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Organization of the
United Nations

SECOND RAPID ASSESSMENT OF FOOD AND NUTRITION SECURITY IN THE CONTEXT OF COVID-19 IN BANGLADESH

MAY – JULY 2020



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Foreword

COVID-19 is a global health crisis that has caused a shock to food and agricultural systems around the world, affecting production, supply chains, trade, markets, and people's livelihoods and nutrition.

This second assessment, developed with our partners, provides an invaluable and wide-ranging analysis that underlines the scale and scope of COVID-19's impact on food and agriculture in Bangladesh.

Informed policy decisions depend on high quality and timely data and analysis. To this end, it is our hope and ambition that these rapid assessments contribute to sound and effective action to mitigate the enormous damage that COVID-19 has caused and the impact that it will continue to exert.

The extent of the disruption across multiple food systems and sectors is all too clear but despite the challenges, there are many reasons to be optimistic as we continue to adapt to this crisis and support the Government of Bangladesh.

This assessment also highlights the results of effective coordination. I would like to thank our partners, including the International Food Policy Research Institute, the International Fund for Agricultural Development, the International Maize and Wheat Improvement Center, the International Rice Research Institute, and WorldFish, who made valuable and much appreciated contributions.



Robert D Simpson

FAO Representative
in Bangladesh



Executive summary

Food and Agriculture Organization of the United Nations (FAO) published a first Rapid Assessment of Food and Nutrition Security in the Context of COVID-19 in Bangladesh based on qualitative data collected during April and May 2020. This second assessment involved more quantitative analysis of data collected from May and June by the FAO, the Consultative Group on International Agricultural Research (CGIAR) Institutes, and the International Fund for Agricultural Development (IFAD).

The analysis determined that the entire food supply chain was hampered by the COVID-19 lockdown and resulting economic crisis that occurred from mid-March to May. The study detailed and analyzed major impacts, which are summarized below:

Food insecurity: More than a third (36.4 percent) of the youth and adolescents surveyed in rural and urban areas reported moderate or severe food insecurity during the lockdown period. This figure is higher than the national average (31.5 percent) before the COVID-19 pandemic. Severely food-insecure populations reported going without eating for an entire day, exhaustion of food reserves, or both. Compared to changes in income status due to COVID-19, the highest prevalences of “moderate or severe food insecurity” (42.9 percent) and “severe food insecurity” (11.8 percent) were found in groups that reported concurrent losses in household income. The survey found that among youths, almost twice the proportion of boys (43.6 percent) reported higher moderate or severe food insecurity compared to girls (28.8 percent). Severe food insecurity was also reportedly higher among boys at 12.9 percent compared to girls at 5 percent. Across regions, Sylhet had the highest prevalence of moderate or severe food insecurity (61.6 percent), followed by Rangpur (52.7 percent), and Mymensingh (51.7 percent). The lowest prevalence of moderate or severe food insecurity was found in Barisal (14.9 percent). Similarly, the prevalence of severe food insecurity was highest in Sylhet (24.7 percent) followed by Rangpur (17.3 percent) and Khulna (16.3 percent).

Food reserves: Available data indicate that there are adequate domestic reserves of rice, wheat, potatoes, pulses and maize both in public and private storage to meet domestic demand until November. This time horizon is, however, relatively near, and available data indicate the need for urgent actions to assure continued national food supply, including potential emergency import actions for December 2020 and early 2021. Additional concerns are also starting to emerge if winter season (rabi) cropping – which commences in November – is impacted by a shortage of inputs, particularly for hybrid maize that largely relies on stocks of seed imported from India.



Food prices: Food prices generally increased during the lockdown, although the prices of many commodities have returned to more normal levels since commerce recovered at the end of May. Loss of income among daily wage earners reduced demand, causing market prices for poultry, eggs, dairy and beef to fluctuate. About 70 percent of workers in Bangladesh are in the informal sector, and the lockdown caused hardship for many of them. Although labour prices temporarily spiked, they appear to be returning to normal.

Agricultural inputs: Over 70 percent of surveyed farmers reported difficulties in obtaining agricultural inputs (e.g. seeds for the upcoming aus (spring) and aman (summer) seasons, fertilizers, pesticides, and diesel for irrigation pumps), new varieties of rice and extension services. More than 90 percent of surveyed farmers reported scarcity of labour and machinery for harvesting and threshing of boro (winter) rice and planting of aus rice. Eighty-five percent of surveyed agricultural input dealers reported a significant decline in business volumes in the pre- and post-pandemic onset period. Twenty percent of input dealers also appear to have faced more than a 50 percent decline in business compared to the same period in 2019.

Agricultural machinery service providers: Relative to 2019, agricultural machinery service providers reported a decline of more than 50 percent in farmer clients. This decline was most notable among service providers involved in assisting farmers in harvesting rice and maize and in preparing fields for the spring aus and summer aman rice crops. The decline appears to have occurred despite efforts by the Government of Bangladesh to support the winter boro rice harvest with emergency harvesting machinery arrangements. The operational area of service providers not involved in Government response programmes appears to have a strong negative correlation with access to or affordability of spare parts, access to mechanics and logistical issues with machine operators. These factors combined to cause a reduction in the amount of land area where machinery services could be provided during the height of the crisis.

Rice value chains: More than 90 percent of farmers interviewed reported a 20 to 30 percent increase in the farmgate price of procured winter season boro paddy this year compared to last year. This increase was the result of traders and rice millers buying and storing paddy in anticipation that the pandemic would inflate rice prices. With the completion of the boro season rice harvest, all rice mills surveyed are currently working. However, in terms of capacity, the exception is that aromatic rice processing mills – which represent an increasingly important market in Bangladesh – have not returned to their full capacity. Their sales have declined by about 50 percent because hotels, restaurants, and food catering for social events (weddings, meetings, workshops, etc.) have, for the most part, been shut down or suspended. Regarding planting of the summer aman rice crop, one-third of farmers responding to surveys indicated that they were unable to procure their preferred variety of rice seed due to market and associated COVID-19 restrictions. This indicates a shortage of high yielding rice seeds, which may impact production in the 2020 aman season.

Meat processors: One of the largest meat processing companies in Bangladesh reported a 20 percent decline in beef and mutton sales to consumers, and around an 80 to 90 percent reduction in business-to-business sales. The company attributed its lost business to the limited operation of hotels and restaurants, and the lack of social ceremonies during the lockdown. Its total production declined by 30 to 40 percent while production costs have increased significantly due to measures they took to ensure safe food and accommodations for slaughterhouse and meat-packing workers. In addition, new challenges in sourcing raw materials and spices – particularly imported spices – are beginning to emerge.

Fish and vegetable exports: A total of 290 import orders of frozen fish worth approximately BDT 4.60 billion (USD 54.2 million) were recently cancelled. Unsold fish stocks were valued at BDT 9.99 billion (USD 117.8 million). Similarly, there was a dramatic decline of vegetable and fruit exports from 100 tonnes a week down to 3 tonnes a week, down as a result of suspended air cargo shipments.

Fish value chain: Data indicate that the percentage of respondents able to access transport for fish sales dropped from 100 percent to 56 percent during the lockdown. Farmers and fish marketers able to find buyers dropped from 98 percent to 39 percent. While fish hatcheries experienced a moderate nine percent production increase for both catla and rohu hatchlings between March and April, the production of tilapia and mrigal hatchlings decreased by 78 percent and 24 percent, respectively. The total quantity and value of sold farmed fish, marine capture fish and

shrimp all decreased, while that of freshwater capture fish increased. Both the quantity and value of farmed fish sold decreased by nearly 50 percent.

Dairy industry: Seventy-five percent of dairy farmers surveyed said they encountered considerable disruptions in getting milk to markets, causing them to suffer significant losses. They were also affected by disruptions in input supplies, such as dairy feed and veterinary medicines. Data indicate that average milk prices continued to drop until April, falling by 27 percent. They rebounded slightly in the following months but still remained 19 percent below the pre-crisis market price of February 2020. These survey responses indicate that farmers faced significant losses and were continuing to experience the ramifications of lost dairy sales at the time of this report's publication. Among surveyed dairy producers, 52 percent believed the price decline of milk was the result of the mandatory shutdown of sweet shops, and the closures of hotels and tea stalls. Many popular sweets sold for family gatherings and social events are predominantly dairy-based. These factors caused the milk price to drop.

Social nets: As a result of the COVID-19 crisis, Government-sponsored social safety net programmes (SSNPs) for the 2020/21 fiscal year have focused mainly on expanding coverage of existing schemes with better targeting of beneficiaries. Emergency policies indicate that safety-net allocations will increase to include people made newly poor by the COVID-19 crisis. Statistics show the total number of beneficiaries increased by 42 percent from 2018-19 to 2019-20. Many of the planned Government allocations include assistance to the unemployed, cash transfers to the newly poor, and food transfers.

Recommendations: A list of short-term and long-term recommendations are synthesized from the results of this document.





Introduction

The methodology

FAO Bangladesh coordinated this *Second rapid assessment of food and nutrition security in the context of COVID-19 in Bangladesh* to understand the impacts of the COVID-19 pandemic and the responses to it, on food and nutrition security in Bangladesh. The Consultative Group on International Agricultural Research (CGIAR), the International Food Policy Research Institute (IFPRI), the International Maize and Wheat Improvement Center (CIMMYT), the International Rice Research Institute (IRRI), and WorldFish, made significant contributions to this combined assessment.

The assessment was completed in 30 days, including information collection, report drafting, peer review and finalisation. FAO and CGIAR experts collected the information mostly through telephone interviews with government counterparts, private sector actors, producer associations and other key informants. They supplemented this

Chapter 1	COVID-19 containment measures: a brief country situation analysis
Chapter 2	Food supply chains – impacts, disruptions and response options
Chapter 3	Food processing – impacts, disruptions, and responses
Chapter 4	Food safety related disruptions of COVID-19 – impacts and response options
Chapter 5	Labour movements, sudden unemployment, migration, and implications for food production, supply chains and livelihoods
Chapter 6	Food demand disruptions and response options
Chapter 7	Social inclusion measures to mitigate impacts of COVID-19 on vulnerable populations
Chapter 8	Fish, livestock, poultry production and market disruption
Chapter 9	Trade exposure and cross-border and international trade – impacts and response measures
Chapter 10	Food reserves
Chapter 11	Consumption patterns and nutritional changes
Chapter 12	Short-term and long-term recommendations



Chapter 1

COVID-19 containment measures – a brief country situation analysis

Like many other countries, Bangladesh adopted a national lockdown strategy to prevent the spread of the COVID-19 virus. Although referred to as a ‘general holiday,’ the closure period lasted from 26 March – 30 May. This strategy included a portfolio of protective measures against COVID-19 such as border closures, restraints on movement, transport restrictions, closures of offices, schools and restaurants as well as quarantine measures.

The impacts of COVID-19 pandemic and the prevention measures on the food system are complex, heterogeneous and dynamic. Regular assessments are necessary to gauge the impacts on the system at all stages of the value chain from the supply of inputs, to field activities, harvesting, processing, distribution and sales (Amjath-Babu *et al.*, 2020). Figure 2.1 shows possible disruptions in the supply of farm inputs (including seed and hatchery sectors, agrochemicals and feed sectors), services (such as machinery services, labour, extension and banking services) and trade (domestic and international). All can potentially lead to significant impacts on food security and farm income with nutritional consequences.

The impacts of COVID-19 containment measures on employment opportunities and income generation also risk creating a decline in the effective demand for agricultural goods. These measures include travel restrictions, physical distancing and stay-at-home rules. The imbalances in supply and demand also cause price volatility, affecting poor and vulnerable sections of society. Issues affecting crop, livestock, poultry and fish production and marketing need to be mitigated. Otherwise, the interacting effects of the pandemic’s disruptions could influence liquidity in the food supply system and constrain capital availability among farmers and associated value-chain actors in subsequent seasons (Amjath-Babu *et al.*, 2020). Despite the lifting of lockdown measures, the potential cascading effects underscore that careful assessment and coordinated response actions are crucial to avoid medium- and long-term consequences.



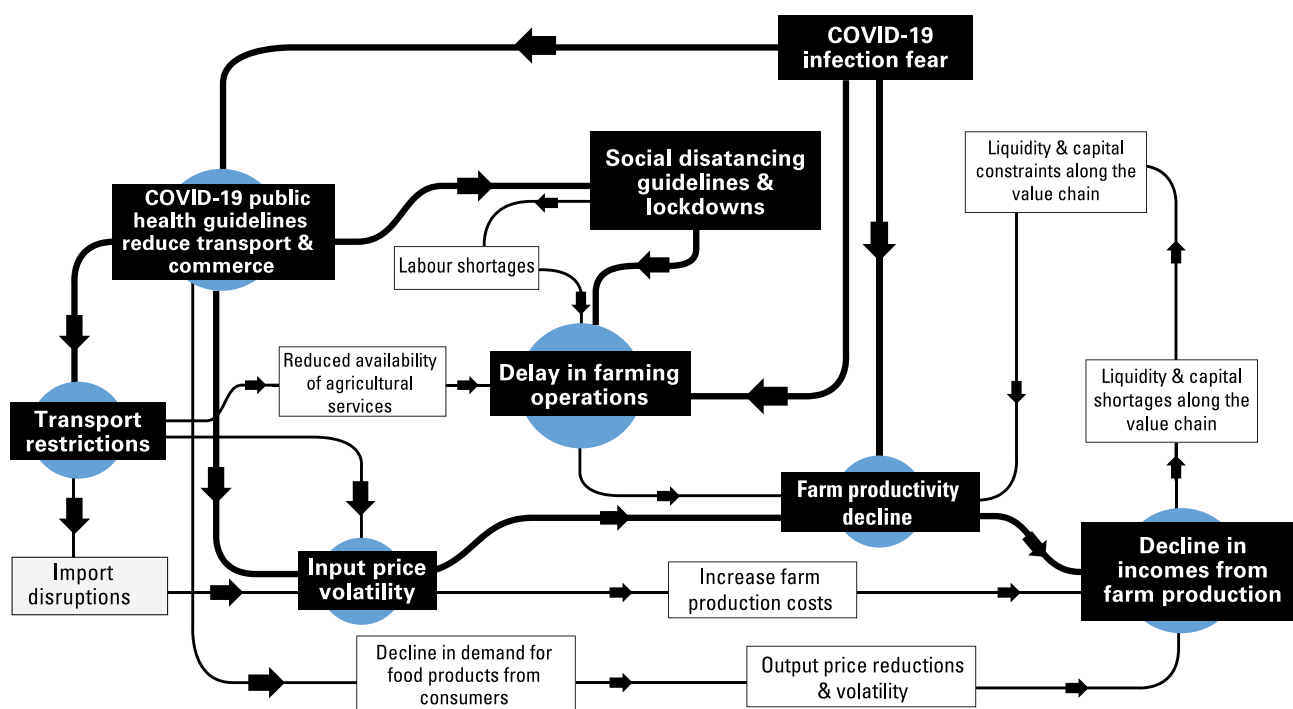
Community members of the Agargaon slum wait in long lines for government-subsidized food assistance, Open Market Sales (OMS). Food distribution has been criticized for lack of physical distancing, long queues, and insufficient supplies for impoverished communities.



Chapter 2

Food supply chains – impacts, disruptions and response options

Figure 2.1: Potential COVID-19 pandemic food system disruption pathways



Source: Amjath Babu *et al.*, 2020.

2.1 COVID-19 impact on agricultural machinery service providers

Data indicate that COVID-19 impacted the ability of farmers to hire machinery services for land preparation, planting, irrigation, harvesting and post-harvesting activities. The exception was in government-sponsored programmes to accelerate the boro season rice harvest in the haor or wetland basins (see section 5.1). In 15 districts, 25 percent of combine harvester service providers experienced a reduction in farmers hiring their services compared to March and April of 2019, according to surveys of machinery service providers conducted by the International Maize and Wheat Improvement Center (CIMMYT). This corresponded to a 40 percent reduction in land area harvested by combines outside of the Hoar basin. Considering reaper-harvesters, 30 percent of surveyed reaper service providers reported an approximate 30 percent reduction in area harvested in March 2020 compared to March 2019. By April, this increased to a 42 percent reduction. More than half of the power tiller operator seeder (PTOS) machinery service providers reported a reduction of 25 percent in hires in March that escalated to 30 percent in April, compared to corresponding months in 2019.

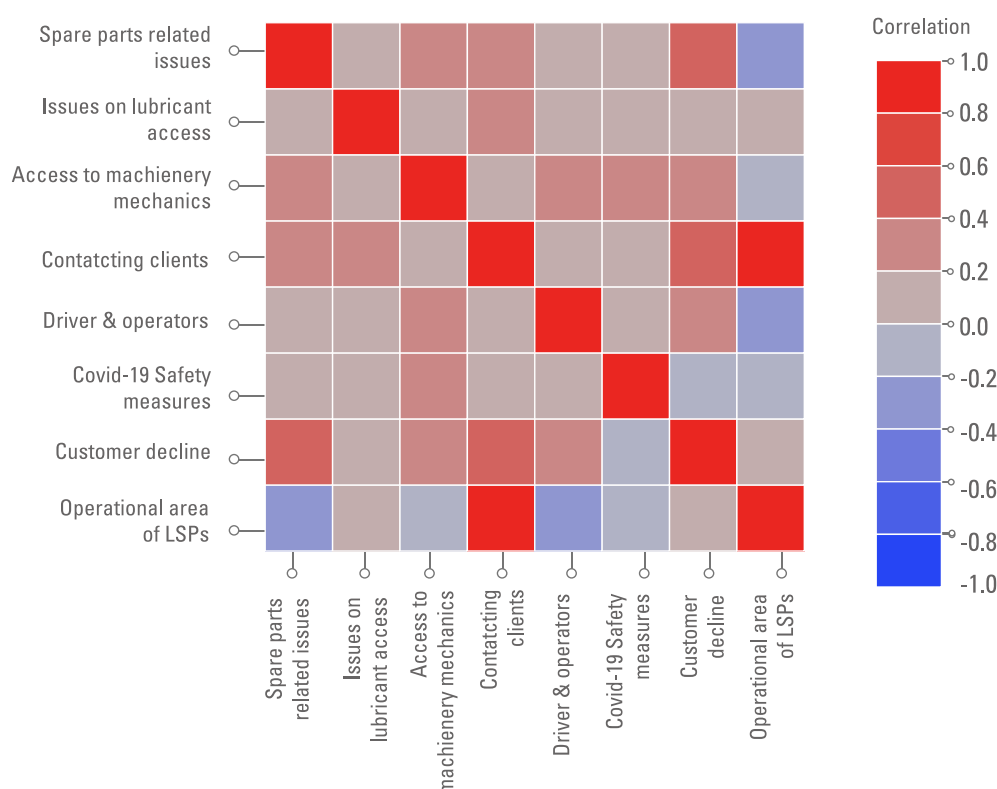
Farm machinery service providers also reported that the lockdown and aftermath led to new business constraints and aggravation of existing bottlenecks. These included spare parts shortages; 22 percent of service providers said that market closures reduced the availability of spare parts while another 22 percent reported a hike in prices, though spare parts were available. Fifteen percent of service providers faced trouble in sourcing lubricants, in addition to reduced access to mechanics or service persons (35 percent reported that mechanics were either unavailable or unable to do machinery repair due to shortages of machine parts). Service providers also reported reduced access to customers (15 percent cited travel restrictions), the reluctance of machine operators to work, or inability to reach locations of farmer clients. Twelve percent of surveyed machinery operators were reluctant to work due to fear of infection and travel restrictions, while another 17 percent required machinery owners to pay higher wages. However, 82 percent of agricultural machinery operators and service providers responded to the threat of COVID-19 by wearing masks, although physical distancing and hand hygiene were not widely followed.

Fifty-two percent of machinery owners who rent equipment and provide services to farmer clients reported a sharp decline in customers. Of those, 22 percent reported a 25 percent decline in customers while another 30 percent reported a decline greater than 25 percent. Machinery service providers in some districts reported farmer client declines of greater than 50 percent. Those districts were Meherpur, Jashore, Bagerhat, Satkhira, Magura, Satkhira, Khulna, Bhola, Faridpur and Barishal. Figure 2.2 shows the correlations among various factors affecting machinery service providers' ability to assist farmers as client customers in Bangladesh. Some of the insights provided by the correlation diagram include:

- 1) The operational area of service providers showed a strong negative correlation with issues related to access or the affordability of spare parts, access to mechanics and issues with drivers and machine operators. In other words, these factors interacted and caused a reduction in the amount of land area in which machinery services were provided, except for the haor basin as described above.
- 2) Spare-parts availability also constrained the effectiveness of mechanics to respond to breakdowns in agricultural equipment, ultimately leaving them unable to serve some customers. Service providers reported issues concerning travel restrictions and challenges in moving to locations of clients that also clearly affected their number of customers. Physical distancing guidelines prevented service providers from having face-to-face interactions with farmer clients, reducing the operational area.



Figure 2.2: Correlation diagram of COVID-19 related issues among LSPs in Bangladesh



Note on Figure 2.2: The intensity of the colour red in this chart shows the level of positive relationship between the identified issues in row and column and the intensity of the colour blue indicates their negative relationship. Please use the colour chart on the right to read the diagram. Zero correlation or no observed relationship is also marked in the chart.

Source: CIMMYT survey 2020

The major policy lesson emerging from this information involves ensuring the ongoing availability of spare-parts and lubricants - in addition to mechanics - so that local service providers (LSP) can benefit their farmer clients with land preparation, seeding, irrigation, harvest and post-harvest operations. Clear guidelines for COVID-19 safety measures and creating platforms that connect clients to customers could be ways forward in managing the decline in customer base. As farm mechanization is an increasingly important priority for the Government of Bangladesh, providing supportive measures to service providers should include:

- Ensuring service providers are permitted to move between districts.
- Providing clear COVID-19 safe operation protocols.
- Strengthening the light engineering sector, particularly for spare parts.

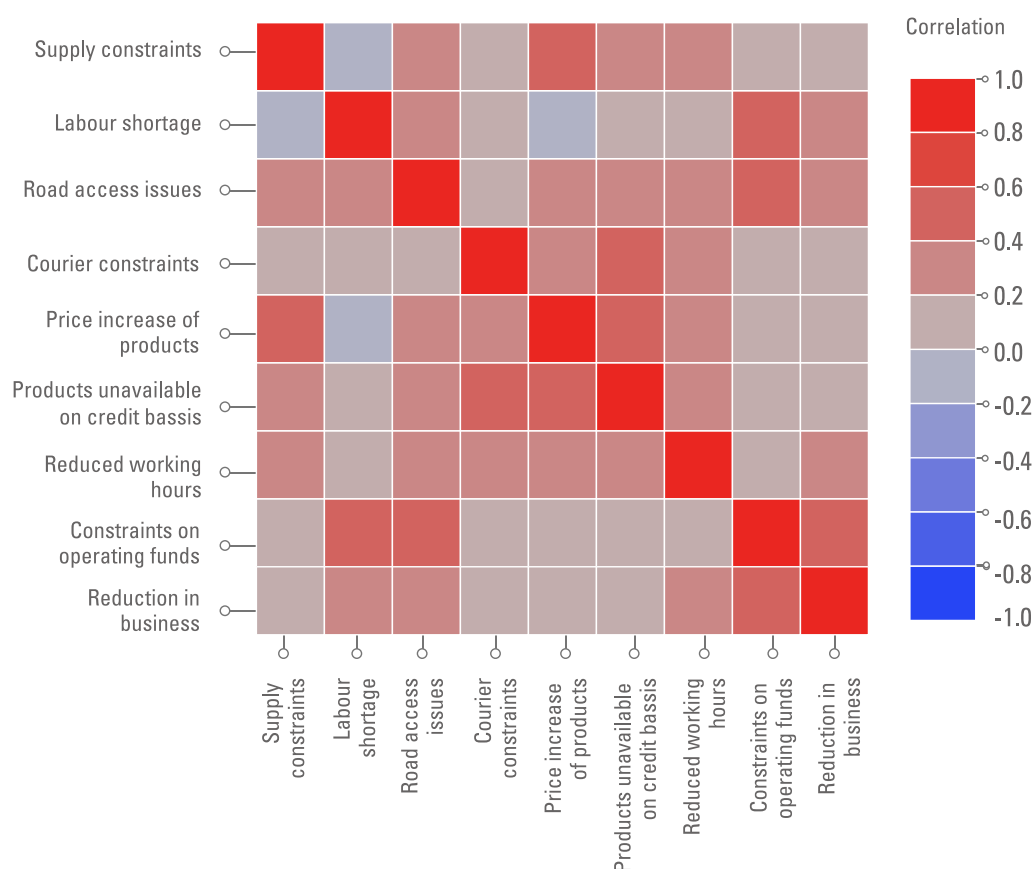
2.2 COVID-19 impact on agricultural input dealers

COVID-19 and measures to limit its spread impacted input dealers of pesticides and fertilizers. Eighty-five percent of dealers reported a significant decline in business volumes in the pre- and post-pandemic onset period, according to a survey by the International Maize and Wheat Improvement Center (CIMMYT). Twenty percent of input dealers faced more than a 50 percent decline in business compared to the same period in 2019. Only 15 percent of the surveyed dealers reported no reduction in business. Of those who experienced business losses, 30 percent cited product supply constraints, 15 percent blamed increased prices, while 50 percent named transportation problems. Twenty-one percent encountered labour shortages for loading and unloading products, while 13 percent had issues in obtaining products on a credit basis from suppliers. In response, 85 percent of the surveyed dealerships worked limited hours, either to follow restrictions (45 percent out of 85 percent) due to lockdown or to reduce possible exposure to COVID-19 (40 percent out of 85 percent).

