থ্য সেবা বিভাগ, স্বাপকম। দৃ আঃ ব্যক্তিগত কর্মকর্তা।

৩। মহাপরিচালক, স্বাস্থ্য অধিদপ্তর, মহাখালী, ঢাকা, দৃআঃ সহকারী পরিচালক, সমন্বয়।

৪। উপসচিব, জনস্বাস্থ্য-২, স্বাস্থ্য সেবা বিভাগ, স্বাপকম।

৫।পরিচালক, জনস্বাস্থ্য পুষ্টি প্রতিষ্ঠান, মহাখালী, ঢাকা-১২১২

৬। পরিচালক, বাংলাদেশ জাতীয় পুষ্টি পরিষদ কার্যালয়, মহাখালী, ঢাকা-১২১২

৭। উপ-পরিচালক, সমন্বয়, বাংলাদেশ জাতীয় পুষ্টি পরিষদ কার্যালয়, মহাখালী, ঢাকা-১২১২

৮। সহ-পরিচালক, সকল, বাংলাদেশ জাতীয় পুষ্টি পরিষদ কার্যালয়, মহাখালী, ঢাকা-১২১২

৯। জনাব হাজীকুল ইসলাম, রিসার্চ ডিরেক্টর, এফপিএমইউ

১০। ডা. এ এফ এম ইকবাল কবির, পরামর্শক, বিএনএনএসি

১১। ডা. তাহমিদ আহমেদ, সিনিয়র ডাইরেক্টর, নিউট্রিশন এন্ড ক্লিনিক্যাল সার্ভিসেস,আই সি ডিডি আর,বি , ঢাকা।

১২। অধ্যাপক নাজমা শাহীন খাদ্য ও পুষ্টি বিজ্ঞান ইনস্টিটিউট, ঢাকা বিশ্ববিদ্যালয়

১৩ । ডা গাজী আহমেদ হাসান, ডি পি এম, জাতীয় পুষ্টি সেবা, মহাখালি, ঢাকা

১৪। ডা মফিজুল ইসলাম বুলবুল, ডি পি এম, জাতীয় পুষ্টি সেবা, মহাখালি, ঢাকা

১৫। জনাব আকতার আহমেদ, কান্ট্রি রিপ্রেজেন্টেটিভ, ইন্টারন্যাশনাল ফুড পলিসি রিসার্চ ইন্সটিটিউট, বাংলাদেশ

১৬। ডা. মো. মহসিন আলী, পুষ্টিবিদ,

১৭। মিস আসফিয়া আজিম, সদস্য, নিউট্রিশন ক্লাস্টার

১৮। মো মাইনুল হাসান রনি, ক্লাস্টার কো-অর্ডিনেটর, ফুড সিকিউরিটি ক্লাস্টার, বাংলাদেশ

১৯। মিস ফারহানা শারমিন, পরামর্শক, বিশ্ব স্বাস্থ্য সংস্থা

২০। অফিস কপি।

ডা. মো. আকতার ইমাম
উপ পরিচালক
বাংলাদেশ জাতীয় পুষ্টি পরিষদ কার্যালয়
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