Thirteen percent of input retailers reported financial liquidity problems as a result of lower business volumes during and after lockdown, while 22 percent reported issues with access to banks that led to financial hurdles. The data on pesticide prices show that though the average price did not change significantly in February, March and April, the variance in prices appears to have reduced. It means that those dealerships that initially charged lower than mean prices started to increase prices towards mean prices, leading to more or less uniform prices of inputs. Agricultural input dealers also appear to believe that farmers are unable to sell agricultural produce, and their resulting financial difficulties are translating to lower demand for input products. That creates a liquidity deficit in the system.

Figure 2.3 shows the interactions between different factors that affect the business of input dealers and, consequently, access to inputs by farmers. Observed business volume decline is strongly correlated with road access issues, labour shortages, reduced working hours, and availability of funds to keep businesses open. Reduced availability of products on a credit basis is linked with stock and transport constraints as well as increased prices of products facing shortages.

Figure 2.3: Correlation diagram of COVID-19 related issues among Input dealers in Bangladesh



Source: CIMMYT survey 2020.

Note on Figure 2.3: The intensity of the colour red in this map shows the level of positive relationship between the identified issues in row and column and the intensity of the colour blue indicates their negative relationship. Please use the colour chart on the right to read the diagram. Zero correlation or no observed relationship is also marked in the chart.

To improve the business sustainability of agricultural input dealers as the pandemic proceeds, operating hours likely need to be restored to normal. Input dealers need access to staff and labour to assist in loading and unloading products, while road transport and courier services for input distribution should continue unfettered. As the country is moving out of lockdown, business hours will be extended, and labour shortages will ease. But many high-demand pesticides and agricultural chemicals used by farmers are imported and could potentially become in short supply, leading to price spikes in the future. Continued monitoring of input prices is required for aman (summer monsoon rice) and the forthcoming rabi (winter) season. Given the financial constraints of input dealers, and also the need for contactless transactions, digital means of financing and payments should likely be encouraged, alongside the extension of credit facilities.

2.3 Impact of COVID-19 on rice farmers

According to the International Rice Research Institute (IRRI), the impact of the COVID-19 pandemic on rice farmers was relatively small as compared to farmers producing high-value agricultural commodities, such as vegetables, fruits, poultry, fish, and livestock. The results of a survey of farmers showed that rice farmers faced the following major challenges due to COVID-19:

- More than 70 percent of respondents reported difficulties in obtaining agricultural inputs (e.g. seeds for the upcoming spring aus and summer aman season, fertilizers, pesticides, and diesel to run irrigation pumps), new varieties of rice, and extension services.
- More than 90 percent of surveyed farmers reported scarcity of labour and machinery for harvesting and threshing of boro rice and planting of aus rice. The lockdown and mobility restrictions caused a scarcity of seasonal labour for rice harvesting. However, the Ministry of Agriculture played a vital role to facilitate the movement of agricultural labour and the supply of combine harvesters. This substantially eased the labour crisis during the rice harvest, with most of the ministry's efforts concentrated in the hoar basin. Also, migrant workers who returned to their villages due to COVID-19 partially replaced hired labourers for rice planting and harvesting. The results show that the labour wage rate during the boro harvest increased by 10 to 20 percent in 2020 compared to the same months in 2019. Labour costs would have been higher without the availability of combine rice harvesters. Both the public and the private sector played vital roles in overcoming the labour crisis during rice harvesting by supplying combine harvesters and reapers.
- About 30 percent of farmers reported delays in the harvesting of rice due to labour shortages. The delayed harvesting increased the risk of crop damage from early flash floods.
- About 40 percent of farmers reported some difficulties in selling their rice because of disruptions in logistics, supply chains, and the closing of local markets.
- About 60 percent of farmers reported increases in the marketing cost of rice due to higher transportation costs and the limited operation of market places.
- Seed entrepreneurs faced challenges to harvest, process, package, store, and distribute good-quality seeds because of a lack of services from seed technicians, shortage of labourers and transport, lack of good storage facilities, and mobility restrictions. These factors are likely to cause a deficiency in the supply of quality seeds next year.

COVID-19 also had some positive impacts on rice farmers. More than 90 percent of farmers reported a 20 to 30 percent increase in the farmgate price of paddy this year compared to last year. The reason was that traders and rice millers were buying and storing paddy in anticipation of a price rise in the future.



2.4 Government procurement of boro rice

Among the Government's proactive and timely policy responses to minimize the impact of COVID-19 on the rice sector and national food security was its declaration of a fair minimum support price for boro (winter season) rice and its increased procurement of boro rice. These measures aimed to achieve four objectives: (i) a fair rice price and high income for rice farmers, (ii) encouraging farmers to produce rice, (iii) maintaining enough rice reserves in Government stocks, and (iv) stabilizing the rice market. In the 2020 season, the Government declared it would purchase 2.15 million tonnes of paddy and rice, which includes one million tonnes of paddy at Bangladesh taka (BDT) 26 per kg, one million tonnes of parboiled rice at BDT 36 per kg, and 0.15 million tonnes of parboiled rice at BDT 35 per kg. While paddy has been purchased directly from farmers, rice has been purchased from millers. To help farmers sell their rice during the COVID-19 situation, the Government increased the quantity of its boro rice procurement this year by over 50 percent compared to last year. In the 2019 boro season, the Government procured 1.4 million tonnes of paddy and rice, which included 0.4 million tonnes of paddy at BDT 27 per kg and one million tonnes of milled rice at BDT 36 per kg. This year's boro rice procurement price is more or less the same as last year.

The Government started the procurement of boro rice in the last week of April 2020 and plans to complete the procurement by the end of August 2020. The Directorate General of Food under the Ministry of Food instructed its field offices to achieve a boro rice procurement of 60 percent by June, 90 percent by July, and 100 percent by mid-August when the drive ends. However, the Department of Food, so far, has procured only a small quantity of the targeted purchase of paddy and rice. Through mid-July, the boro rice procurement was only about 20 percent of the target. Through mid-July, the government had procured only about 95,000 tonnes of paddy (10 percent of the target), 318,000 tonnes of parboiled rice (32 percent of the target), and 42,000 tonnes of non-parboiled rice (28 percent of the target).

During interviews, many farmers said they were unable to sell their paddy to the Government and so have not directly benefitted from the Government's minimum support price (MSP) of BDT 1 040 per 40 kg. However, farmers have indirectly benefitted because the procurement programme helped raise paddy prices in the local markets. Farmers who were interviewed said that it was mainly rich farmers who directly benefitted from the public procurement programme.

Smallholder farmers reported various difficulties in selling paddy to public warehouses. First, the procurement centres are located far from their homes, which requires extra time, transport, and cost to sell even a small quantity of paddy. Second, farmers must get an approval from the local government authority to sell paddy to the Government. These approvals are not easy to obtain. The transaction cost of receiving an approval from the local government body is huge. Third, the Government purchases paddy with a moisture content of 14 percent or below and many farmers are unable to meet this requirement. If the moisture content of paddy is above 14 percent at the time of selling, farmers are compelled to bring their paddy back home. Fourth, the transaction cost of selling paddy to the Government procurement centre is high, which discourages farmers. Fifth, the quantity of paddy purchased per farmer is relatively small. Because of these difficulties, farmers prefer to sell their paddy to local markets and traders instead of the public warehouse. Hence in this boro season, farmers are finding it more attractive to sell their paddy in local markets, given the fewer regulations and the lower costs.

2.5 Impact on income, consumption patterns and nutritional changes among farmers

Surveys among maize farmers by the International Maize and Wheat Improvement Center (CIMMYT) found that 26 percent of farmers faced labour shortages because of the COVID-19 lockdown. In response, 23 percent paid additional labour costs to assure harvests. The average additional wage payments reported were BDT 90 for male labourers and BDT 63 for female labourers. Thirty percent of farmers surveyed also reported an average loss of BDT 2

600 per tonne of maize because of COVID-19's impact on farmgate prices. If we consider 2020 rabi maize production could be between 0.3 million tonnes to 0.4 million tonnes, the loss to maize farmers due to price changes can be estimated at about BDT 2.1 to 3.1 billion (United States dollar or USD 25 to 37 million). This is a very preliminary assessment and does not include costs incurred by farmers for higher labour prices for harvesting. In the case of rice, the IRRI survey found that farmers reported a little less than a 10 percent decrease in rice yield and a 30 to 40 percent decrease in household income (farm and non-farm) due to COVID-19.

Farmers across the country producing perishable commodities suffered losses of around BDT 565.36 billion during the forced lockdown period, as they could not sell their commodities at competitive prices due to the lack of demand. Given the perishability of their products, farmers were even forced to sell at less than half their production cost. This happened mostly with vegetable, livestock, fish, and poultry farmers (Further details are in Module 8). A study by BRAC, a Bangladesh-based development organization, revealed that 42 percent of farmers had no way of coping with the crisis, while 60 percent of crop and vegetable farmers said they had to completely absorb the losses, whereas, around 11 percent of all farmers and 17 percent of poultry farmers had to reduce their production.

2.6 Impact on food production in coming seasons

The survey by the CIMMYT among rabi maize farmers showed that 85 percent of farmer respondents began planting aman rice in the kharif (summer) season. However, one-third of the farmers planting aman rice indicated that they were unable to procure their preferred variety of rice seed due to market and associated COVID-19 restrictions. IRRI data also supported that observation. This indicates a shortage of high-yield rice seeds, which may impact production in the 2020 aman season if weather conditions are unfavourable. Further assessment is needed to confirm the availability of seeds and whether farmers are using repetitively saved seeds. A study by InnoVision during April also reported around 44 percent of farmers owing an average of BDT 12,000 to input suppliers, along with 53 percent reporting a lack of sufficient cash for next season's planting activities.

About 30 percent of surveyed farmers reported scarcity, higher prices for quality seeds and delayed planting of aus rice due to COVID-19. The Government has provided over BDT 90 million to marginal farmers for aus seed and fertilizer. To ensure that farmers will have sufficient labour for the next aman harvest, the Government is considering creating labour banks.



sufficient labour for the next aman harvest, the Government is considering creating labour banks. These would consist of groups of willing, healthy workers who can be contracted, assembled, and deployed at affordable prices to assist in harvesting, using COVID-19 safety measures, alongside mechanized harvesting. The Government assembled migrant and returned urban labour to help in harvesting boro rice in haor areas this spring. In addition, an increase in support prices of crops and increasing procurement are also important support measures already taken by the Government. However, the success of such measures has been mixed so far. To achieve optimum aman production, the Government provided over BDT 190 million to farmers for seed support.

To overcome the impact of COVID-19, the Ministry of Agriculture (MOA) through the Department of Agricultural Extension (DAE) launched a special programme to ensure sufficient vegetables for the country. The programme addressed the summer vegetable season and followed the Kalikapur Model (homestead vegetable gardens for family nutrition) to support the marginal and landless farmers. Under the programme, 34 households in each of the country's 4 554 Union Councils have been given support for eight types of vegetable seeds along with fertilizer. Upazila Agriculture Offices (UAO) have already distributed these inputs. Upazilas are sub-districts. To support the programme, the Government allocated more than BDT 370 million (USD 4.4 million) in the 2019/20 fiscal year.



The Kalikapur Model was developed through a research programme from 1985 to 1990 at Kalikapur, Ishwardi, Pabna. It is usually a 6-metre by 6-metre plot of well-fenced land with five raised beds to grow vegetables year-round. The length can vary according to the availability of land. The breadth of the land is divided into five beds with furrows in between. The breadth of each bed is 80 cm, and they are 25 cm higher than the furrow soil in between the beds. The raised beds are utilized for seasonal vegetables chosen by family members and grown one after another as a chain of relay production. The fence can be utilized for creepers. The regular and systematic growers can also sell the extras.





Chapter 3

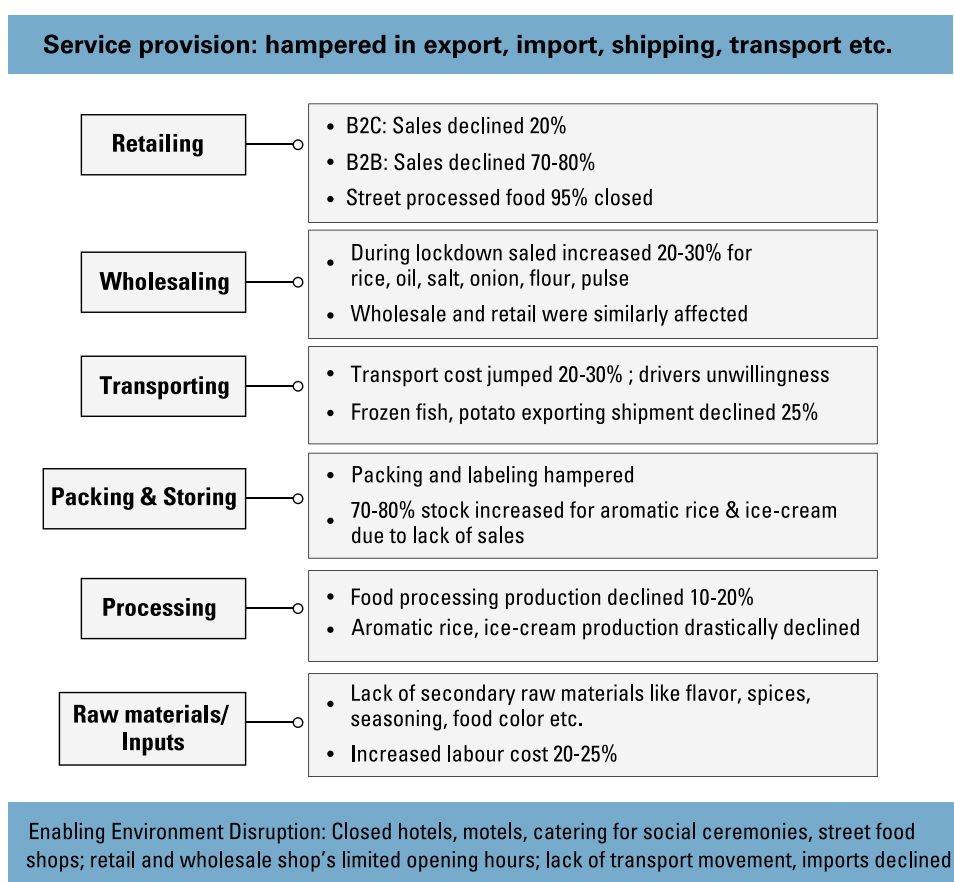
Food processing – impacts, disruptions and responses



3.1 Impact, disruption and response

A visible impact of COVID-19 disruption is that a majority of the unskilled labour in the food processing sector (2.2 percent of the total workforce) have now become unemployed. These labourers include extremely poor women and men who worked in small food-processing plants for puffed rice, flattened rice, and in small hotels and bakery factories. Although the Government has announced a BDT 2.35 billion stimulus package dedicated to MSMEs, the COVID-19 pandemic is likely to further add to the existing problems in the industry. Those problems include weak market linkages, absence of skilled labour, and lack of export markets. This assessment section explores and analyses the impacts of COVID-19 induced supply chain disruptions, input supply and demand shocks, and increased processing and logistical costs in this crucial sub-sector. The graphic below summarizes the impacts of COVID-19 in the sector.

Figure 3.1: Framework: Processed foods value chain's COVID-19 disruption and impact (B2C implies business-to-consumer sales while B2B implies business-to-business sales)



3.2 Disruption of rice supply chains

An IRRI survey of different rice value-chain actors shows that COVID-19 impacted the upstream (input supply and production), midstream (marketing, processing, and trade), and downstream (retail and consumption) segments of the rice value chain, although the intensity varied across segments. The respondents reported that the biggest impacts on the rice value chain included the shortage and higher cost of labour for rice planting and harvesting, limited access to extension services, difficulties in procuring and distributing rice seeds, limited supply of paddy to rice mills, limited capacity of rice mills, disruptions in the supply chains of inputs and outputs, and reduced cash flow to run business. Other notable impacts identified by the respondents were a rise in the cost of production, decreased flow of cash from urban to rural areas, reduced access to loans, and closure of businesses in the private sector. The lockdown and movement restrictions disrupted the supply of paddy from farmers to traders/millers and the supply of rice from millers to wholesalers to retailers.

Consumers' panic buying and stockpiling behaviour, especially at the beginning of the lockdown, caused a 20 to 30 percent rise in rice prices. However, the rice market stabilized later as a result of the Government's strong market monitoring, distribution of food stocks, and a good boro rice harvest. Rice prices have started gradually rising since the beginning of July. The survey also shows that per-capita consumption of rice increased since the start of the COVID-19 pandemic because rice is easily available and cheaper than other foods. Private-sector agribusiness companies reported some challenges, such as decreased sales volumes of agricultural products, decreased quantities of rice seeds sold, the inability to import agricultural inputs (e.g. seeds, fertilizers, and machines), scarcity of capital, and decreased income and earnings.

3.3 Disruptions in the rice-processing sector

There are about 420 semi-automatic rice mills and 400 fully automatic rice mills operating in Bangladesh for processing rice (IDLC, 30 Dec 2014). With the completion of the boro season rice harvest, all rice mills are currently working. However, in terms of capacity, the exception is that aromatic rice processing mills have not returned to full capacity. An automatic rice mill in Rajshahi reported that it processes only aromatic rice and its business has been heavily affected. Around 50 percent of its sales have declined as the operation of hotels, restaurants, and food catering for social events (weddings, meetings, workshops, etc.) are all still suspended. Another reason is that the Government has fixed the nationwide paddy rice price at an increased rate of BDT 700 to 806 per 40 kg rice this year, compared to BDT 600 last year. Another automatic rice mill said production has declined by 30 to 35 percent while the labour costs increased up to 40 percent during the initial stages of the COVID-19 outbreak. Since late June, the labour cost has settled back to the prior rate of BDT 500 per day. However, processed rice retail outlets have to remain shut after 4 pm on Government orders, which resulted in an overall decline in sales. According to the management of an automatic rice mill at Dinajpur, transport costs have increased by 20 to 30 percent along with a labour cost increase of up to 25 percent, leading to a 10 percent decline in business. The COVID-19 pandemic also reduced paddy availability for milling because local weekly markets were not fully functional. The management also mentioned that the police checked their labourers for adequate use of safety measures such as masks. However, this inspection scared off the labourers. The problem is that when the labourers carry heavy sacks it becomes almost impossible to wear a mask as it prevents normal breathing.

In the case of puffed rice and flattened rice, production fell by 20 to 25 percent with a 30 percent reduction in sales compared to last year because of the limited operation of retail shops. The decline in income and purchasing power of the poor, including ready-made-garment workers, due to COVID-19 resulted in lower demand for puffed and flattened rice, according to a food processing company located in Gazipur. Puffed rice is one of the most common breakfast food items among 60 to 70 percent of the population. According to the respondent, the price of puffed and flattened rice had increased by 10 to 15 percent in the retail shops. In comparison, Department of Agricultural Marketing (DAM) data indicated a 14 percent and 29 percent increase in the retail prices of these items, respectively, since February 2020 (Figure 3.2a).

IRRI surveys of rice mills (automatic, semi-automatic, and Engelberg Huller) also show similar impacts of COVID-19. These impacts include the closure or limited operation of rice mills, scarcity and higher cost of labour and transport, decreased availability and processing of paddy, decreased quantity of rice sold, increased cost of milling, limited number of traders to buy rice, traders buying rice on credit, limited access to credit, and reduced income and cash flow. During the full lockdown period (March to May 2020), the quantity of paddy purchased and processed by rice mills declined by 30 to 50 percent, while the quantity of milled rice sold by rice mills declined by 40 to 60 percent. The proportion of decline in rice processing was higher for automatic mills, followed by semi-automatic mills and lower for Engelberg Huller mills. The decline in the quantity of processed rice was due to the limited operation of rice mills, decreased availability of paddy, and lower demand for milled rice. The situation is gradually improving after the lifting of the lockdown. Millers reported that paddy and rice prices increased by 20 to 30 percent in the 2020 boro season compared to 2019. Rice millers believe that if the COVID-19 situation continues, then rice prices will increase by 20 to 30 percent in the next three to four months until the aman season rice harvest. According to the millers, the lockdown and health-and-safety measures have increased paddy marketing and processing costs by 15 to 20 percent. The survey results show that rice mills operated only at 20 to 40 percent capacity, the storage quantity of paddy and rice increased by 30 to 50 percent, operations costs increased by 15 to 20 percent, and income declined by 20 to 25 percent.

3.4 Processing of corn and maize-based products

Maize has two distinct uses in Bangladesh. It is a major ingredient in feed for livestock and fish, and for humans it is used for popcorn and cornflour. Surveys indicate that a few companies have started producing corn starch for industrial purposes in response to the crisis, though the extent of these actions and their durability following the end of the lockdown needs to be verified. However, it was reported by the Maize Association of Bangladesh that popcorn processing had been halted as its sales as a street food declined to insignificant levels during the pandemic. The prices for popcorn have fallen by 4 percent since February 2020 (Figure 3.2a).

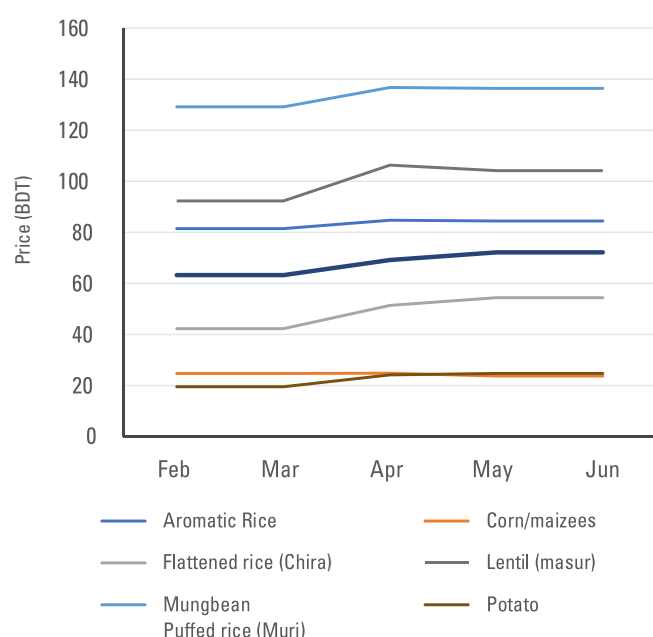
3.5 Miscellaneous processed cereal, pulse and spice items

The lentil and other pulse processing businesses have been seriously affected, leading to price increases of 13 percent and 16 percent at retail and wholesale markets, respectively (see DAM data in Figure 3.2a). In Chattogram, the Khatunganj Lentil Mill Owner's Association reported that 40 lentil mills have shut down in Khatunganj, one of the most important wholesale hubs in the nation. The retail price of lentils recently increased to BDT 130 per kg from BDT 70 per kg. Prices for other processed pulses, such as mungbean and gram, have also increased by 30 to 35 percent. A prominent food-processing company said that imports of necessary chemical raw materials and flavours from international markets had been hampered. According to another leading food processor, though the company's overall financial transactions have fallen due to COVID-19, they have started collecting mungbean from farmers in Barguna, Patuakhali, Bhola and Natore districts this year through contract farming. Their target is 5 000 metric tonnes from May through July.

3.6 Vegetables and fruits

COVID-19 has substantially disrupted vegetable and fruit exports, according to an exporter who used to ship nearly 100 tonnes of vegetables and fruits a week before the outbreak. His export volume fell to barely three tonnes a week because of difficulty booking space on cargo planes and lower demand from buyers. Though a few international airlines have resumed cargo flights from the Hazrat Shahjalal International Airport (HSIA) since June 1, the fares have more than doubled compared to the pre-pandemic months, mainly because of the lack of available cargo flights and the limited number of carriers. Exporters of perishable goods now pay between USD 4 and 4.5 for carrying a kilogram of vegetable from HSIA to London, compared to USD 1.5 to 1.7 before the pandemic.

Figure 3.2: In-country retail price trend (BDT) of relevant inputs and products for the food-processing industry (crops)



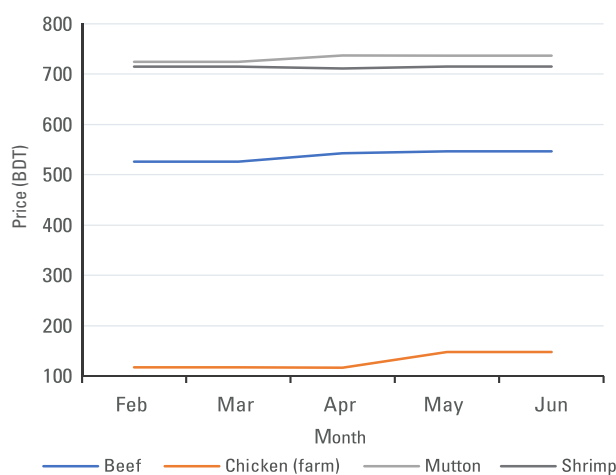
Source: DAM commodity wise price report (retrieved from http://dam.gov.bd/commodity_wise_report, accessed: 15 Jul 2020)

Although the profits are significantly lower, the exporters are continuing export to retain their relationships with international buyers, especially in the Middle East and the United Kingdom of Great Britain and Northern Ireland, which are major export markets. Also, potato exports have been affected, declining by 35 to 40 percent on a 30 percent increase in trucking fares along with a 20 to 30 percent increase in maritime shipping charges. The uncertainty of receiving payment from buyers because of COVID-19 is also an additional factor affecting potato exports, according to the president of the potato-exporting companies association. Figure 3.2a presents information from the Department of Agricultural Marketing (DAM), showing a 27 percent increase in domestic retail prices for potatoes since February 2020.

3.7 Poultry, meat and dairy products

Prices for all types of meat have increased in the retail markets because of supply chain disruptions, higher animal purchase costs, labour shortages and increased labour costs for slaughterhouses. Some 40 percent of workers had returned to their rural homes because of the COVID-19 pandemic. Also, since a major amount of raw materials for feed are imported, the disruption in trade could create a crisis, especially for the poultry industry (Dhaka Tribune, 2020). One of the largest meat-processing companies in Bangladesh reported a 20 percent decline in B2C customers for beef and mutton and around an 80 to 90 percent reduction in B2B sales caused by the limited operation of hotels and restaurants, and fewer social ceremonies. The company also said its total production has declined by 30 to 40 percent while production costs have significantly increased. Higher costs were incurred for measures to ensure safe food and accommodation for workers, and sourcing some spices and other raw materials. According to another large meat processor, it has become increasingly difficult to obtain packaging materials, laminating services from third-party companies, and raw materials such as spices and seasonings from domestic and international sources. However, demand for their frozen chicken increased 10 to 15 percent in superstores even as sales declined at their franchise outlets by at least 60 percent for fried chicken and 70 to 90 percent for ice cream. To mitigate the losses, the company has strengthened its online sales based on customer demand.

Figure 3.3: In country retail price—trends (BDT) of relevant inputs and products for food processing industry: (livestock and aquaculture based)



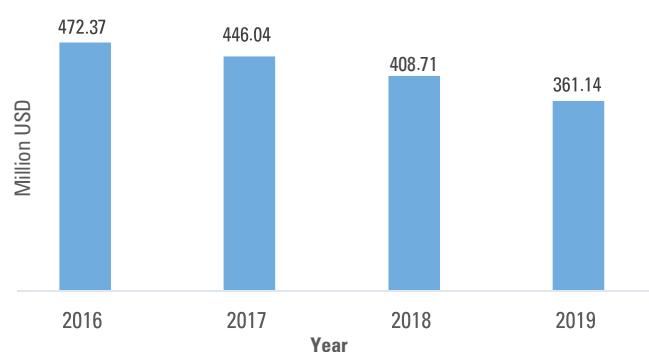
Source: DAM commodity wise price report (retrieved from http://dam.gov.bd/commodity_wise_report, accessed: 15 Jul 2020)

According to news sources, COVID-19 has caused retail prices to rise in Dhaka for beef, mutton, and broiler chickens (white and Pakistani species). Beef prices have risen to BDT 600–630, mutton to BDT 900–1 000 and chicken to BDT 180–450 compared to highest prices set by Dhaka South City Corporation of BDT 525 for beef and BDT 750 for mutton. However, nationwide DAM data (Figure 3.2b) show retail prices increase of 4 percent, 2 percent and 26 percent for beef, mutton and chicken, respectively.

3.8 Frozen fish and shrimp

The impact of COVID-19 on fish processing is evident from the declining earnings from frozen fish, one of the country's major exports (Figure 3.3). A total of 290 orders for frozen fish imports worth BDT 4.6 billion have recently been cancelled, leaving unsold fish worth BDT 9.99 billion, according to the Bangladesh Frozen Foods Exporters Association. The Shrimp Hatchery Association of Bangladesh (SHAB), the Bangladesh Shrimp and Fish Foundation (BSFF), and the Bangladesh Aqua Products Companies Association (BAPCA) made a joint statement that production and sale of shrimp nearly came to a halt in the last three months (April–June) because COVID-19 created a labour shortage that disrupted the whole supply chain. Shrimp are cultivated on 258 681 hectares of land in the south and southwestern parts of the country.

Figure 3.4: Trend of frozen fish exports (million USD)



Business-to-consumer (B2C) refers to selling products directly between a business and consumers who are the end-users of its products.

Business-to-business (B2B) is a situation where one business makes a commercial transaction with another business hotel, motel and restaurant depend on aromatic rice, beef, mutton, chicken, fish etc.

3.9 Summary of the findings on disruptions and impacts on the food processing sector

- The availability of raw materials, domestic and imported, has been hampered, and prices of those materials have increased.
- Processed food production has fallen by an average of 10 to 20 percent, as reported by different interviewed companies/ enterprises.
- Labour costs have increased by 20 to 25 percent, with some companies having had to arrange for food and accommodation at their plants to retain workers.
- Transportation costs for processed foods, especially for staples such as rice and pulses, have increased by 30 percent or more, affecting retail market prices.
- Sales of processed foods, including puffed rice and flattened rice, have declined.
- Aromatic rice sales have drastically declined by around 70 percent due to the limited operation of hotels, restaurants and fewer social ceremonies.
- B2C beef and mutton sales have fallen by 20 percent, and B2B sales around 80 to 90 percent for the same reasons.
- Food processing companies told interviewers that they maintained food processing quality even though their total production was hampered to varying degrees.
- Processing companies are trying to ensure that workers are maintaining physical distancing and wearing masks, but this can be difficult to enforce while carrying heavy weight.
- Some rice mills and other companies said that they were not covered under the Government's financial stimulus package

Figure 3.5: Key constraints faced by the food processing industry due to COVID-19



Recommendations:

- **Labour management with COVID-19 safeguards:** Rice mills and food processors need to ensure labourers practice best health measures as much as possible.
- **Increase Government support to the food-processing sector:** The sector faces cash scarcity for labour payments and other costs due to unsold inventory of commodities. Government support could contribute to sustaining the sector and protecting its jobs. The Prime Minister announced an allocation of BDT 750 billion in low-interest loans for feed mills and businesses in need of working capital. In addition, she allocated BDT 50 billion for loans to the livestock and dairy sectors with minimum interest.
- **Promote post-harvest storage technologies and harnessing data analytics:** Promote hermetic and cold-storage facilities to prevent post-harvest losses and a shift to digital marketing and data analytics-based approaches for reducing food wastage. These measures could help build resilience and shield the sector from external shocks such as the COVID-19 pandemic.
- **Enhance market linkages:** Facilitate market mechanisms that connect producers and businesses to safeguard small producers during times of crises.
- **Encourage processor-owned transport systems:** Encourage processing companies to gradually shift towards owning their own transport systems so that processed and frozen food can be affordably delivered while ensuring quality.





MEGHADUTI AAR

Chapter 4

Food safety related disruptions of COVID-19 – impacts and response options

Bangladesh has halted imports of meat and meat products because of the perceived risk that animals and birds may spread COVID-19. Most of the meat producers and meat industries in exporting partner countries are not operating. Frozen-fish and fish-product exports have dropped to 30 to 35 percent of previous levels. These developments are mainly the result of labour shortages, lack of logistics support locally and internationally, and the cancellation of orders from importing countries. Additional COVID-19 inspired prerequisites for sanitary and phytosanitary exports, and other import/export security measures have also caused major disruptions to businesses involved in trade. Overall imports of food products dropped by 90 percent. Demand among consumers and institutions for imported food items significantly decreased because of concerns about shelf-life. Imports of fresh fruits have declined by 50 percent because of massive domestic production and availability of seasonal fruits, and the false notion that imported fruits may be contaminated with COVID-19. Misconceptions about the safety of poultry meat and eggs had caused a decline in the consumption of poultry products. However, consumption of poultry meat and eggs has rebounded following a relaxing of restrictions on restaurants, hotels and catering of social events since 1 June.

4.1 Monitoring the informal sector

In Bangladesh, a Food Safety Management certification is not mandatory. However, food businesses are required to get certification from the Bangladesh Standards & Testing Institution (BSTI) for mandatory products listed in the BSTI Act 2018. Food businesses must comply with the Bangladesh Food Safety Authority's (BFSA) food-safety regulations. These regulations include rules contained in the Mobile Court Act 2009 and BSTI, Consumer Rights Protection Act 2009, BFSA Act 2013 and BSTI Act 2018. The regulations are enforced by various agencies including the executive magistrate of the Rapid Action Battalion, the police, District Magistrate, Directorate of Consumer Rights Protection, city corporations, Porosova, Bangladesh Food Safety Authority, BSTI, among others. To mitigate some of the challenges posed by COVID-19 to the food supply, regulators are showing flexibility in monitoring SMEs and MSMEs, restaurants and other businesses to support getting food to marketplaces and consumers.

4.2 Measures and initiatives taken by Government on food safety

To ensure the food supply chain continues to function, the Department of Livestock Services (DLS), Department of Agricultural Extension (DAE) and Department of Fisheries (DOF) have made all their services accessible down to the field level to support farmers and food businesses. The livestock and dairy development project of the DLS launched a programme to raise awareness on how to protect health when consuming fish, meat, eggs and milk during the pandemic. Large quantities of posters, leaflets and television commercials were developed and delivered through social, electronic and print media. The DLS also created mobile markets and short-duration markets with the participation of farmers and other stakeholders in the food supply chain under the supervision of district and upazila livestock officers. These markets generated sales of over BDT 200 billion from April through June 2020. The Department of Agricultural Extension also developed awareness materials regarding food safety and COVID-19, and broadcast them through different channels including social media. The DAE also created a safe mechanism for transporting mango and other seasonal fruits from farms to different districts and cities. The Bangladesh Food Safety Authority coordinated the development of food safety and COVID-19 awareness materials and their dissemination through electronic, print and social media.

4.3 Measures for the private sector to ensure food safety

The food industry must urgently protect food handlers from contracting COVID-19. To prevent transmission of COVID 19, food hygiene and sanitation practices need to be enforced in accordance with Codex guidelines. Food premises must continue to follow food safety practices in line with the established Food Security Monitoring System. Good hygienic practices for the staff are:

- Proper hand hygiene – washing with soap and water for at least 20 seconds (WHO advice).
- Frequent use of alcohol-based hand sanitizers.
- Good respiratory hygiene (cover mouth and nose when coughing or sneezing; dispose of tissues and wash hands).
- Frequent cleaning/disinfection of work surfaces and touch-points such as door handles.
- Avoiding close contact with anyone showing symptoms of respiratory illness such as coughing and sneezing.
- The primary focus of any additional hygiene and sanitation measures implemented by food businesses needs to be on keeping the COVID-19 virus out of their businesses. The virus may enter business premises when an infected person arrives, or if someone brings contaminated products or items into the premises.
- Drivers and other staff delivering to food premises should not leave their vehicles during delivery. Supply drivers with an alcohol-based hand sanitizer, a disinfectant and paper towels. Drivers should use a hand sanitizer before passing delivery documents to food premises staff.
- Disposable containers and packaging should be used to avoid the need for cleaning of any returns. In the case of reusable containers, implement appropriate hygiene and sanitation protocols.
- Drivers delivering to food premises should be aware of the potential risks involved in contact transmission of COVID-19. The virus can spread if drivers touch a contaminated surface or shake hands with an infected person. Surfaces most likely to be contaminated with the virus include frequently touched surfaces such as steering wheels, door handles, mobile devices, etc. Therefore, hand hygiene, in conjunction with physical distancing, is of paramount importance and contact surface sanitation is critical to avoid cross-contamination.
- Drivers need to be aware of physical distancing when picking up deliveries and passing deliveries to customers. They need to maintain a high degree of personal cleanliness and to wear clean protective clothing. Drivers also need to be aware of the need to ensure that all transport containers are kept clean and frequently disinfected, food must be protected from contamination, and separated from other goods that may cause contamination.
- No evidence exists that consuming contaminated food transmits COVID-19. If someone is concerned about possible surface contamination of a shopping bag or takeout bag, container or package, in the unlikely event that an infected person touched those surfaces, they can minimize the risk. Let the driver or delivery man leave the food at the doorstep. Wait until the driver is at least 6 feet away before picking up the food. Rinse the outside of fruits and vegetables with water. Remove outer surfaces (e.g. outer lettuce leaves) before consumption. Pay (and tip) in advance (electronically) to avoid person-to-person interaction.





Chapter 5

Labour movement, unemployment, migration – implications for food production, supply chains and livelihoods

5.1 Migration and agriculture

The nationwide lockdown raised serious concerns regarding the harvest of its main rice crop - boro. Millions of daily-wage workers were stuck in cities, towns and other parts of the country by COVID-19 shutdowns. Many were out of work for a long time. In all likelihood, the shortage of farmworkers in different parts of the country, including eastern haor areas, severely affected the boro harvest. The Department of Agricultural Extension (DAE), with the help of local governments, took the initiative and sent agricultural workers to harvest boro rice along with its subsidized machinery support (see table 5.1). The Government bore the transportation costs. Moreover, an additional 1,000 farmers from Chittagong moved to haor for boro crop cutting areas (Kaler Kantha, 2020). S. Alam Group absorbed the transportation cost by providing 40 buses for that group. However, it should be noted that usually during the harvesting period of boro rice, every year almost 200,000 farmers from the northern region move to the south for higher wages. During the primary survey for this assessment, all respondents from labourer and smallholder groups mentioned the Government's interventions for smooth labour mobility for the boro crop harvest.

Table 5.1: Information on boro, 2020 harvesting support by DAE

District	No. of deputed labour	No. of combine harvester provided	Harvesters reapers
1. Sylhet	21 430	11	27
2. Moulvibazar	7 600	7	15
3. Hobyganj	8 440	6	18
4. Sunamganj	24 825	53	100
5. Kishorganj	22 740	33	45
6. Netrokona	9 300	58	25
7. B. Baria	26 580	19	16
8. Total	120 915	187	246

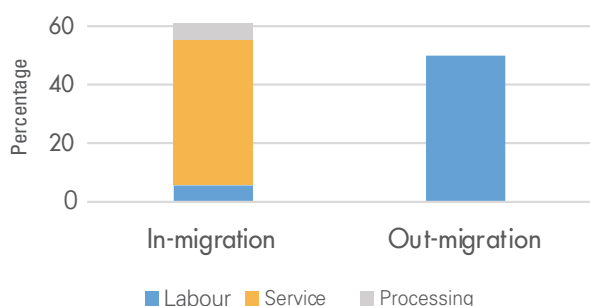
Annually more than 55 percent of rice (the major staple food) is produced in boro season (ARS'18, BBS)

The Government set up about 1 300 combine harvesters and 934 reapers through a subsidy of BDT 2 billion. (USD 23.5 million.) to facilitate rice harvesting across the country

Followed by boro harvesting, a special programme for promoting aus 2020 production has been launched by the MOA through the DAE to cope with the COVID-19 situation.

A significant 38 percent of the smallholder/labourer respondents said some of their family members migrated (in-migration or out-migration) because of the pandemic, including a higher rate of in-migrants returning home (61 percent). Though agriculture contributed significantly to out-migration during COVID-19, 50 percent of in-migrant returnees were employed in the service sector (Figure 5.1). A survey conducted by the International Food Policy Research Institute found that 14 percent of non-poor rural households reported that at least one relative stayed with them over the last three months because of the lockdown, while 8 percent of poor households reported the same.

Figure 5.1: Observed Trend in Migration (migration by economic sub-sector engagement)

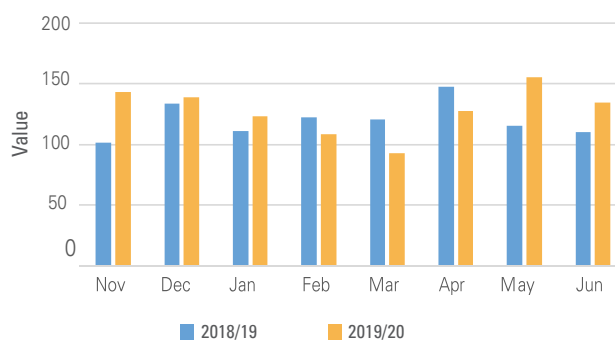


5.2 Migration and remittances

Remittances are the second-largest source of foreign earnings in Bangladesh at USD 18 billion received from 10 million migrants in 2019. The value of remittances was the equivalent of 30 percent of the national budget and 6 to 8 percent of the country's gross domestic product (Daily Sunday, 2020). The number of migrants repatriating to Bangladesh will vary depending on the duration of the pandemic, the severity of its economic impacts, and resulting policies enacted by migrant-destination countries. Remittances showed a sharp decline in March through May but recovered in June and July (Figure 5.2).

In April, the World Bank predicted that South Asian countries might face a 22 percent decline in remittances during 2020 as part of a global trend. However, these estimates could be further refined as the pandemic persists.

Figure 5.2: Remittance earning in million USD (Bangladesh Bank)



Considering the large number of international Bangladeshi migrants (figures range from 11 to 14 million), any decline in remittances could cause secondary economic impacts through depressed demand. Sixty percent of the families receiving remittances are dependent on them for their daily expenses, and they use 41.8 percent of the remittance earnings for food and non-food consumption. These families normally invest some portion (25 percent) of these remittances in agriculture (3 percent), housing, construction, savings and other sectors (SIR'16, BBS), generating secondary economic activity in Bangladesh. As a cushion, the Government has created a USD 85 million fund to help returned migrants, offering them soft loans without the need for collateral. The intent is to train migrants so that they can find better jobs abroad once the situation returns to normal, and provide them with seed money to start employment-generating activities.

Recommendations:

- **Scale-up agricultural labour migration programmes:** The Government should introduce well-planned agricultural labour migration programmes similar to its programme for the boro harvest to benefit marginal seasonal workers both in the long and short term. This would not only contribute to overcoming the volatility of the labour supply for major crop harvests but also benefit overall agricultural and food system productivity along with containing the outbreak.
- **Continue support to the agricultural and service sectors:** In case of in-migration to rural areas, extending Government support to the service sector, in addition to agriculture, may help reduce the adverse impacts on food security and nutrition of returnees. Apart from short-term interventions, medium-term measures that enhance rural employment through capacity building and providing seed money for alternative income sources are required.
- **Improve financial sector operation capacities:** Easing and promoting banking transfers and prioritizing the migrants would increase the resilience of the financial sector and safeguard the valuable earnings from remittances. In addition to the direct benefits of enhancing the livelihood security of remittance-receiving households, it also ensures continued investment and growth across in sectors.





Chapter 6

Food demand disruptions and response options

The COVID-19 pandemic severely disrupted food demand and supply from early March to until July. Bangladesh reported its first case of COVID-19 in early March. To prevent transmission of the virus, the Government of Bangladesh enforced lockdowns and announced general holidays. Available evidence suggests that following the announcement, 40 percent of the higher and middle-income citizens in urban areas started to buy food in bulk amounts to reduce market visits and exposure to COVID-19. In the last week of March, the demand for essential food commodities went up by a staggering 300 percent on the panic caused by COVID-19. However, later in May, demand dried up, leading to food prices dropping. But the production of crops, livestock and fish continued. Ultimately, the imposition of the lockdown disrupted the entire food supply chain, especially of perishable food commodities, such as vegetables, fish, eggs, chicken and dairy products. This resulted in a lack of fair prices paid to farmers (66 percent they were unfairly paid) according to a Bangladesh Rural Advancement Committee (BRAC) study. Fewer customers shopping at wet markets, limited operating hours in shops, problems with transportation and labour shortages caused reduced demand for food products. This reduced demand may persist as a large proportion of urban consumers have lost some of their purchasing power due to their lowered incomes.

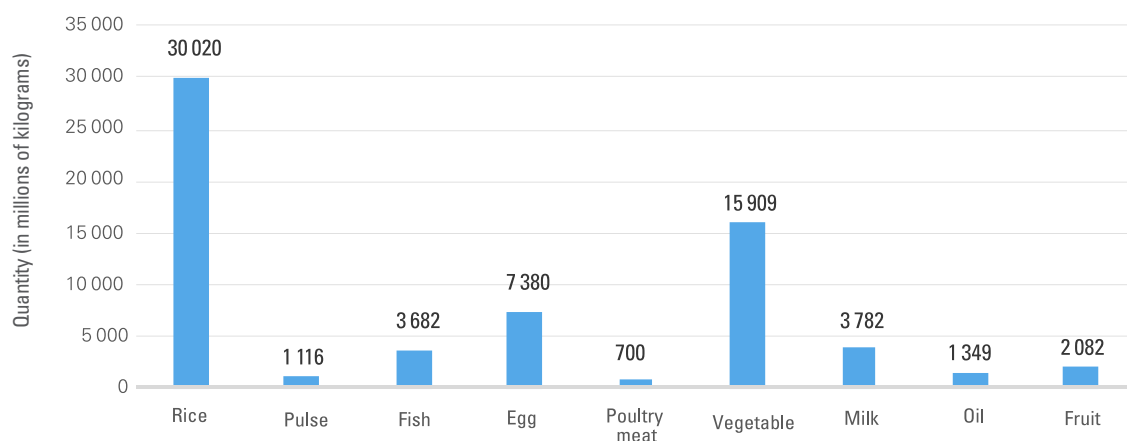
The enforcement of the general holidays and the strict lockdown from 26 March had a significant impact on the income of citizens in Dhaka and other cities. The poor were affected most severely. BRAC estimated their income fell to 76 percent on average and 51 percent of the population had zero income during the initial lockdown period. To give a sense of scale, in Dhaka's two city corporations, around 1.5 million people are working as rickshaw pullers. Similarly, millions are working as construction workers, mobile vendors, food vendors, transportation workers, and housemaids. The impact of the COVID-19 crisis has meant that day labourers could not find work, housemaids were laid off, and garment workers lost their jobs or were not paid their full wages. Middle-income and lower-middle-income groups also saw significant reductions to their earnings. These factors had an impact on their consumption patterns. For many, less income meant they had to cut down on their consumption and avoid relatively expensive food items, which led to a decline in demand for income-elastic commodities such as vegetables, meat, fish, dairy and poultry products. At the same time, high numbers of urban dwellers returned to their rural home villages, many after losing their jobs and incomes, but also students when their educational institutions closed. Anecdotal evidence from mobile phone companies suggested that about 10 percent of the urban population left the cities for their villages. That was an important factor in reducing food demand in the cities. This migration threatened food-related businesses because the demand for food dropped so dramatically and became unpredictable. Businesses were challenged by these sudden and significant changes in consumer behaviour, and uncertainty about the future.

From March through June, the Ramadan fasting and Eid holidays contributed to fluctuations in demand for food, already affected by pandemic containment measures and falling purchasing power. The mismatch in demand and supply created sharp volatility for the prices of many food items. At the end of May, the Government decided to discontinue the general holidays, and this allowed citizens to return to their jobs. The re-opening is likely to reduce the price of many food items. Still, for poor families it will probably take longer for their incomes and economic situations to recover and return to previous levels.

6.1 Estimated food demand and present status

The COVID-19 pandemic impacted food demand drastically. Figure 6.1 shows the estimated demand for the essential food commodities in the year 2020. Here, the quantities are given in millions of kilograms, except for eggs, which is given in millions of units.

Figure 6.1: Estimated demand of essential food commodities in Bangladesh



Source: IFPRI

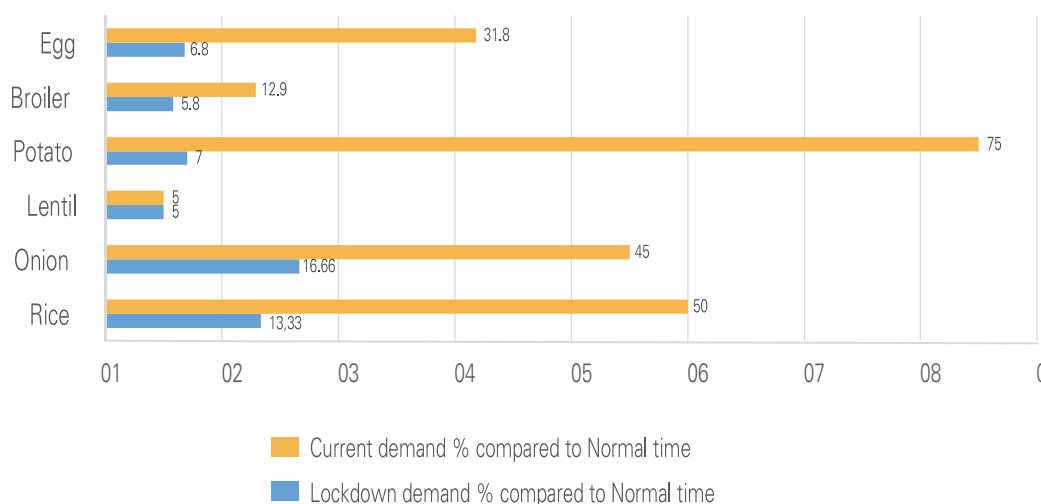
FAO's Dhaka Food System Project (DFS) assessed the impact of COVID-19 on food demand, supply disruptions, and response options for essential food commodities such as rice, potatoes, lentils, onions, fish, broilers and eggs. The project collected secondary data about food prices from a network of respondents in approximately 150 poor communities across Dhaka's four cities. The key findings of the DFS study showed that the demand for all essential food commodities has decreased from normal, pre-lockdown levels. Changed consumer behaviour was the major driver for this demand disruption.

Figure 6.4 shows a comparison in demand for essential food commodities in Dhaka's wet markets before, during, and after the lockdown, and proximate periods (February is considered pre-lockdown, April and May as lockdown time, and June through July as the post-lockdown period). The study found that the average demand during the lockdown period decreased sharply, while after the lockdown period demand increased. This increase was still below the demand levels before the lockdown. Lentils were the only exception; they have not yet increased. A study by the DFS team in December 2019 found that the urban poor spent almost 50 percent of their income on food consumption. During the general holiday and the imposed restrictions on movement, most urban dwellers



suffered reduced incomes and lost their jobs. To survive, they reduced the amount of food they consumed or skipped meals. This ultimately caused a drastic reduction in demand in the urban wet markets. The situation improved a little after the end of the lockdown as slum dwellers began earning some income and increased the demand for commodities.

Figure 6.2: DFS Survey data on the demand comparison of essential food commodities compared to normal time



6.2 Food supply channel categories and COVID-19 impact

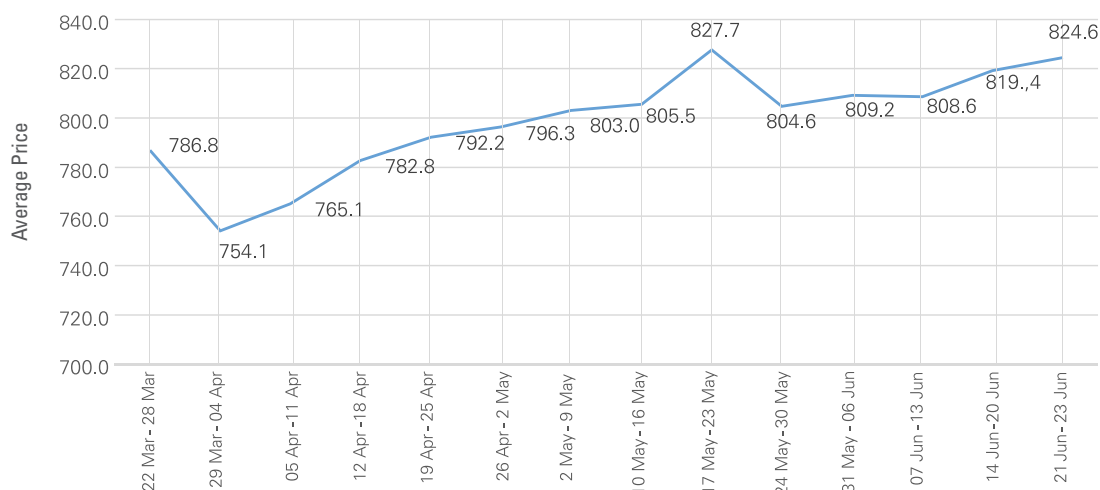
The COVID-19 pandemic impacted all market channels. Wet markets contribute about 20 percent of the total market share, whereas independent grocery stores have about 75 percent, and convenience stores 5 percent. Of these categories, informal market channels, which include wet markets and street vendors, were most affected by low demand. Mr Mostafa, the wet-market representative from Banani Kacha Bazar, related that sales fell by almost 50 percent for all food commodities because of the shutting down of hotels, restaurants, universities, and other institutions that traditionally are big buyers. In addition, many of the poor returned to their villages and also reduced their consumption. On the other hand, formal channels such as supermarkets increased their online sales, accounting for about 30 percent and 15 percent of sales for Khaas Food and Shawapno, respectively. The middle class and upper-middle class are the end consumers for online channels.

6.3 Food basket and price trends

Figure 6.5 shows that the price trends of the food basket increased every week from the first week of April up to the last week of May before Eid, according to data from the Dhaka Food System Project (DFS). Fourteen essential food commodities with the mentioned quantities have been included in the consumer basket: rice 2 kg, potatoes 1 kg, onions 250 g, garlicks 100 g, pangas (catfish) 1 kg, broilers 1.5 kg, eggs 4 pcs, green chillies 100 g, bananas 4 pcs, and powdered milk 100 g. The project team arrived at these estimates by interviewing poor households about how much they usually purchased and which items they most frequently bought. The study data shows that the food basket price continued to increase during the lockdown, fell slightly during the week at the end of May, and then started to go up again. The price of broiler meat was the key contributor to the sharp increase in the food basket price. In the week of Eid, the price of broiler meat decreased, which reduced the food basket price. Since then, the prices of meat and the food basket have been rising in parallel. Although the prices of lentils and rice have decreased, there has been a sharp increase in the price of eggs and meat preventing the food basket price from decreasing. Overall, price decreases for staple food items would provide a small respite for the poor, but poor

communities would still be unable to meet their nutritional needs because of the high prices of most food items. At this point, the poor communities, including the newly poor, are 40.9 percent of the population, according to an estimate by the South Asian Network on Economic Modelling (SANEM). Additionally, reduced household income and unemployment among the poor gave them no alternative except to cut back their consumption, which resulted in an overall reduction in demand and reverberated back through the food supply chain to the farmer level.

Figure 6.3: DFS study data estimated the food basket trends of urban slum dwellers over a period of 3 months



Dhaka Food System (DFS) collected household data in Greater Dhaka for the week of 22 March (the first week of lockdown). It clearly shows that the price of rice increased 38 percent, lentils 23 percent and potatoes 30 percent. After a sudden surge in prices, the prices of rice and potatoes remained similar in the following weeks. However, since mid-May, the price of potatoes has been increasing sharply. Prices for lentils kept increasing throughout the lockdown period. Since the lifting of the lockdown, the prices for lentils have been decreasing sharply.

The Government took initiatives to keep the prices of food items in wet markets at an affordable level. Mobile courts (the GOB equivalent of inspectors) regularly visited wet markets to monitor the prices of food items. Several retailers were penalized for selling food items at unreasonable prices. The Government also urged people to stop panic buying, stating there was enough availability of food items for all citizens. In some cases, ceiling prices for food items were declared to keep the price within the reach of all income groups. Various business owners were also penalized during this period for hoarding large quantities of food items for higher profit.

Figure 6.4: DFS households price data from 150 HHs in greater Dhaka area

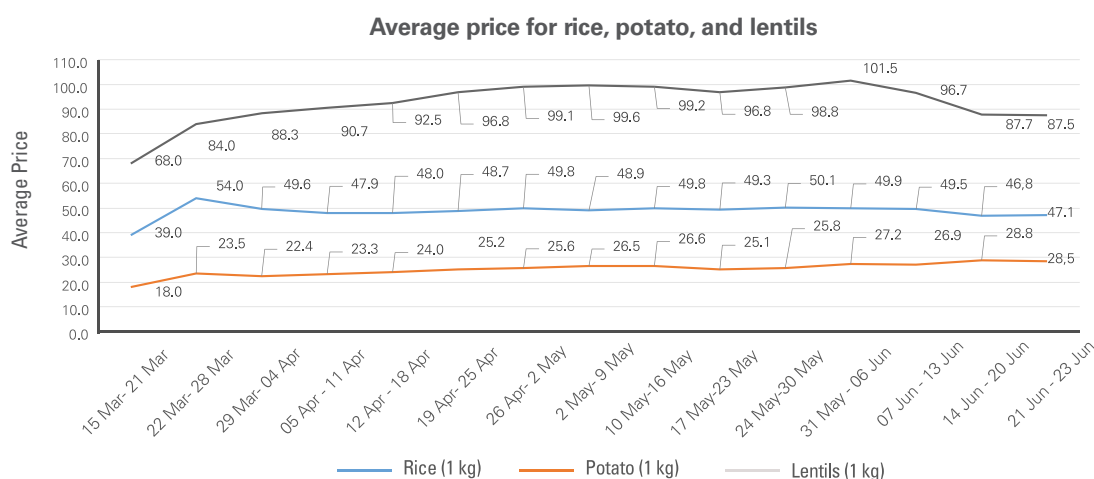


Figure 6.7 presents the weekly retail price of coarse rice in Dhaka. COVID-19 caused moderate (20 to 30 percent) inflation in retail prices for rice. The price rise would have been higher without the Government's strong food-market monitoring and interventions. The average retail price of coarse rice was around BDT 35 to 37 per kg when the first COVID-19 case was reported in the second week of March 2020. Rice prices suddenly increased, reaching BDT 46 per kg in the first week of April (30 percent higher compared to the first week of March). This sudden and large increase in rice prices soon after the lockdown announcement can be attributed to panic buying and hoarding by consumers, and an artificial price hike by traders. Rice prices gradually declined from the first week of May with the start of the boro rice harvest. Average prices dropped to BDT 42 to 43 per kg during mid-May to the end of June (20 percent higher than the first week of March). The survey of rice millers and traders found rice prices started rising again since the beginning of July. Traders and millers reported that the retail prices of the coarse, medium, and fine grain quality rice increased by BDT 2 to 4 per kg in the first two weeks of July. The trend indicates that rice prices are likely to increase in the next 3 to 4 months. The Government is now exploring options to import rice to stabilize the domestic rice market.

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COVID-19 had a positive impact on the farmgate price of rice. Although the Government set the minimum support price for boro rice at the same level (BDT 26 per kg) in 2019 and 2020 (The Financial Express, 2020), farmers are getting a higher price for paddy this year. Survey results show that farmers are getting 20 to 30 percent higher farmgate prices for boro rice compared to 2019 boro rice in local markets. The average price of boro paddy is BDT 20 to 23 per kg in 2020 but was BDT 15 to 18 per kg in 2019. The main reasons for higher farmgate prices for boro rice are the Government's higher target for boro rice procurement at a reasonably good minimum support price, fear of future food crises due to COVID-19, higher quantities of rice purchased and stored by traders and millers (with expectation of higher rice prices in the coming months), and speculation about a price rise. Farmers reported that there are more rice traders this year and their demand for paddy is higher because many urban workers with cash have returned to their villages and entered the rice trading business. These new traders include many young urban migrant workers. These traders are visiting farmers and buying paddy directly from them.

6.5 Prolonged closure of restaurants reduced demand for chicken

As a containment measure, restaurants remained closed. Even now in July, the restaurants are operating at a lower capacity because of the shortage of customers. Some restaurants are now running online food delivery to keep open. Even though the general holidays are over, schools, colleges and universities are still closed. The closure of educational institutions has robbed restaurants a primary segment of their customers – young people. Over the years, restaurants have become the primary consumers of chicken. Restaurant closures have resulted in a drastic fall in demand for chicken. Similarly, the prolonged closure of restaurants has lowered demand for mutton. Many small-scale chicken farmers have suffered severe losses.

6.6 Lower purchasing power impacted the overall demand and supply for food in the cities

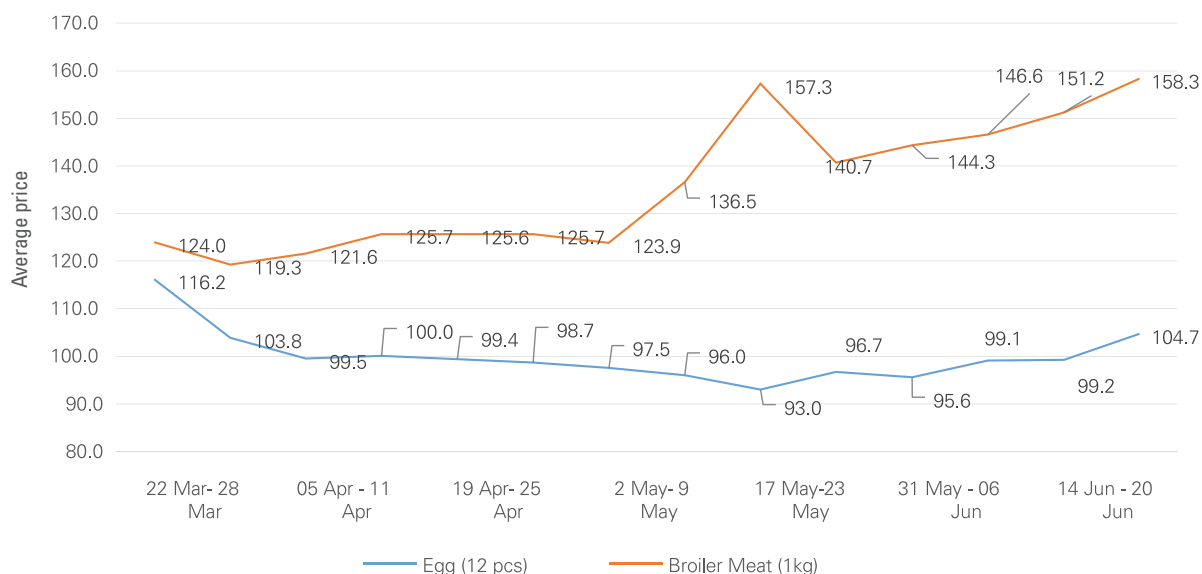
During the lockdown period, the demand for rice, lentils, potatoes and eggs increased among the poor section of the community. Sales by the Open Market Sales, a social protection programme, and Trading Corporation of Bangladesh, a wing of the Commerce Ministry, came as subsidies to assist the poor. They sold food packages at a much lower price than the market price to ensure access to affordable food by the poor. As poor people's income dwindled, they were forced to cut down on their consumption. With less or no income, they could no longer afford meat and fish. Although for the major part of the lockdown period the price of meat and fish remained stable, the poor could not afford to buy these items. The unemployed were more concerned about satisfying their hunger with low-cost carbohydrates because protein-rich food items were now too expensive for them. As a result, nutritional deficiencies among the poor deepened even further when compared to normal circumstances.

6.7 Food demand and retail prices of food items

Fear of COVID-19 infection and the unavailability of transportation drove up the prices of rice, lentils, vegetables, ginger and various fruits. Since the beginning of June, the prices of rice and lentils have been decreasing steadily. The prices are still higher, however, than pre-lockdown prices. Prices for non-leafy vegetables were fluctuating from week to week. At the beginning of May, the prices of non-leafy vegetables increased by around 28 percent. The sharpest price increases were noticed in mid-June when they rose by 50 percent compared to earlier weeks. The poor have been finding it hard to buy non-leafy vegetables because of the high prices. Online shopping gained popularity as customers felt going to the wet markets was risky. Supermarkets and cyber shops started selling products online. Online shopping has more than doubled during the pandemic.

After remaining relatively stable up to mid-May, the prices of broiler chickens and eggs have started to go up on a shortage of poultry (figure 6.8). According to the Bangladesh Poultry Industries Association, poultry production has been significantly affected after producers suffered a loss of USD 417.76 million in March and April. The poultry farmers had to sell their chickens and eggs for half of their production cost. The small farmers who make up about 25 percent of poultry farmers have been struggling, and nearly 45 percent of the country's 88,000 poultry farms have had to close, according to poultry industry experts. Throughout the lockdown period, poultry meat generally remained out of reach for the poor, mainly because of their lack of income. However, during June, 60 percent of the poultry farmers re-opened their businesses by reducing the size of their operations to just about 25 percent of what they originally were. The price of broiler meat is still going up because of this lower level of production. Broiler meat is likely to remain unaffordable for the poor for the foreseeable future. The poor had been relying on eggs for protein during the lockdown, but egg prices are now also beginning to increase sharply. If the trend continues, sources of protein will become even scarcer for the poor.

Figure 6.6: DFS HHs broiler meat and egg price trend data from 150 HHs in greater Dhaka area



Recommendations:

- Re-establish and strengthen linkages between wet markets and growers to ensure uninterrupted supply of food for the poor. Developing more farmers' markets across the cities can significantly improve the supply chain.
- Scale-up Open Market Sales and Trading Corporation of Bangladesh services in more areas and include perishable items in the packages to prevent nutritional deficiencies among the majority of the population.
- Emphasize building online platforms for vendors. As online shopping is relatively safer and popular among the citizens, introduce an online shopping system for wet markets.
- Promote small-scale agriculture by providing training and subsidies for inputs.
- Encourage people to grow their own food to reduce food insecurity and significantly supplement their nutrition.
- Provide low-interest loans with easy terms and conditions and incentives for small businesses to ensure the production of various food items does not fall significantly below the demand level.





Chapter 7

Social inclusion measures to mitigate impacts of COVID-19 on vulnerable populations

7.1 Government social safety net programmes

The Government's social safety net programmes for the 2020/21 fiscal year have focused mainly on expanding the coverage of existing schemes with improved targeting of beneficiaries. Allocations will increase to cover the newly poor. On 9 June 2020, Finance Minister AHM Mustafa Kamal allocated BDT 955.5 billion for various social safety net programmes, which was BDT 743.6 billion in the original budget and BDT 818.6 billion in the revised budget for this fiscal year. The allocation is 16.8 percent of the BDT 5.68 trillion Government budget and 3 percent of Bangladesh's BDT 31.7 trillion gross domestic product. The total number of beneficiaries of social safety net programmes increased 42 percent to 81 million in FY 2020/2021 from 56.9 million in FY 2019/20. The allocation for the social safety net programmes includes BDT 30 billion set aside as interest rate subsidies for the loans going to the micro and small industries and services affected by the coronavirus pandemic.

During the response to Cyclone Amphan, which struck Bangladesh in May 2020, the volume of relief and food aid distributed by individuals and private organizations to the flood-affected communities was significantly lower than that provided to flood-affected communities in recent years. Overall, the Government's targeted social protection schemes that require recipients to meet various, specific criteria may make social protection more prone to corruption, according to some experts.

7.2 Government support to the unemployed

The Government's allocation for new schemes, apart from social safety net programmes, increased to BDT 4.923 billion in FY 2020/21 from BDT 2.883 billion in the current fiscal year, according to Ministry of Finance data. The allocation for gratuitous relief rose nearly six times to BDT 30.62 billion in fiscal 2020/21 from the current fiscal year's original budget. The number of beneficiaries would be 26 million, up from 25.5 million. The allocation for the cash-for-work programme doubled to BDT 15 billion from BDT 7.5 billion. The number of beneficiaries for that programme rose to 1.5 million from 864 000 in the outgoing fiscal year. The Government has proposed allocating BDT 9.72 billion for the Open Market Sales operations, up from BDT 9.49 billion in fiscal 2019/20.

The allocation for the Food-Friendly Programme (FFP) went up to BDT 38.44 billion from BDT 26.24 billion in the current budget. The International Food Policy Research Institute (IFPRI) has published its evaluation of the effects of the FFP, and the results were very promising. In FY 2020/21, the Government will distribute BDT 5 billion among 5 million families whose livelihoods have been affected by the pandemic, although the livelihoods were not specified. The Ministry of Agriculture received BDT 19 billion in farm subsidies, and the assistance would cover 8.7 million small and marginal farmers. The ministry received another BDT 25 billion for farm rehabilitation, up from BDT 1.6 billion this fiscal year. As part of the credit support programme, the Government allocated BDT 20 billion for job creation through Palli Sanchay Bank, Probashi Kallyan Bank, Karmasangsthan Bank and the Palli Karma-Sahayak Foundation. It set aside another BDT 30 billion to run a refinancing scheme for low-income farmers and small businessmen.

Gratuitous relief means relief materials like rice, salt, dal, m.oil, drinking water, sanitation facilities etc. for the affected people, who take shelter in relief camps during man-made violence and natural calamities.

7.3 Government cash transfers

As of March 31, Bangladesh banks opened 21.3 million accounts for those who receive allowances under social safety net programmes, including farmers and the extremely poor. Although Bangladesh banks do not have available data on how many of the 21.3 million accounts are active, there has been a strong indication that the majority of them are inoperable given the deposit trends of the accounts. A tiny portion of the accounts is used to receive farm loans, while the Government makes social safety net payments to the extremely poor, underprivileged populations and freedom fighters through the accounts. People are settling transactions through online banking, and if this becomes habitual, the majority of the customers may do their banking from home or via mobile phones. Many humanitarian actors are now opting for mobile payment services; for example, cash distributed by UN agencies during the Cyclone Amphan response was almost 100 percent done through bKash (virtual) accounts.

The allocation for the Vulnerable Group Development (VGD) programme, one of the largest safety net programmes, increased by 3.4 percent to BDT 1.756 billion. However, the allocation for the Vulnerable Group Feeding (VGF) programme, which provides food transfers to the poor during disasters and major religious festivals, was reduced by 52 percent to BDT 9.4 billion. The Government has no plan to adjust or peg the social-protection payments to food price rises. The Government appears to be neglecting the significant increase in food prices.

7.4 Government food transfers

The Government had 1.43 million tonnes of rice in its stocks in early-March 2020 (FPMU 2020). During the COVID-19 crisis period March through June 2020, the Government distributed over 450 000 tonnes of rice from its stocks to the poor and low-income population under the subsidized Open Market Sale or free ration relief operation programmes across the country. As a result, rice stocks at the government warehouse declined to 0.97 million tonnes in mid-July, which is 32 percent lower than the rice stocks in July 2019. The replenishment of rice stocks through procurement of boro rice is critical to stabilize the domestic rice market and to ensure the availability of food for the vulnerable groups in case of any major shocks.







Chapter 8

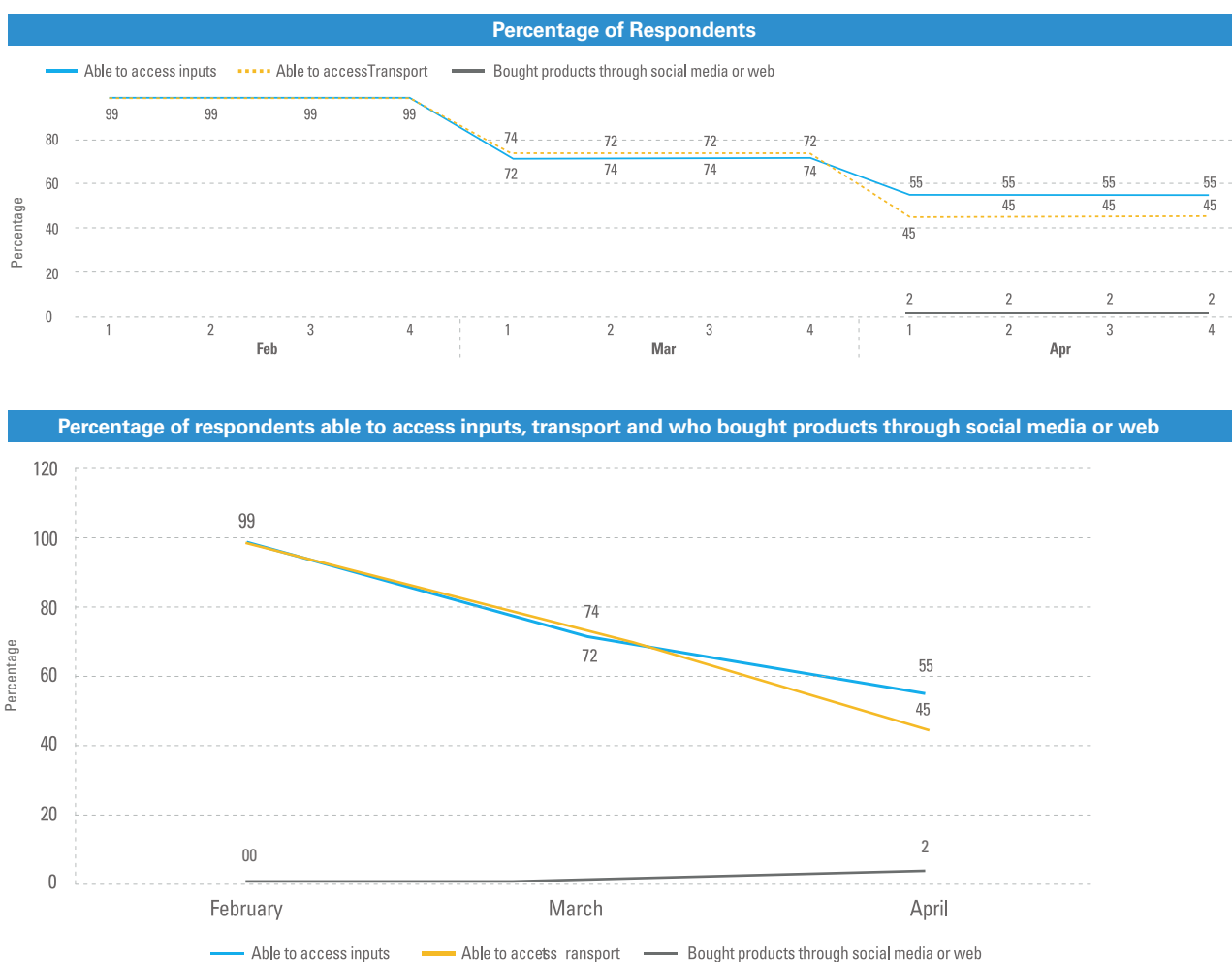
Fish, livestock, poultry production and market disruptions

8.1 COVID-19 impact on fish supply chains

WorldFish, an international non-profit research organization, conducted multiple surveys of fish supply chain actors to assess the effects of COVID-19 on the availability and price of aquatic foods and production inputs. Respondents answered questions about their activity during February, March and April 2020.

The surveys showed that between February and April, there was a 10 percent decrease in respondents hiring male daily labour, while there was a 9 percent increase in respondents unable to hire daily labour. Although the percentage of respondents attempting to buy inputs remained relatively stable, respondents' ability to access inputs and transport declined drastically, down 44 percent and 54 percent, respectively (Figure 8.1). The percentage of respondents attempting to sell fish products remained relatively stable. At the same time, the percentage of respondents able to access transport for sales dropped from 100 percent to 56 percent, and those that were able to find buyers dropped from 98 percent to 39 percent.

Figure 8.1: Percentage of respondents who were able to access inputs, access transport, and bought products through social media or online



8.1.1 Impact on hatcheries

In February, the majority of hatcheries were not operating because they were offseason. In March and April, however, nearly all hatcheries were operating. Among the 10 percent of hatcheries not operating, reasons cited included reduced production because of low demand, restrictions on transportation, inability to hire transport, and suspensions due to COVID-19. While hatcheries experienced a moderate 9 percent production increase in both catla and rohu hatchlings between March and April, the production of tilapia and mrigal (carp) hatchlings decreased by 78 percent and 24 percent, respectively. In 2019, average tilapia fry production was 15.32 million/per hatchery, which has decreased to 10.89 million (29 percent) due to the adverse situation of the COVID-19 pandemic and its negative consequences/impacts.

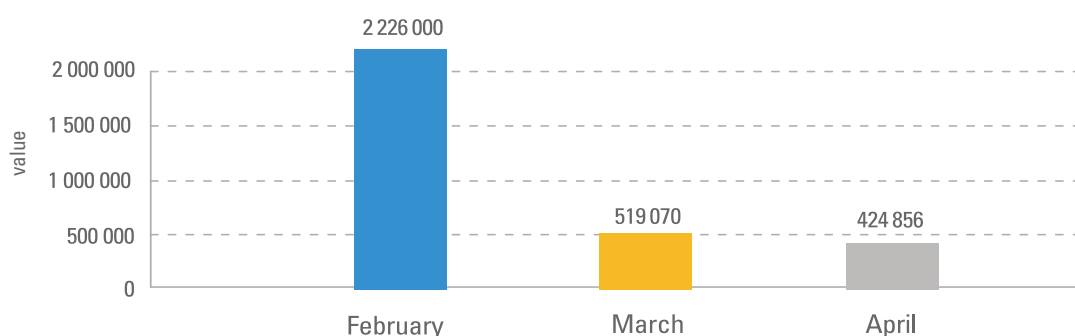
8.1.2 Impact on feed mills

All feed mills remained operating from February through March. After March, feed mills experienced a 16 percent decrease in average procurement price alongside an increase in the total quantity of feed ingredients procured, from 665 to 3 718 tonnes. While the average sales value of feed remained stable, the total quantity feed manufactured increased by 2 347 tonnes and total value rose by BDT 115 million.

Pelleted Feed Sellers: Almost all pelleted feed sellers were operating between February and April. The average sales value of pelleted feed remained stable during those months. At the same time, both the total quantity and total value of pelleted feed sold increased by approximately 33 percent.

Non-Pelleted Feed Sellers: Although all sellers of non-pelleted feed were operating in February, half were not working from March through April. Among those operating, the number of days of operation fell by half from February to April. Among those not operating, 10 percent reported having closed permanently in March due to COVID-19. In April, 20 percent of non-operating businesses were temporarily closed due to COVID-19. Other stated reasons for not operating included current market prices being too high, input supplies not being available or out of stock, and an inability to hire transport services. The average sales value of non-pelleted feed remained relatively stable between February and April. However, the average sales value of rice bran increased by 52 percent during that time. The total quantity and total value of non-pelleted feed sold declined by 82.7 percent and 81 percent, respectively (Figure 8.2).

Figure 8.2: Total value of feed sold (BDT)



8.1.3 Impact on fishers

The percentage of fishers who did not go fishing increased by 33 percent between February and March, peaking at 79 percent of all fishers, according to the WorldFish surveys. The share of fishers active in April increased to 46 percent. However, those still fishing in April did so for an average of just one day per week and four hours per day. The primary reason that fishers did not go fishing was the closed season, with only 8 percent citing a temporary suspension due to COVID-19. Forty-two percent of fishers were without a boat, and among those with a boat, the majority used engine boats. Fishers experienced a 94 percent decline in the total sales value of fish, but this decline may largely be attributed to the closed season.

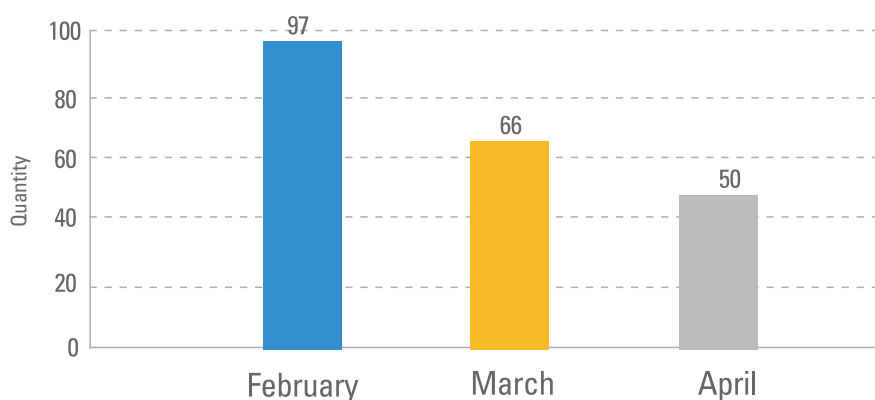
8.1.4 Impact on fish farmers

Although the majority of farms were operating, the total area worked by the surveyed farmers dropped from 1 028 hectares in February to 661 hectares in April. In March, the average procurement price of fish seed reached its highest at 347 BDT per 1 000 pieces, while the total quantity and total value of fish seed procured were at their lowest. As the average procurement price fell from BDT 437 to BDT 200 per 1 000 fish seed between March and April, the total quantity and total value of fish seed procured rose from 488,000 to 5 309 000 pieces and from BDT 200 000 to BDT 1.1 million, respectively. From February through April, there were also increases in the total quantity of fish sold from 31 to 52 tonnes and the total value of fish sold from BDT 4.1 million to BDT 6.2 million.

8.1.5 Impact on traders

The majority of fish traders remained operating through April. Among the 20 percent of fish traders not operating in March and April, reasons cited included the season being closed for fishing, input suppliers not being open, restrictions on road transportation, and temporary suspension because of COVID-19. The total amount and value of farmed fish, marine capture fish, and shrimp sold all decreased, while that of freshwater capture fish sold increased. Both the amount and value of farmed fish sold decreased by nearly 50 percent (Figure 8.3). Similarly, the total quantity and value of marine capture fish declined by 80 percent and 85 percent, respectively, most likely due to the ban on hilsha (herring) fishing. Freshwater capture fish, on the other hand, saw large increases in quantity and value sold, from 1 ton to 20 tonnes and BDT 1.2 million to BDT 16 million, respectively. At the same time, the average sales value of freshwater capture fish dropped from BDT 1 200 to BDT 791 per kilogram.

Figure 8.3: Total quantity of farmed fish sold by surveyed traders (tonnes)



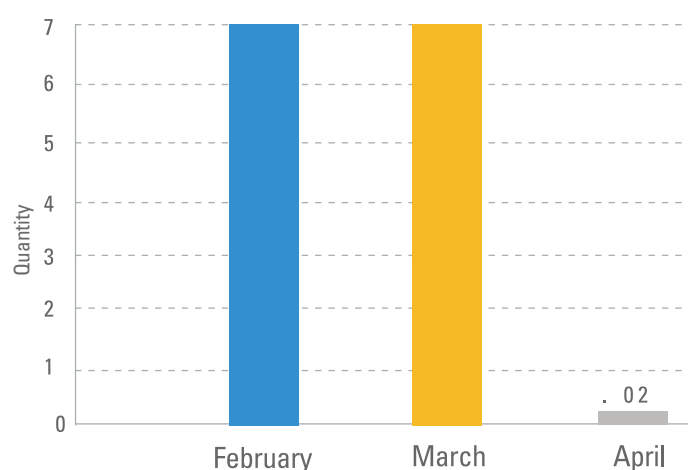
8.1.6 Impact on fish processors

Thirty-eight percent of fish processors (mainly fish driers) were not operating in April. For non-operating fish processors, the main reasons included restrictions on road transport and the inability to obtain credit for inputs. Thirty-three percent of non-operating fish processors temporarily halted operations due to COVID-19 in March. The quantity of fresh fish processed, the quantity of processed fish sold, and the sales value of processed fish all experienced marked declines at 73 percent, 73 percent, and 78 percent, respectively.

8.1.7 Impact on retailers

The majority of fish retailers were operating from February through April. Among non-operational retailers in April, half were closed because of restrictions on road transport, and the other half temporarily suspended operations due to COVID-19. The average sales value of freshwater capture fish increased from BDT 295 to BDT 371 per kilogram. At the same time, the total quantity and total value of freshwater capture fish sold decreased drastically between March and April. Specifically, the total quantity of freshwater capture fish sold dropped from 7 tonnes to less than 1 tonne among surveyed retailers (Figure 8.4), with the total value falling by BDT 2.39 million. Similarly, the average sales value of shrimp sold fell. For farmed fish, the average sales value, total quantity sold, and the total value sold remained relatively stable.

Figure 8.4: Total quantity of freshwater capture fish sold by surveyed retailers (tonnes)



8.1.8 Impact on genetically improved farmed tilapia (GIFT) dissemination

WorldFish is conducting high-frequency surveys to assess the impacts of COVID-19 on seed systems for the genetically improved farmed tilapia (GIFT) strain. Preliminary results of the surveys show that fish seed systems for GIFT have been adversely affected on both the supply and demand side, but have also helped the industry respond to and increase resilience to the pandemic. On the supply side, movement restrictions have increased the transportation costs of the inputs required for GIFT seed production. Consequently, the cost of feed and other aqua-inputs has increased substantially. The transportation problem has further reduced the ability of seed suppliers to deliver the inputs to grow-out farmers on time, in a context where poor road infrastructure is already a constraint to the dissemination of improved fish seed.

On the demand side, the closure of restaurants and the enforcement of lockdowns have reduced the market for tilapia. Reduction in demand is partly because of the shrinking of income-earning activities. For example, there are fewer fish traders buying fish from farmers for selling in cities such as Dhaka. When markets are unavailable, it forces farmers to delay selling their fish. Consequently, their fish ponds are not available for re-stocking. In turn, that and loss of income reduces farmers' demand for fish seed, feed, and other inputs. Farmers' production costs also substantially increase because they must continue feeding otherwise mature fish ready for the market. Holding fish in the ponds beyond the cycle increases the likelihood of increased fish mortality due to unfavourable weather conditions. Furthermore, feed retailers who previously sold feed on credit are now only selling for cash, making it difficult for farmers faced with liquidity constraints to afford the input.

Demand-side shocks have mostly affected the supply of seed used for broodstock development of 'breeder seed' to multiplier hatcheries. A recent study by WorldFish evaluating the tilapia seed system in Bangladesh showed that demand for breeder seed for elite broodstock of GIFT was low because multiplier hatcheries tend to rely on their own seed for broodstock development. Most hatcheries specializing in the dissemination of breeder seed have stopped production due to reduced demand. There is variability in the supply of mono sex seed of GIFT from the hatcheries with a breeding nucleus that have a cohort breeding system. However, the trend in fish seed sales is slightly rising, demonstrating the resilience of GIFT seed systems to the pandemic.

Usually, hatcheries provide bonus fry to customers as a way to promote their businesses. The COVID-19 pandemic has prompted hatcheries to increase the amount of bonus fry offered. Before the crisis, hatcheries mostly sold GIFT seed for cash. However, hatcheries are now selling on credit as a demand-creation strategy. Despite the fear of defaulting on payments, hatcheries are prepared to take the risk, which seems better than possibly losing all seed because of the mortality of fry. Grow-out producers are responding to COVID-19 impacts by reducing their purchases of inputs and delaying harvesting and sales. In terms of support, WorldFish, local Department of Fisheries (DoF) officials, and hatchery operators have collaborated to facilitate access by grow-out producers to hatcheries for seed. This close coordination has helped to avoid penalizing farmers if they are caught in the lockdown. There are also efforts by WorldFish and its partners to ensure the delivery of extension services to GIFT farmers using digital innovations.

Recommendations:

- Safeguard the ability to access transportation, movement of merchandise, and connections between supply chain actors.
- Provide extension advice and technical support required in the management of seed production by hatcheries and pond management by farmers.
- Provide financial support and access to credit for supply chain actors who have lost substantial amounts of revenue.
- Conduct research on how COVID-19 may transfer through fish market practices and ways to mitigate this.
- Support supply-chain actors during the closed season through other income-generating activities and access to social-safety net programmes.

8.2. COVID-19 impacts on the poultry and dairy supply chain

During the first weeks of the COVID-19 crisis, between March and April, the public reacted to widespread fear of infection by avoiding buying food at wet markets to limit their possible exposure to the virus. Social media fuelled these fears by suggesting that poultry and eggs could be partly to blame for this virus. This misinformation partly influenced consumer behaviour. At the same time, many people lost their jobs and had less income to spend on food, so they economized their expenses. The result was that retail sales in markets suddenly decreased by 25 percent. The medium-term impacts of lowered demand were transmitted back to poultry farmers who received less profit to invest in raising new chickens. Lower consumption of eggs and chicken leads to malnutrition for many people.

8.2.1 Barriers to transportation and movement limited the delivery of farm inputs

During the first 20 days of the lockdown (26 March through 14 April) no trucks or deliveries of non-essential products could be made, with only movements by essential and emergency services permitted (including food deliveries). Transportation restrictions caused a massive disruption to the poultry supply chain as they prevented farmers from receiving essential inputs. This led to shortages of feed, vaccines and essential medicines, and this induced huge mortality among chickens because farmers could not prevent the common poultry diseases that arose during this period.

8.2.2 Lack of processing and storage facilities led farmers to sell their products at very low rates

The combination of weaker consumer demand and disruption to the transportation system caused farm prices to drop significantly. According to The Financial Express (20 April), the prices of chicken and eggs reached record lows for the last twelve years. In different districts, farmers sold their broiler chicken for BDT 55 to 70 per kilogram, and farm eggs for BDT 4.0 to 4.8 per piece. Those prices were far below the respective production costs of BDT 118 to 128 per kilogram and BDT 6.0 to 6.5 per piece. As farmers do not have processing and storage facilities, they could not hold their eggs and chicken for a better price. They were forced sell immediately at very low prices, some for even half of their production cost. Many lost all of their capital.

8.2.3 Traditional and heterogeneous marketing systems deprived farmers and end consumers of competitive prices

The large number of intermediaries involved in the chicken-and-egg marketing system leads to lower profits for farmers and higher prices for urban consumers. At the same time, wholesalers and retailers adjust their selling prices based on their buying price. They can manipulate prices to their advantage, but to the detriment of farmers and consumers. This dynamic causes significant price gaps between farmers and consumers. The contributing factors behind this problem include a lack of government policy, the existence of several intermediaries, long distances between farmers and consumers, lack of clear consumer demands, lack of vehicles to bring products to consumers, and the popularity of live chicken markets, among others. An improved marketing channel is needed to reduce the price gap.

8.2.4. Limited mobile marketing systems and Government stimulus are not easily accessible by small-scale farmers

The Department of Livestock Services (DLS) provided mobile sales services assistance in several districts to reduce farmers' losses. However, most of the small-scale farmers were unable to access this assistance because the services were relatively few and covered limited areas and districts. As a result, the majority of the farmers were not able to sell their eggs and chickens through DLS mobile sales services. In addition, most small-scale farmers are unregistered, which prevents them from accessing Government assistance.

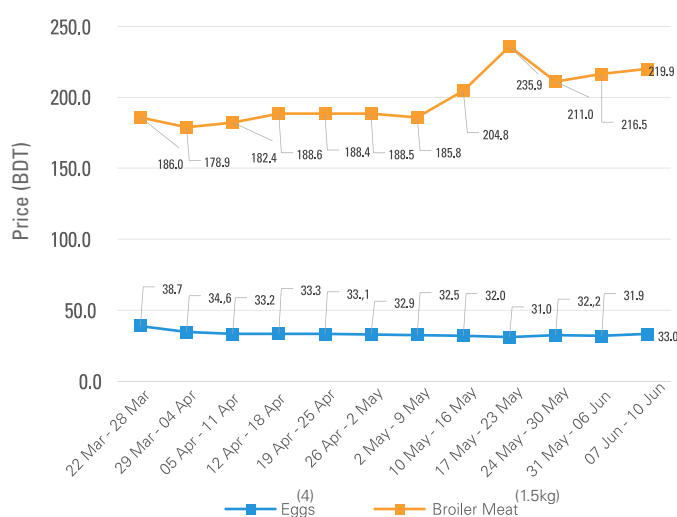
8.2.5. Small-scale farmers forced into closure are struggling to re-open

The COVID-19 crisis has caused many poultry farms to close, particularly smaller-scale farms, which are more financially vulnerable. Small-scale farmers, who make up around 25 percent of poultry farmers, generally have little savings, conduct farm financing on credit, and have incurred debts after selling chickens. Consequently, they have suffered more extreme financial hardship in the past months. The lack of capital and prior debts means these farmers face major challenges to access further credit. Some are planning to migrate to cities to find alternative job opportunities. Wider coverage of Government food relief, the Open Market System and Trading Corporation of Bangladesh to rural areas and other incentives could help the newly poor to maintain adequate levels of nutrition.

8.2.6 Increased retail prices for eggs and chicken are affecting poor urban consumers

Many small-scale farmers have closed their farms, while only a few medium-scale farms are still operating. The majority of large-scale farmers, who make up only about 5 percent of farmers, are maintaining the supply of eggs and chicken by decrementing their size. However, their numbers are few, and so they cannot make significant changes in the retail market. The Financial Express reported on 12 May that the broiler price shot up to BDT 150 to 170 from BDT 115 to 130 a week earlier. On 29 May, Prothom Alo reported that egg prices had started to increase sharply. FAO data showed that over the last 11 weeks, chicken and eggs showed significant price fluctuations. From the second week of May to the first week of June, the broiler price increased by 32 percent, and egg prices fell by 17.5 percent.

Figure 8.5: Eggs and broiler price trend in DNCC, DSCC, GCC and NCC from 22 March to 10 June



This trend of prices rising is an indicator of lower chicken and egg production on the farm, leading to lower supply in the retail markets and increasing prices. It signals that consumers may face future scarcity of eggs and chicken, making them unaffordable for the poor struggling with less income. Ultimately, this dynamic will deprive the poor of their daily essential protein.

Recommendations for the Government for the poultry industry:

- Strengthen public information campaigns to promote the nutritional importance of eating eggs and chicken for overall health and immunity, and to inform the public that poultry cannot transmit COVID-19.
- Ensure regular imports and uninterrupted transportation of all farm inputs.
- Intervene to prevent common poultry diseases and ensure adequate medicine and treatment services at farms.
- Community farms need modern processing and cold storage facilities.
- Bring all farmers, including small-scale farmers, under DLS registration so they can avail themselves of Government programmes and benefits.
- Develop a modern marketing policy to enable farmers to earn higher profits through better access to consumers.
- Large-scale coverage of food relief, OMS and TCB in rural areas will help to protect the livelihoods of small-scale farmers.
- Subsidize prices for food staples if they rise higher.
- Create shorter supply chains that can offer better prices to farmers.



A small-scale broiler farmer in Kaultia, Gazipur, tends to his chicks on the outskirts of Dhaka. Mr. Hannan was confused whether he will be eligible for the Government stimulus and was unable to sell his chickens through the Government's mobile sale service.

8.2.7 Dairy industry

Like other sectors, the dairy value chain has also suffered severe disruptions from COVID-19, and a rapid assessment was done to assess and understand the impacts. The most important impact of COVID-19 on the dairy farmers was the disruptions in marketing milk, as reported by 75 percent of the surveyed farmers. This disruption caused significant losses to the farmers. Disruptions in the supply of inputs, such as dairy feed and veterinary medicine, also hit farmers hard.

8.2.8 Dairy feed

Most of the dairy farmers in the surveyed areas prepare the dairy ration by themselves. They buy different feed ingredients from the market and mix them to feed the animals. Nearly 13 percent of farmers said that supplies of a few of the feed ingredients, such as pulse bran and soybean oil cake, were not available in sufficient quantities to meet demand in markets in April and May. Many of them thought that the lockdown led to the lack of supply. Around 8 percent of farmers said that the quality of feed items decreased in April, May and June. According to the survey, 67 percent of the farmers reported that the price of the feed ingredients such as bran, soybean meal and some other concentrates increased during the same period.

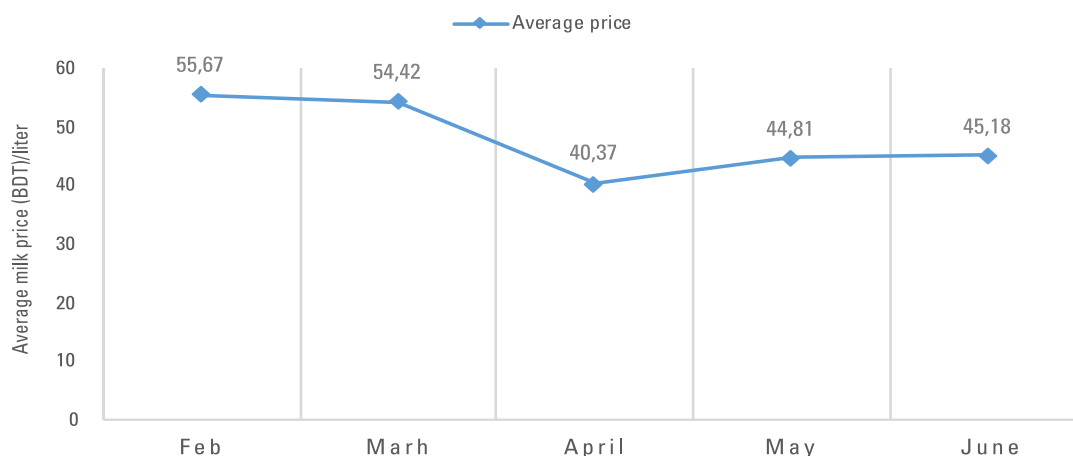
8.2.9 Veterinary medicine

Nearly 8 percent, 14 percent and 10 percent of farmers responded that they did not get veterinary medicine as per their demand in April, May and June, respectively. Around 13 percent of farmers reported that they had to pay higher prices to buy medicine in May than in February. Nevertheless, none of the surveyed farmers, in general, reported any problem to get animal vaccines, except a single case of an imported vaccine. About 6 percent of dairy farmers said that they faced difficulties in getting health services for their cattle during the on-going COVID-19 pandemic because veterinarians would not physically come to the farm. At that time, veterinarians provided their support over the telephone, which was inadequate. About 33 percent of farmers faced cattle health problems during the period from March to June.

8.2.10 Milk prices

Figure 8.6 shows COVID-19's effect on the average price of milk among the surveyed farmers in different months from February to June. The average milk price continued to drop by 27 percent until April, slightly increased in the following months, but remained 19 percent below the price in February. Therefore, it indicates that the farmers faced significant losses, and they are still in an unfavourable market condition. There are several factors involved in the falling price of milk price, as revealed in the survey.

Figure 8.6: Monthly average milk price of 48 dairy farms



The dairy farmers in this survey used to sell milk to sweet shops, middlemen, local consumers, or local markets and milk processing companies. Sometimes, they also sell milk through home delivery. Many of the farmers used to have multiple types of customers for milk.

Among the farmers, 52 percent believed that that price decline was due to the shutdown of sweet shops, hotels, and tea stalls. Nearly 25 percent of the farmers said that people did not come to the market to buy milk, so the milk price dropped. In addition, 8 percent of the farmers thought that the milk price fell because milk processing companies did not collect milk. The other 21 percent of farmers said that the general demand for milk fell, so the price went down. One farmer explained that the COVID-19 crisis created an economic disaster for many people. As they are struggling with less income, they stopped buying milk. Farmers suddenly had to face challenges to sell milk and find alternative customers. Many of them did not have enough facilities to preserve all their milk or any knowledge or facilities to process milk. Raw milk is an easily perishable item. Milk production was often higher than the local demand. As a result, the farmers had to sell the bulk amount of milk at a lower price in local areas. The prohibition on social gatherings or social programmes further reduced demand. Farmers who used to sell by home delivery also faced constraints in their business.

8.2.11 Adopting alternative ways of marketing

To cope with the disruption of the usual market chain, the farmers attempted to sell milk in different ways. In March through June, 2 to 15 percent of farmers tried to sell their milk by the home delivery channel when they could not sell milk to their regular customers. Around 4 to 13 percent of farmers sold milk by mobile vending. Moreover, 2 to 23 percent of farmers sold milk to relatives, local areas and bazaars.

Despite all these efforts, many of the farmers could not sell all their milk. According to the survey, 73 percent of farmers had unsold milk in April, 52 percent in May, and 31 percent in June. Farmers also tried alternate means to deal with the unsold milk. Overall, 38 percent of farmers refrigerated some amount of milk. Farmers also attempted to make sweets (2 percent), butter (4 percent), curd (6 percent) and ghee (8 percent). About 2 percent of farmers tried to separate cream with a cream separator. Thirty-eight percent of farmers gave the milk away to others free of cost. Among the surveyed farmers, 31 percent had to dump some amount of spoiled milk. Only 18 percent of farmers did not have any unsold milk.

8.2.12 Adopting alternative management methods to cope with market disruption

Fifty percent of the surveyed farmers adopted the strategy of feeding their animals less to reduce milk production and minimize losses. Some of them cut down concentrate feed to reduce milk production. A few reported that they were able to reduce milk production within a few days, but were facing problems regaining the productivity of cows and were worried whether the cows would have the same productivity in future lactation periods. About 8 percent of farmers practised feeding milk to calves. Around 10 percent of farmers reduced the frequency of milking to keep milk for calf feeding. Some farmers sold cattle to minimize losses, which also reduced their production of milk. Twenty-three percent of surveyed farmers sold their cattle during March through June to cope with the adverse effects of the COVID-19 pandemic. The farmers were facing losses due to marketing problems and lower milk prices. Many said they sold the cattle to pay their loans and farm-staff salaries. Some sold animals to minimize the losses, others to raise the capital needed to run the business. So, the farmers sold the less productive cows, calves, non-lactating, and even lactating cows.

8.2.13 Support from Government and other organizations

About 63 percent of farmers knew that the Government would support affected farmers. Among them, 57 percent heard about the interest-free bank loans, and 13 percent said that they had heard about support but didn't know the details. Another 17 percent heard about cash incentives from local government/DLS. None of the surveyed farmers had yet received any support from the Government. Few farmers went to banks to learn about the details for applying for loans. The banks visited by surveyed farmers had not yet received notice from the Government to give loans to the farmers. From the survey, 98 percent of farmers said they would continue in their business. Among them, 19 percent said that they have no other option; 38 percent will carry on the business as usual; 26 percent said that they will continue with increased herd size, and 6 percent with reduced herd size. Around 4 percent said that they have a desire to do business with increased herd size, but Government support, such as loans, is needed.

Recommendations for the Government – from dairy farmers:

Experienced dairy farmers had many constructive and practical suggestions on actions the Government could take to sustain dairy farming during the on-going COVID-19 pandemic or in similar situations in the future. The following are a summary of their recommendations:

- Provide Government loans with low interest or no interest, with easy terms and a one- to two-year grace period for repayment.
- Develop a milk collection system with milk-chilling centres run by the Government.
- Provide cattle feed during a crisis.
- Ensure and monitor stable and standard market prices for milk, feed, and medicine throughout the year, supporting milk marketing and its supply chain.
- Provide farmers with cream separators.



Chapter 9

Trade exposure

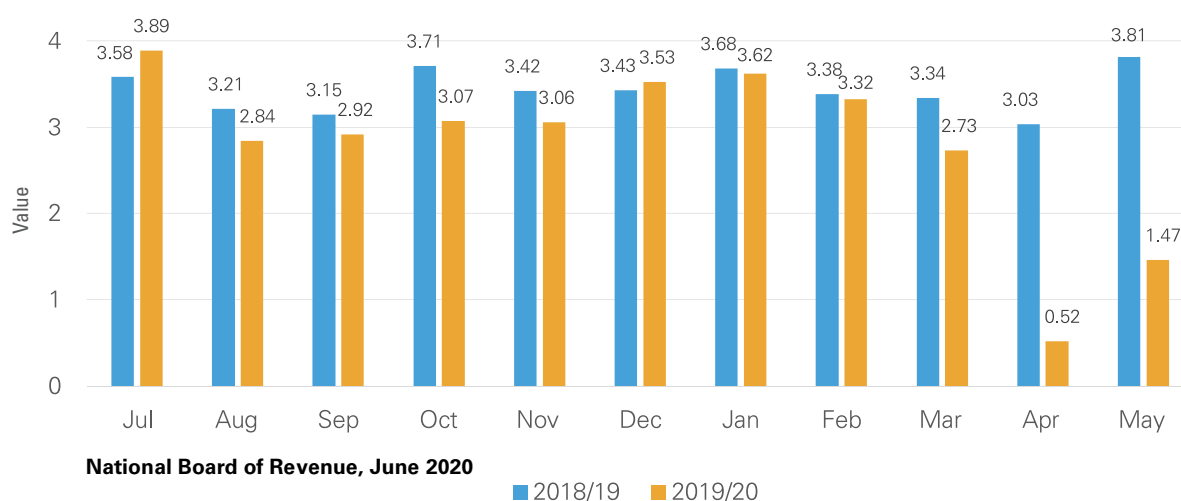
9.1 Trade: COVID-19 impacts and response measures

Essential commodities supply more than three-fourths of the total calorie, protein, fat, and feed requirements for the people of Bangladesh (FAO Food Balance Sheet of Bangladesh, 2017). But rice, wheat, potatoes, edible oils, pulses and maize are also exported. Exports provide additional markets for farmers, revenue for the Government and contribute to global food security. This module will analyse the impact of COVID-19's disruptions of trade and Bangladesh's response.

9.1.1 Exports

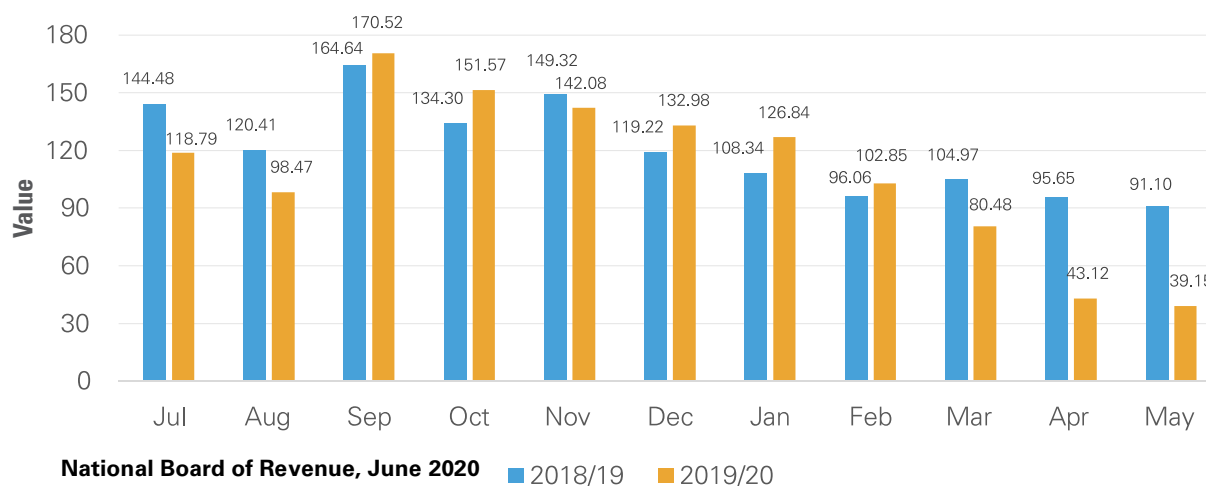
In July 2019, total exports from Bangladesh were higher than in the same period one year earlier. Then, for the next four months, they slumped, falling below 2018 levels for the same period before partially recovering during December (Figure 9.1). Beginning in January 2020, exports began spiralling downward and by April had plunged over 80 percent to a record low of half-a-billion United States dollars. Since the beginning of May, exports have begun to rise but are still far below last year's levels. COVID-19 lockdowns and restrictions on shipments have been the cause of this export collapse. The associated job losses have been significant, especially in the readymade garments sector whose exports shrank by 54 percent during March through May.

Figure 9.1: Value of export of all goods from Bangladesh



Agricultural exports from July 2019 through May 2020 were 9 percent lower than the same period one year earlier. While the performance was unremarkable from July through November 2019 (Figure 9.2), agro-exports began rapidly shrinking following the imposition of the lockdown in March 2020 and hit an all-time low in May 2020 as contracts were cancelled and fresh orders dried up. Unlike the manufacturing sector, where input and output supply management can help minimize losses, the perishable nature of many agricultural commodities translated to losses at all links along the supply and value chains.

Figure 9.2: Value of export of fish and agricultural commodities (USD million) from Bangladesh



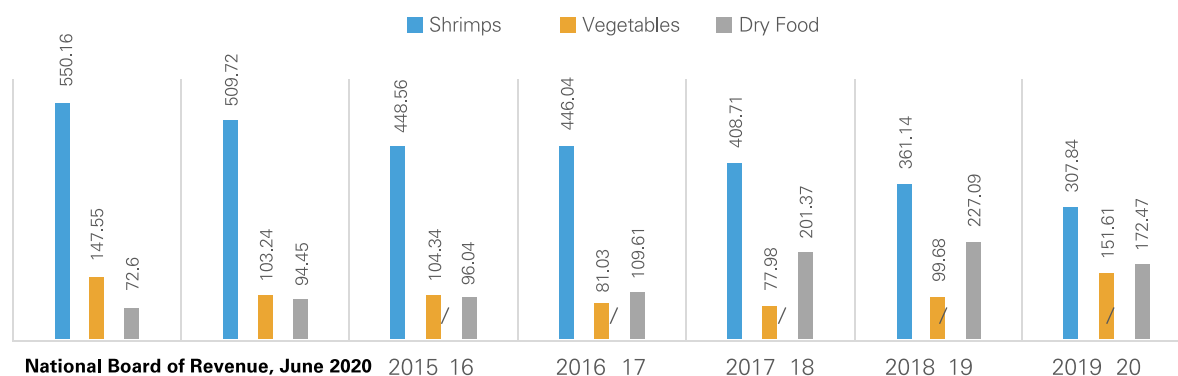
Note: The figure is based on the World Customs Organization's Harmonized System Nomenclature (HS code 1-24).

Agricultural exports from Bangladesh have been driven chiefly by shrimp, vegetables and processed food, among others. While the global market for shrimp has been expanding, exports from Bangladesh have been shrinking. Figures from the National Board of Revenue indicate that the country's current 2 percent share of the global shrimp market is half of what it was five years ago. From a high of over USD 550 million in 2013/14, shrimp exports contracted by 34 percent in just five years (Figure 9.3). Reduced exports have, in turn, impacted domestic production, which fell by over a quarter in this period. Bangladesh built its shrimp exports largely on the production of black tiger shrimp (bagda, a premium-quality shrimp) and giant freshwater shrimp (galda). A structural shift in demand in the global seafood market towards the cheaper whiteleg shrimp that are not allowed to be commercially cultivated in Bangladesh, is the reason exporters cite for falling shipments.

After the repeated rejection of fruit and vegetable consignments by the European Union due to non-compliance by exporters, Bangladesh's Plant Protection Wing of the Department of Agricultural Extension imposed a ban on the export of fresh produce to Europe in 2017. In the interim, the Government focused its efforts on improving farming and packaging practices to produce and ship disease-free crops, and support exporters to meet European Union quality standards and requirements. Adoption of good agricultural practice (GAP), hazard analysis and critical control points (HACCP), traceability and maximum residue limit (MRL) contributed to these exports bouncing back in 2018/19, ending a four-year slump (Figure 9.5). Vegetable exports continued performing strongly from July 2019 through March 2020, mainly on rising exports to South-Eastern Asian countries (Figure 9.5). Exports of dry-food (HS 19) preparations of cereals, flour, starch, milk and pastrycooks products grew noticeably from 2013/14 to 2019/20 (Figure 9.3).

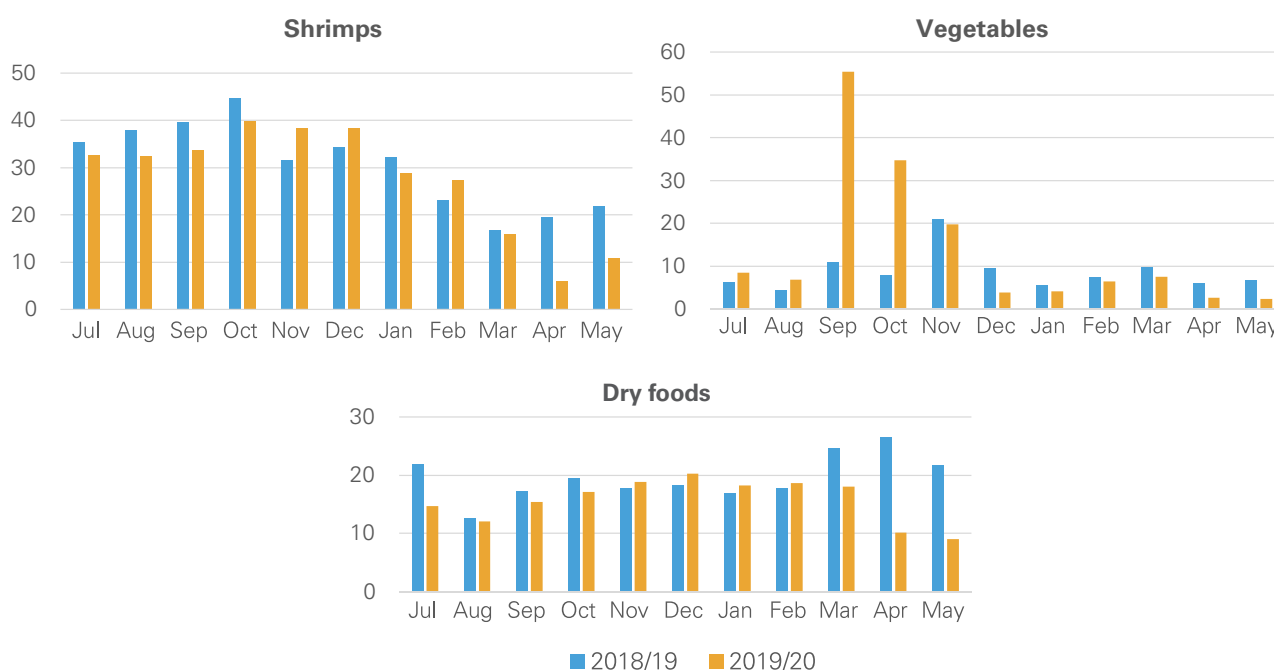


Figure 9.3: Exports of major agriculture commodities from 2015-2020



A disaggregated monthly analysis of the major agro-export commodities indicates that while vegetable exports were doing well in 2019/20 compared to the preceding year, shrimp and dry-food exports were mostly below par (Figure 9.4). The volume of these exports also followed a relatively similar trajectory to the preceding year with months of lower and higher volumes indicating seasonal variation in exports. Exports for all three commodities fell from March 2020 onwards compared to the preceding year.

Figure 9.4: Monthly exports of major agri-commodities during 2019/20 (USD Million)



Source: National Board of Revenue, June 2020.

While agricultural exports were experiencing mixed trends, the arrival and rapid spread of COVID-19 disrupted trading in global markets. For Bangladesh, it began with export destinations limiting their imports to essential commodities and was followed by domestic COVID-19 protection measures with restrictions on work attendance, logistical support, banking operations, etc. As in the case of manufactured goods, the exports of major agro-export commodities, such as frozen fish, shrimp, vegetables, and processed and dry foods, declined significantly from March through May 2020 (Figure 9.4).

At the primary stage of these supply and value chains are the small producers and input and inbound logistics suppliers that sustain the export enterprises. Shortages of labour, the shutting down of industrial units, closures of land and seaports, and other restrictions have impeded access by producers to markets and curbed their productive capacities. Stricter controls on cargo vessels aimed at avoiding the spread of COVID-19 have also impacted trade.

As the economy has suffered, the Government has been under unprecedented pressure to deploy its limited resources to minimize the negative impact on the income of vulnerable populations resulting from export losses.

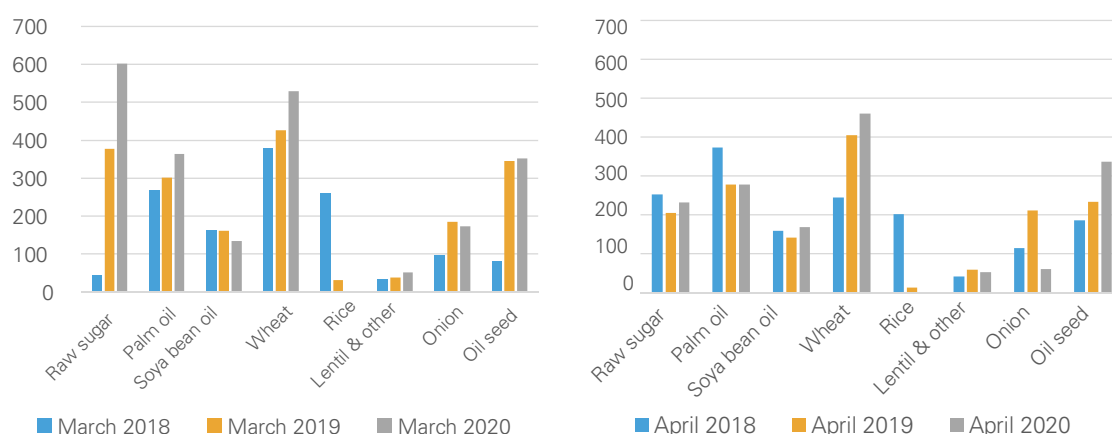
Recent developments since the easing of the COVID-19 protection measures are summarized below:

- On 18 May 2020, the export of frozen shrimp resumed to the European Union and Japan. The President of the Bangladesh Frozen Food Exporters' Association reported that export orders have begun trickling in and they are receiving two to three orders (compared to around ten during the pre-COVID-19 period) each month. From the onset of the pandemic until 8 June 2020, international buyers cancelled 299 export orders worth USD 55 million.
- Vegetable exports resumed after two months on 29 May 2020 by chartered airplane. Regular exports of vegetables as cargo by passenger flights to around 40 countries remain suspended.
- Mahdipur-Sonamasjid Land Port opened after 75 days on 4 June 2020, and the movement of trucks has resumed. Eighty-six trucks loaded with maize, onions, fruits, livestock and poultry feed entered Bangladesh after the lockdown as of 4 June 2020. Before the lockdown around 200 trucks per day usually used the port. Bilateral trade between India and Bangladesh through the Petrapole-Benapole border resumed on 5 July 2020. This land port accounts for 70 percent of the trade between the two countries, and therefore this is a significant development. Quarantine facilities have been established in the land port for truck drivers. Seaports and land ports are now operating at their full capacity, and the trading of food and agricultural commodities is being prioritized.
- India and Bangladesh are initiating a major step towards smoother trade connectivity through the railway network that is a potential game-changer and win-win for both countries. In June, Bangladesh railways increased the monthly number of freight trains scheduled to travel to and from India by approximately 33 percent for the month. Also, for the first time, the Indian Railways ran special parcel trains beyond the country's borders to Benapole in Bangladesh with dry chillies from Reddipa. Previously, farmers and merchants in and around the Guntur area had been transporting dry chillies by road to Bangladesh in small quantities, and that was costing around Rs 7 000 per tonne.
- China recently granted Bangladesh duty-free access for 97 percent of the items it ships to China. This will allow an additional 5 161 items to be exported duty-free to China.

9.1.2 Imports

Imports of essential commodities were generally consistent throughout FY 2019/20 but declined in April 2020 with the advent of the COVID-19 global pandemic. Nonetheless, imports of essential commodities were still higher in March and April 2020 than in the same months of previous years, except for rice and onion (Figure 9.5). Raw sugar imports in March 2020 were higher than in March and April a year earlier.

Figure 9.5: Import trends of essential commodities in the months of March and April in last three years (thousands of tonnes)

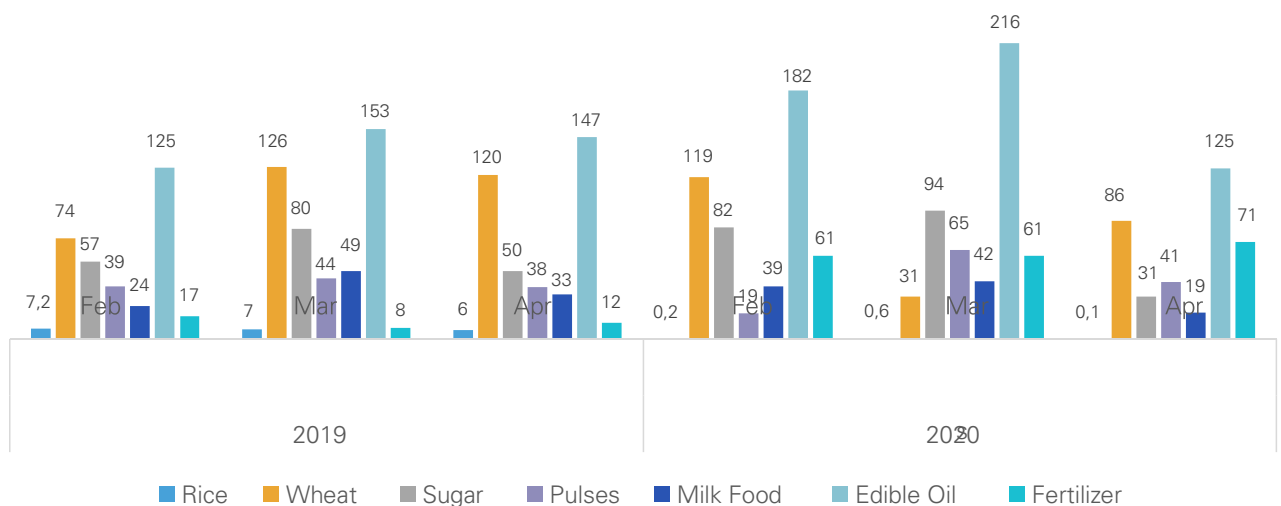


Source: Bangladesh Bureau of Statistics (BBS) Foreign Trade Statistics (FTS).

Comparison of current import trends based on the import Letter of Credit (LC) condition:

- Bangladesh Bank LC statistics show that until 30 May 2020, merchants opened LCs for a total of 418,000 metric tonnes of wheat in the last two months. However, the statistics for May and June 2020 were not available at the publication time of this report.
- Rice import LCs declined from February through April 2020 compared to 2019. The Import LCs for wheat were also lower in 2020 than in 2019 in corresponding periods (Figure 9.6).
- Sugar import LCs rose in February and March but declined in April 2020 compared to the previous year (Figure 9.6).
- Pulse and milk-food import LC numbers were nearly the same in both periods of 2019 and 2020 (Figure 9.6).
- Import LCs for edible oils were quite higher in February and March 2020 than the previous year. However, they declined in April compared to the previous year. However, the total import LCs for edible oils was higher in the first six months of 2020 than in the same period in 2019.

Figure 9.6: Comparison of import LCs opened of the key essential commodities in Bangladesh (in millions USD)



Source: Bangladesh Bank. June 2020.





Chapter 10

Food reserves

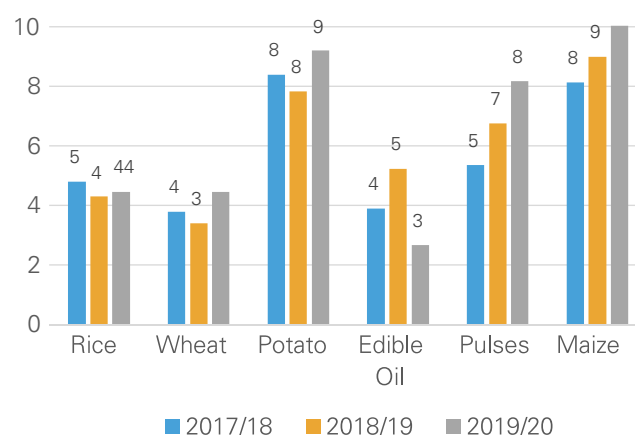
Table 10.1 presents food reserves at the end of June 2020. Bangladesh has adequate domestic reserves of rice, wheat, potatoes, pulses and maize to meet domestic demand in the coming months.

Table 10.1: Reserves (FY 2019/20; thousands of MT)

Items	Beginning stocks (1 Jul 2019)	Annual production	Annual imports	Consumption, exports and other uses	Estimated total reserve (30 Jun 2020)
Rice	13.421	38.950	14	38.127	14.257
Wheat	1.730	1.247	5.839	6.746	2.070
Potato	5.561	11.271	0	10.045	6.787
Edible Oil*	1.231	426	4.245	5.385	517
Pulses †	405	422	421	746	502

- While domestic supplies of wheat and rice are steady, the public reserves are lower than the 2018/19 not 2018/2019 levels.
- In the case of wheat, landing and clearance of imports need to be prioritized.
- The reserves of edible oils are enough to sustain the national demand for two-and-a-half months. Fresh imports will have to be expedited to avert shortages, especially in the likelihood of prices climbing in the short-term due to depleted stocks in exporting countries.
- Imports of pulses were adequate in the last quarter, which along with domestic production is sufficient to meet the national demand for over eight months.
- Exports were performing sluggishly in 2019/20 and fell drastically after the imposition of the lockdown at the end of March 2020. Both perishable and non-perishable agricultural exports were affected.
- Authors' calculation for reserves and sufficiency.

Figure 10.1: Domestic self-sufficiency (in months) of rice, wheat, potatoes, edible oils, pulses and maize in Bangladesh



* Production of domestic oilseed is converted into edible oils at a conversion rate of 31%

† excluding chickpeas

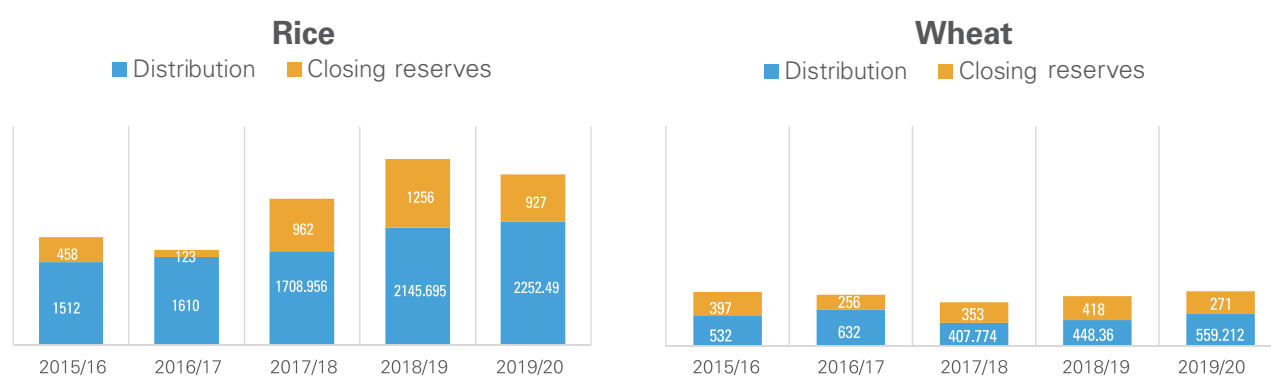
Source: Bangladesh Bureau of Statistics and FPMU; Authors' calculation for reserves and sufficiency

10.1 Rice and wheat

Bangladesh has adequate stocks of rice and wheat held by the public and private sectors. With the boro rice harvest completed, the estimate for annual rice production is 6.5 percent higher than in 2018/19. This translates to a surplus of around 6.4 million metric tonnes over domestic demand in the current year. Beginning the year with adequate stocks, Bangladesh is comfortably placed to meet its domestic requirements in the coming months. In the case of wheat, production of 1.245 million metric tonnes – a three year high – in 2019/20, along with over 5.1 million metric tonnes of planned imports, is more than adequate to meet current demand. The shipping of imported wheat, which slowed during the preceding months of the lockdown, needs to be streamlined.

The Government undertakes rice and wheat procurement and imports distribution to the poor and vulnerable through the Public Food Distribution System (PFDS). Compared to June 2019, there has been a shortfall of over 31 percent in the public procurement of paddy/rice in June 2020. The gap has been attributed to a relatively higher level of prevailing farmgate paddy prices, and as a result, the closing public-sector stocks are running low (Figure 10.2). The public-sector stocks of wheat in June 2020 were also lower than last year.

Figure 10.2: PFDS operations ('000 MT)



Source: FPMU, 30 June 2020

For the current boro procurement season (May through September), the Government had procured 0.07 million metric tonnes (mmt) of paddy and 0.33 mmt of rice through 30 June. Those figures are lower than the targets of 0.8 mmt of paddy and 1.15 mmt of rice. The Government procured 64,500 metric tonnes at the end of June, which was below its target of 75,000 metric tonnes for April through June. On 30 June 2020, the public reserves of food grains stood at 1.198 mmt, of which 0.927 mmt of rice and 0.271 mmt of wheat are available as PFDS closing stock for FY 2019/20. Assuming the forthcoming monsoon season will bring average rainfall, the public food-grain stocks are adequate for running the PFDS operations until the end of November 2020. For augmenting security stocks, timely imports of wheat may be initiated for supplying the PFDS operations. This may partly compensate for the shortfall in meeting the target for public-sector stocks caused by a substantially lower level of paddy procurement of 0.07 mmt. The target was 0.8 mmt aman rice procurement is scheduled to commence in mid-November.

10.2 Pulses

The domestic production of pulses has been static in the last five years. The bulk of the production comprises lentils and khesari, while imports of lentils and chickpeas from Australia, Canada, Nepal and India are increasing. Bangladesh's reserves of pulses can meet the demand for eight months. Global stocks of lentils are running low, and the price has been climbing steadily since April 2020. This regime of low-supplies and high-prices of lentils will prevail until the production from Canada, Australia and the Black Sea Region (The Russia Federation and Ukraine) arrives in the market in the 2020/21 season.

10.3 Potatoes and maize

With over 11 million metric tonnes of production, there is a glut of potatoes in the domestic market with ample reserves to meet demand for over nine months. In the case of maize, both area under cultivation and production have increased over the last ten years. Maize yields at over 8 tonnes/ha are among the highest in Asia, and the growing demand from the feed industry has catapulted maize to the second-biggest cereal crop in Bangladesh after rice. A quarter of the domestic demand for maize is met through imports, which are expected to decline in 2020/21 due to lower demand from the feed sector. Going by past trends, the estimated reserves in June 2020 are enough to meet demand for the next ten months. This is, however, still concerning: if import markets do not remain open, farmers could face difficulty sourcing maize seed - the vast majority of which is hybrid and imported from other countries - creating a shortfall in domestic production.

10.4 Edible oils

Bangladesh is import-dependent in terms of edible oils. The domestic production of oilseeds is inadequate, and every year a large amount of palm and soybean (both crude and refined) oils are imported. Soybeans are also imported in seed form for oil extraction. By end-June 2020, the reserves for edible oils were sufficient to last for two-and-a-half months. Recent Letter of Credit (LC) statistics published by the Bangladesh Bank (the country's central bank) indicate that a large number of LCs were opened and settled during March and April, and a bulk of these were for palm oil (refined) and soybean oil (crude). The March and April settlements of LCs were higher than in the preceding year and point towards the market's readiness for absorbing the increased stocks of edible oils in the coming months.

10.5 Global commodity stocks and prices

Production assessments generated by international agencies indicate that there are abundant supplies globally (Table 10.2). The June 2020 Food Outlook of FAO points out that while food markets will face many more months of uncertainty related to the COVID-19 pandemic, the agro-food sector is likely to display more resilience to the crisis than other sectors. However, price risks remain high due to uncertainties caused by the current downturn in economic activities.

Table 10.2: Summary of global production estimates (million tonnes)

Commodity/ Year	FAO	USDA	ABARES	IGC	OECD-FAO
Wheat					
2018/19	732.1	730.8	732	731	752.2
2019/20	762.2	764.4	754	764	766.4
2020/21#	758.3	773.4	756	766	772.9
Rice					
2018/19	506.3	496.5		497	513.4
2019/20	500.6	494.3		507	526.9
2020/21#	508.7	502.1		506	532.1
Maize					
2018/19		1123.3	1123	1129	1128.2
2019/20		1113.5	1112	1158	1151.5
2020/21#		1188.5	1137	1169	1168.2

Commodity/ Year	FAO	USDA	ABARES	IGC	OECD-FAO
Coarse grains					
2018/19	1 410.3	1396.9	1396	1406	
2019/20	1 448.1	1406.5	1403	1413	
2020/21#	1 513.5	1484.6	1433	1464	
Oilseeds/ oilcrops					
2018/19	581.5	599.92	597		
2019/20	600.5	575.23	568		
2020/21#	572.5	606.15	576		
Vegetable oils					
2018-19	263.3*	203.38	201		202.6
2019-20	241.0*	204.09	203		210.6
2020-21#	235.4*	208.34	202		214
Milk					
2018/19	840.5				826.1
2019/20	851.8				848.9
2020/21#	858.9				859.8

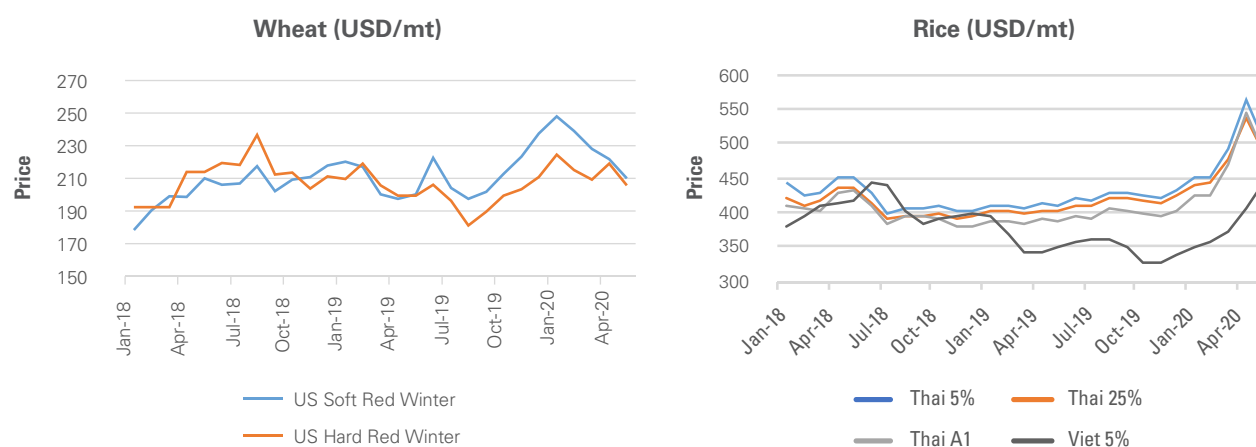
* Includes animal fats

forecast/projection

10.5.1 Rice prices in international markets

The Agricultural Market Information System (AMIS) shows the supply of rice in 2020 is stable on sustained production in China, India, Thailand, the Lao People's Democratic Republic, Pakistan and the United States of America. The present levels of stocks are adequate to meet global demand, while exportable surpluses are expected to swell further (Figure 10.3).

Figure 10.3: International prices of rice and wheat



Source: World Bank Commodity Price Data (up to end-May 2020).

While global supply levels are comfortable, export prices in most rice-exporting countries are steady, including those from where Bangladesh traditionally imports rice. Thailand's rice prices have been running high as the Thai baht strengthens against the United States dollar. Supplies in Viet Nam have grown, but demand has remained steady on a slower harvest season. The price of Indian parboiled rice, a preferred processed rice in Bangladesh, retreated from a year-long peak in late May but is expected to rise as the Indian Government plans to procure rice from farmers at about a 3 percent higher price than last year.

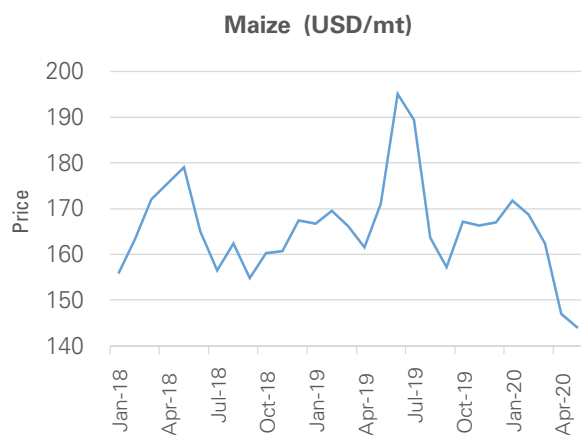
10.5.2 Wheat prices in international markets

Wheat production forecasts for 2020 by lead reporters were lower than that for the preceding year. While this firmed up prices at the beginning of the year, COVID-19 worries put downward pressure on prices. Concerns regarding a lower harvest in Europe supported the prices briefly until the mid-June WASDE (World Agricultural Supply and Demand Estimates) report upwardly revised both global wheat season-end stocks and United States of America (US) wheat production estimates. Projections are that global wheat prices will remain low during the coming weeks.

10.5.3 Maize prices in international markets

Adequate domestic and global stocks are available, and prices are likely to remain low (Figure 10.4).

Figure 10.4: International price of maize

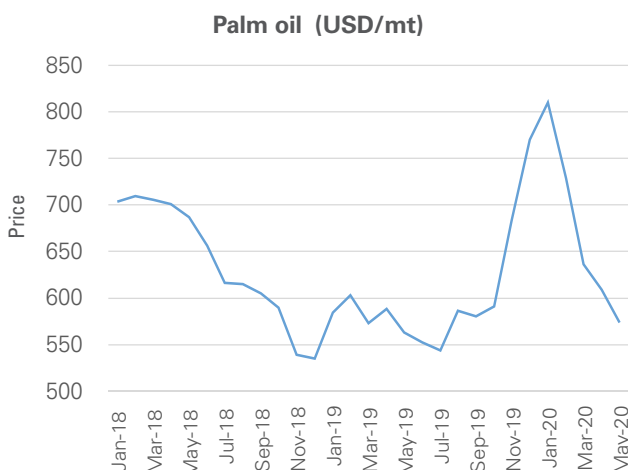


Source: World Bank Commodity Price Data (up to end-May 2020)



10.5.4 Palm oil prices in international markets

Figure 10.5: International price of palm oil



Source: World Bank Commodity Price Data (up to end-May 2020)

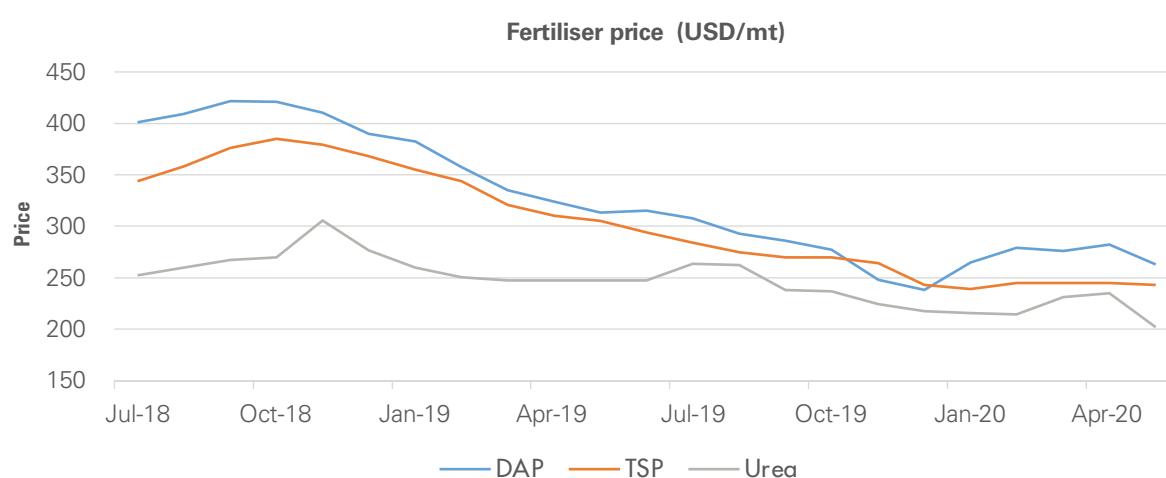


Prices for palm oil are low but likely to rise as economies open. During the July-September quarter, India is expected to import 2.15 million tonnes (mt) of palm oil, which is about a quarter of its annual imports. Likewise, China, Pakistan and the European Union are also likely to build stocks depleted by COVID-19-induced import restrictions. These will lead to palm oil trading at higher prices. Traditionally, crude palm oil production peaks during the August-October period, and if that trend continues this year, prices are likely to level out or reduce slightly. However, because of a COVID-19-induced fall in production in Malaysia (19.85 mt in 2019 vs 19 mt in 2020), this reduction in prices may not be very high. On the other hand, production in Indonesia is likely to remain stable (45 mt). Prices will possibly drop if the COVID-19 incidence accelerates in the importing countries, which will lead to lower demand. Palm oil also serves as an option for biodiesel feedstock, and fluctuations in global crude oil prices are reflected in the price of palm oil.

10.5.5 Fertilizer prices in international markets

Prices have plunged (Figure 10.6). Reliable production and stocks figures are not available now.

Figure 10.6: Fertilizer prices in international markets

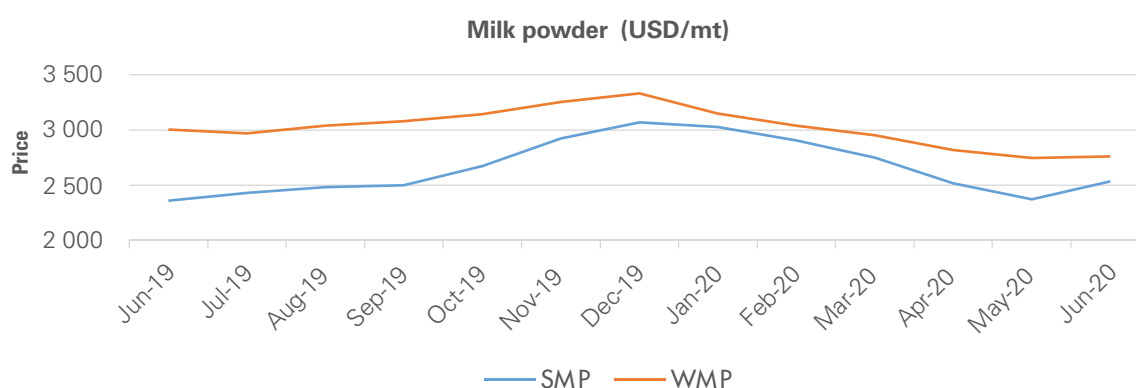


Source: World Bank Commodity Price Data (up to end-May 2020)

10.5.6 Milk powder prices in international markets

According to the Global Dairy Trade, there are ample stocks and the prices are stable. Skim Milk Powder (SMP) prices and Whole Milk Powder (WMP) prices are shown in Figure 10.7.

Figure 10.7: International price of milk powder



Source: Global Dairy Trade, June 2020





Chapter 11

Consumption patterns and nutritional changes

11.1 Introduction

Ensuring access to adequate nutrient-rich, healthy diets, and safe water is essential for protecting people's safety, health and well-being, and has emerged as a major policy issue since the onset of the COVID-19 pandemic. It also became clear that this unprecedented global threat had significant negative effects on households and individuals, including younger populations. The USAID-EU-funded "Meeting the Undernutrition Challenge (MUCH)" project of FAO Bangladesh was particularly concerned about the food and nutrition security impacts of COVID-19 in the context of youth and adolescents. The project has been working with young generations of Bangladeshis over the last three years by empowering them through The Nutrition Olympiad and The Nutrition Challenge Badge (NCB) for Bangladesh. These competitions enhanced their nutrition knowledge and engagement in food and nutrition security.

To better understand COVID-19 coping strategies of adolescents and youth, a rapid online survey gauged their nutrition awareness, practices and behaviour. The survey also measured the impact of COVID-19 on the food-security situation of adolescents and youth using the Food Insecurity Experience Scale (FIES), as developed by FAO and adapted globally for gauging progress on achieving the SDG (Sustainable Development Goals) Target 2.1 by 2030. Additionally, the dietary diversity among adolescents and youth was assessed by using the Minimum Dietary Diversity for Women (MDD-W) method as a proxy measure of diet quality. The survey was conducted in collaboration with the Bangladesh Institute of ICT in Development (BIID), Global Alliance for Improved Nutrition (GAIN), and Joint Action for Nutrition Outcome (JANO).

This module provides an assessment of the findings among adolescents and youth on the following issues:

- COVID-19 knowledge and coping methods in relation to nutrition awareness, practices and behaviour;
- food insecurity situation; and
- diet quality and micronutrient adequacy.

11.2 Findings: COVID-19 knowledge and coping methods

All the respondents except one female said they knew about COVID-19 and that it was an infection affecting health. More than half of the respondents reported that their knowledge about how to protect themselves from COVID-19 was high or very high. Female respondents rated their knowledge slightly higher than how males rated their knowledge.

The top three measures that children and youths had taken to prevent infection from COVID-19 were: (1) washing hands with soap for at least 20 seconds, followed by (2) wearing a face mask and (3) covering their mouth and nose when coughing or sneezing. Given that more than half of the respondents followed these practices, it can be assumed that preventative measures were effectively communicated to adolescents and youths.

More than half of the respondents (56 percent) were worried about the pandemic situation, and a slightly higher number of female respondents (59 percent) reported they were worried more often compared to male respondents (53 percent). The primary cause of their worry was their family's health and fear of contracting COVID-19 among both girls and boys. Other causes of concern among girls were a shortage of money, their own health and fear of contracting COVID-19. Boys were mainly worried about shortages of food and money.

The top three methods young people adopted to cope with worries were seeking more information and news on COVID-19, interacting with friends by telephone and online, and using social media more than before.

Figure 11.1: Change in earning status

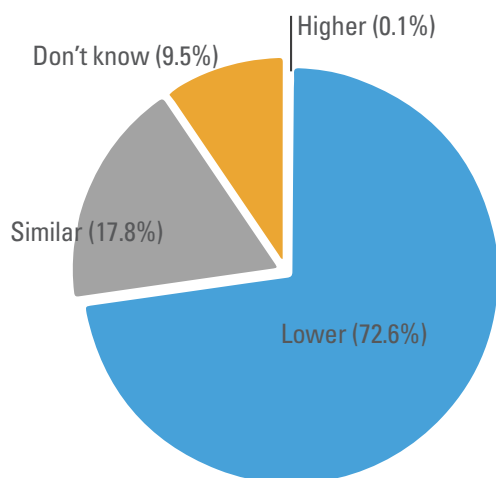


Figure 11.1 shows that 72.6 percent of the respondents claimed that their family income had decreased compared to the months before the COVID-19 crisis. The most affected families were those earning an annual income less than BDT 100 000 (33.5 percent), followed by an income between BDT 100 000 and BDT 200 000. District-wise, Dhaka had the most respondents reporting decreased income, followed by Chattogram and Rangpur. The economic shutdown sparked by COVID-19 has especially threatened urban populations, a majority of whom earn a livelihood to provide for the food and nutrition security of their families, education of their children, and sustaining their living. Asked if they did any indoor or outdoor exercise to stay healthy and fit while being at home, 65.2 percent of adolescents and youths reported that they exercised.

A slightly higher number of male respondents (70 percent) reported they exercised, compared to females (61 percent). About 30 percent did not do any exercise. The effects of adolescent and youth lifestyle behaviours, such as physical activity and sedentary behaviour, on fitness and health would have been amplified during the prolonged school closures and home confinement. In such situations, physical and mental health problems are likely to become significant concerns.

In terms of handwashing practices, almost all the adolescents and youths (95.3 percent) reported they were frequently washing their hands with soap, a good sign. Asked when they wash their hands, the top answers were: after using the toilet; before and after eating food; after blowing their nose, coughing or sneezing; and, after touching surfaces outside. The last two actions are highly linked to spreading or contracting COVID-19, so it could be concluded that the respondents' had adopted positive practices to increase health and safety. Washing and keeping hands clean through good hygiene is one of the most important steps to prevent infection by germs and viruses.

11.3 Food insecurity during COVID-19

The COVID-19 pandemic has increased hunger and malnutrition, with greater numbers of young people and their families facing food insecurity. FIES, a measure of access to food at the level of individuals or households, was used to assess the severity of food insecurity based on the responses from the adolescents and youths to questions about constraints on their family's ability to obtain adequate food.

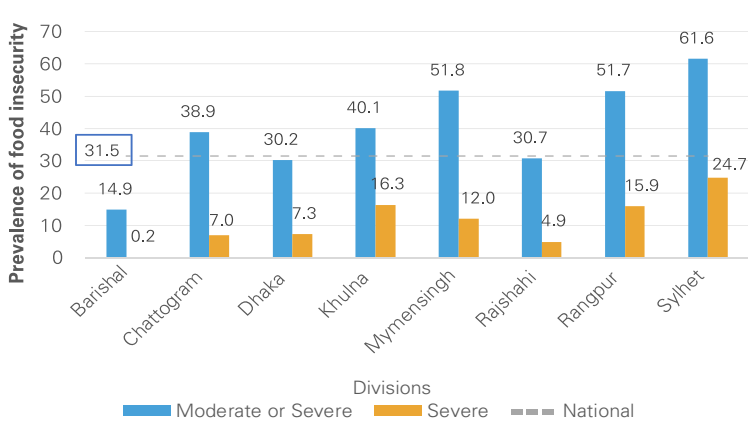
Over a third (36.4 percent) of the respondents reported moderate or severe food insecurity, which is higher than the national average (31.5 percent) before the COVID-19 pandemic. On the other hand, 9.1 percent of the respondents reported severe food insecurity, a decline of 1.5 percent from the pre-COVID-19 situation (10.6 percent). Moderate food-insecure adolescents and youths had insufficient money or resources to access a healthy diet, were uncertain about the ability to obtain food, had skipped meals or had occasionally run out of food. Severely food-insecure young populations most likely ran out of food or had gone without eating for an entire day, or both. Moreover, compared with changes in income status due to COVID-19, the highest prevalences of "moderate or severe" (42.9 percent) and "severe" (11.8 percent) food insecurity were found in those who reported decreased income. With more than a third of adolescents and youths being food insecure and deprived of nutritious diets, the implication is that there

Although the FIES results derived from adult populations cannot be simply compared with those from adolescents and youth, they provide benchmarks useful for understanding COVID-19 impacts on food security.

will be direct effects on pubertal growth, nutritional status and development. Poor diets impact the nutritional status of adolescents and youths and leave students susceptible to illness, resulting in reduced productivity, and poor academic and work performance.

Youths and adolescents who received nutrition education through platforms such as Nutrition Clubs (NC) and the Nutrition Challenge Badge (NCB) initiative had a lower prevalence of moderate or severe food insecurity (48.7 percent) than those who had no formal/informal education on nutrition (27.2 percent). The prevalence of severe food insecurity was five times higher (16.4 percent) among non-NC and NCB children compared to children who were a part of NC and NCB (3.5 percent). The findings point to the benefits of nutrition education and awareness sessions with an emphasis on popularizing consumption of low-cost, local, nutritious food along with promoting the concept of food-to-food enrichment for improving diets and nutrition. The adolescents and youths empowered with greater awareness and education on nutrition were probably better able to adopt appropriate food-related behaviours and experiences despite difficulties in accessing nutritious food during the lockdown.

Figure 11.2: Percentage prevalence of food insecurity by division



Almost twice the number of boys than girls reported higher moderate or severe food insecurity, the prevalence being 43.6 percent in boys and 28.8 percent in girls. Severe food insecurity was also reportedly higher among boys at 12.9 percent compared to girls at 5.2 percent.

The findings are interesting in that discriminatory social norms are a significant source of persisting gender inequalities, especially within the household where women and girls engage more in household work and often eat less than their male counterparts. However, the reasons for the differences seen in this survey could be manifold. Adolescent girls and female youths are likely to have been more engaged in household food distribution, preparation and management of the food provisions, kitchen and cooking activities at home. It is also probable that in the lockdown situation, females ate more of the frugal meals prepared using available ingredients than the males. It is also likely that the uptake and application of the NCB lessons on healthy diets and nutrition were higher among the female participants in the survey.

Across regions (Figure 11.2), Sylhet had the highest prevalence of moderate or severe food insecurity (61.6 percent) followed by Rangpur (52.7 percent) and Mymensingh (51.7 percent). The lowest prevalence of moderate or severe food insecurity was found in Barishal (14.9 percent). Although Barishal and its neighbouring districts are highly prone to climate hazards, Barishal is also a fertile region. Following a devastating cyclone in 2007 and vulnerability to flooding, farmers have been finding ways to fight back against climate change that impacts food security. Farmers are applying new farming practices and agricultural technologies that are more resilient to climate change and that are improving productivity and food security. Though the numbers of respondents from Barishal was low, it is likely that agricultural developments have contributed to resilience and are addressing food insecurity. A household survey conducted jointly by the FAO MUCH project and Dhaka University's Institute of Nutrition and Food Science in 2017-2018 resulted in similar trends regarding the prevalence of food insecurity across the eight divisions.

Table 11.1: Contribution of food groups to micronutrient intake

Nutrients	Food groups
Vitamin A	Leafy vegetables, yellow orange vegetables and fruits, fish, egg, dairy
Vitamin C	Fresh vegetables citrus and sour fruits, guava, tomatoes
Calcium	Milk, bony fish, oilseeds, millets
Iron	Meat, fish, egg, leafy vegetables, whole grains, legumes
Zinc	Meat, shellfish, legumes, seeds, nuts, dairy, eggs and whole grains
Folate	Leafy vegetables
Thiamin	Whole grain cereals, meat (beef), fish, eggs, nuts, seeds and legumes
Riboflavin	Fish, meat and poultry (organ meats), eggs and dairy products
Niacin	Meat, poultry, cereals, legumes, and seeds
Vitamin B-6	Meat, fish, wholegrain cereals, nuts and seeds, legumes, vegetables
Vitamin B-12	Fish, meat, poultry, eggs, milk, and milk products

Similarly, the prevalence of severe food insecurity was highest in Sylhet (24.7 percent) followed by Rangpur (17.3 percent) and Khulna (16.3 percent). The findings indicate that Sylhet and Rangpur are the worst-affected divisions. Incidentally, this matches the findings of the IPC results, which also reveal that both Sylhet and Rangpur are the most food-insecure areas. Typically, Sylhet has many haor zones, which are cyclone and flood-prone wetland areas, while Rangpur is in the northern region of old riverbeds, which experiences frequent flooding. Also, the coastal belt, eastern hills, haor region, padma chars, northern chars, and the northwest region reportedly have the highest proportion of food-insecure households across all three seasons in Bangladesh. Households surveyed within the divisions have the highest risk of food insecurity as they mainly depend on low-value and unsustainable income sources, such as unskilled daily labour, marginal farming or traditional/subsistence fishing. These areas are often affected by a high recurrence of shocks, e.g. cyclones, flash and monsoon floods, riverbank erosion and dry spells. These households are likely to possess

the lowest level of human, physical and financial capital. The households also have a high dependency ratio, low education levels, poor housing conditions and poor access to basic services, such as access to improved sources of water, sanitation and electricity. Major factors limiting the food security of individuals and households are poor utilization of food and poor access to food. The findings appear, in part, to corroborate the Assessment of Needs Assessment Working Group (NAWG), which found most people in home quarantine are in Dhaka, Chattogram, Khulna, Sylhet and Mymensingh Division. The women-headed households in those areas were potentially more vulnerable to the socio-economic impacts of COVID-19 amid the deepening of the crisis and prolonged lockdown situation.

11.4 COVID-19 impact on diet and nutrition

The current COVID-19 situation has affected the consumption of a diversified diet, impacting nutrient adequacy. Due to the lockdown, many small- and medium-level food chains for poultry, dairy and meat have either collapsed or are facing constraints in sales through markets. The lockdown has had marked implications for accessing protein and micronutrient-rich foods, such as animal-source foods and fresh vegetables and fruits.

Dietary diversity is an essential aspect of diet quality and reflects the nutrient adequacy of the diet, given its measure of the intake of various food groups. MDD-W (minimum dietary diversity for women) is a proxy indicator that reflects one of the important dimensions of diet quality: micronutrient adequacy in the diet. For MDD (minimum dietary diversity), recommendations are to consume at least five or more foods from the ten food groups daily: cereals, pulses/legumes, milk/milk products, eggs, meat/fish, nuts/seeds, vitamin A-rich leafy vegetables, vitamin A-rich fruits and vegetables, other vegetables and other fruits. Those who consume five or more food groups have

The ratio of population in the age group 0-14 and 60 years and over to the population in the working age 15-59 Source: HIES 2016

a greater likelihood of meeting the requirement for 11 micronutrients, such as vitamin A, thiamin, riboflavin, niacin, vitamin B-6, folate, vitamin B-12, vitamin C, calcium, iron, and zinc compared to those consuming foods from fewer food groups.

Patterns of food group intake in the survey showed that the percentage contributions of meat, milk and milk products, vegetables, and food-group intake to key micronutrient intake exceeded percent contributions to energy intake. Table 11.1 is a list of micronutrients and corresponding foods or food groups that contribute to an understanding of the foods/food group and nutrient-intake pattern among adolescents and youths.

Figure 11.3 gives the food-consumption patterns of male and female adolescents and youths during the COVID-19 pandemic. Males and females had nearly similar consumption patterns. A higher proportion consumed cereals, followed by vegetables and pulses in their daily diet. However, the percentage of females consuming cereals was significantly higher than males (79 percent and 53 percent). Nearly half of the females consumed both leafy and other vegetables, while a third of males consumed these vegetables. The consumption of vitamin A-rich fruits and vegetables was low among both male and females. One-third of females and one-fourth of males consumed other fruits. The consumption of animal-source foods, such as meat and fish, dairy products and eggs, also remained low – nearly one in four females and less than one in five males consumed meat or fish daily. A similar proportion of females (37 percent) consumed milk and eggs, while a lower percentage of males consumed these foods. The least commonly consumed foods were nuts/seeds, which were eaten by every fifth respondent. Peanuts, which are a rich source of energy, protein and some antioxidants, is an affordable food and are commonly eaten as a snack sold at street corners and small shops. In all likelihood, these were foods that were not sold during the lockdown as street vendors were not available.

Figure 11.3: Percentage of male and female adolescents and youths consuming from different food groups

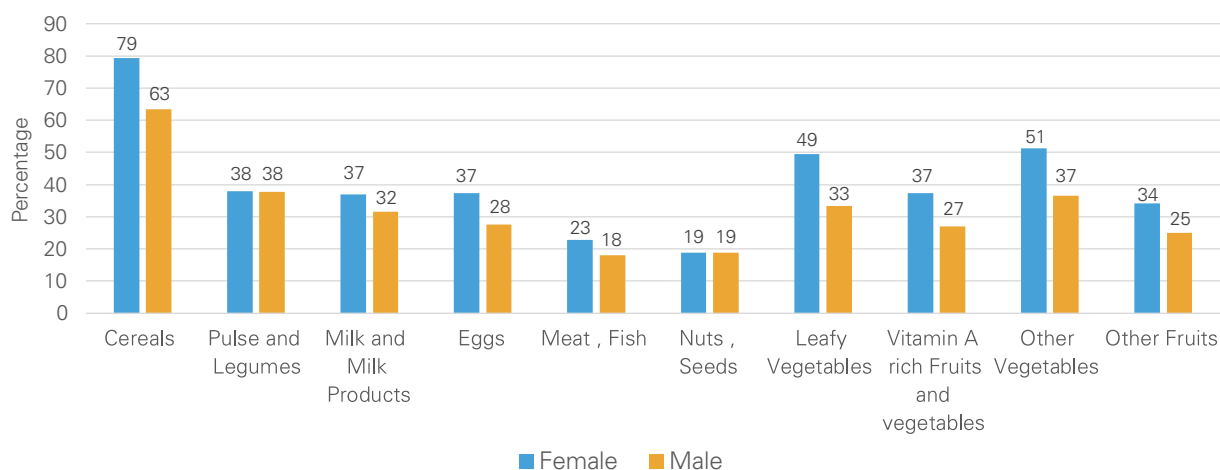
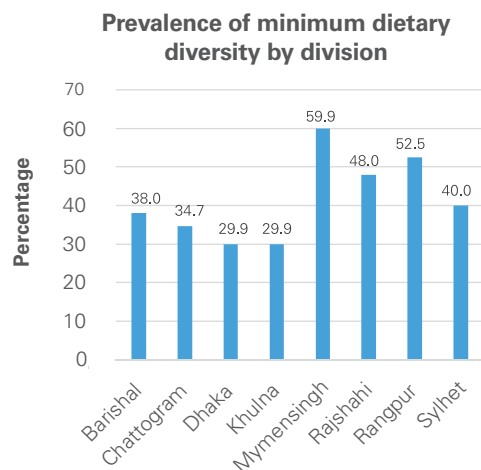


Figure 11.3 shows that male students had diets that were less diversified than female students. Seventy-five percent of females had a minimum dietary diversity (MDD \geq 5 food groups) and were either from the NCB or NC group, while 62 percent of males who had an MDD were from the NCB or NC group. The percentage of females was significantly higher than males (42 percent and 34 percent) among the NCB participants who had an MDD. These findings imply that the NCB initiative undertaken by MUCH to raise awareness, educate, and motivate young people to change their dietary behaviour might have had a positive impact on improving their dietary diversity. Moreover, NC members have been participating in nutrition awareness activities like the Nutrition Olympiad that have been advocating for a diversity of diets through innovative ways. They are likely to have been influenced by nutrition knowledge for behaviour change, made healthier food choices and had diversified food consumption.

MDD-W is measured by a simple count of food groups consumed over a limited period (usually the last 24 days). Out of 675 adolescents and youths aged 10-24 years, less than one-third had minimum dietary diversity (Figure 11.4). Among them, 26.7 percent of males had MDD, while 37 percent of females had MDD. Similarly, among the youths aged 15-24 years, more than one-fourth of the males (26.6 percent) and nearly one-third of the females, respectively, had MDD.

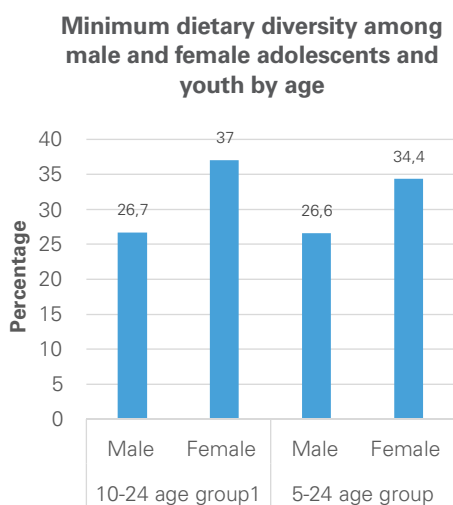
Figure 11.4: Prevalence of minimum dietary diversity



Across regions (Figure 11.4), Mymensingh had the highest prevalence of adolescents and youths (52.5 percent) with MDD, followed by Rangpur (52.5 percent) and Rajshahi (48.0 percent). The lowest prevalences of MDD among youths and adolescents were in Khulna and Dhaka (29.9 percent each), followed by Chattogram (34.7 percent). These findings indicate that Dhaka and Chattogram were the worst-affected COVID-19 areas. The lockdown's restrictions on movement reduced access to food markets and stores to purchase a range of food needed for healthy diets. Recent natural disasters, such as Cyclone Amphan, also severely affected the food security situation and is likely to have negatively impacted access to and consumption of diversified food among the Khulna respondents.

Adolescents and youths, especially adolescent girls, have high nutrient demands due to their physiological changes and pubertal growth. The findings (Figure 11.5) imply that nearly two-thirds of the female adolescents and more of the male adolescents had low minimum dietary diversity. The results indicate their nutrient inadequacy, especially inadequate intake of essential micronutrients, which increased their risk of micronutrient deficiencies and poor growth. Moreover, inadequate intake of nutrient-dense animal-source foods and vitamin A and C rich fruits and vegetables would cause both protein and micronutrient deficiencies. These deficiencies can lead to specific immune impairments and increased vulnerability to infections. It is essential to ensure minimum dietary diversity among adolescents and youths, and prevent the risk of malnutrition in the wake of the COVID-19 situation.

Figure 11.5: Minimum dietary diversity among male and female adolescents and youths by age



11.5 Conclusions: Consumption patterns and nutritional changes

There is a need to strike a balance between keeping people safe and getting the economy back on track by easing lockdown measures while protecting access by people and especially youth to safe and diversified food for nutrition and health. The degree of household food insecurity is one of the strongest predictors for child hunger among food-insecure households. At the same time, dietary diversity is a measure of nutrient/micronutrient adequacy that reflects diet quality.

The findings contribute to an understanding of the socio-economic characteristics related to the food insecurity of adolescents and youths, and the nutrient adequacy of their diets.

Recommendations:

- Consult with women and adolescents from affected communities and other vulnerable groups for planning and implementation of COVID-19 nutrition response measures.
- Disseminate widely COVID-19-related prevention and response messages to protect women, adolescent boys and girls, youth and other vulnerable groups. The messages should be age-appropriate and help dispel food myths. They should undo harmful gender stereotypes and superstitions that negatively impact the health of adolescents, youth and other vulnerable groups.
- Engage youth leaders, diverse nutrition club networks, boy scout and girl guide organizations in decision-making processes for COVID-19 responses.
- Mobilize adolescents and youth in undertaking a series of nutrition-relevant actions through digital media to share and disseminate scientific knowledge for promoting healthy diets and preventing the risks of COVID-19.





Chapter 12:

Short-term and long-term recommendations

The final section of this document aims to provide targeted recommendations for stakeholders and actors supporting the Government of Bangladesh in addressing the impacts of the COVID-19 crisis in the short- and long-term. As the situation evolves, the following recommendations may be further reviewed and elaborated on according to the changing context.

The priority recommendations are also in line with the findings of work being carried out by the GOB and supported by UN agencies and development partners to ensure that investments are prioritized according to the best information and needs analyses from across the country.

Short-term recommendations (immediate through end-2020):

1. Ensure that COVID-19 safeguards are installed across supply chains to protect workers and food supplies: Immediately introduce sanitary and hygienic measures from production sites through government extension. Follow with COVID-19-safe regulation of processing and distribution actions to include modern lab facilities for compliance testing.
2. Expand the Government stimulus package to support food commodity producers and MSMEs: To minimize the ongoing loss of activity in the food sector, and closure of small businesses, quickly roll out a targeted and expanded programme of affordable loans. Include seasonal access to social safety net programmes for producers in the off-season.
3. Support national-level coordination and information sharing: Develop systems of messaging and information sharing directly from the GOB regarding the joint response to the COVID-19 crisis, including a publicly accessible dashboard adopting a big-data-based approach for informed decision making.
4. Promote access to GOB support programmes for producers: Key food commodity producers are not accessing GOB support programmes. Create outreach efforts to ensure that targeted producers and SMEs can access GOB programmes, along with associated programme performance monitoring systems.
5. Establish efficient producer-to-market linkages: Establish more direct linkages between markets and producers to safeguard small producers during times of crisis, while further promoting the associated benefit of piloting alternative marketing and online sales.
6. Scale-up seasonal labour migration programmes: Building upon the successful management of seasonal labour for the boro season rice harvest this year, further elaborate and regularize GOB seasonal labour support to overcome the volatility of labour supply.
7. Establish a network of COVID-19 safe markets and agro-processing centres: Strengthening linkages between the producers and wet-markets is necessary to ensure undisrupted food supply for the poor, particularly those in urban areas associated with GOB social protection programmes. This effort needs to include ongoing research into improved market safety.

8. Expand Community Support Team (CST) outreach to the urban poor: Scale-up Open Market Sales and Trading Corporation of Bangladesh services in more areas and districts, including perishable items to prevent nutritional deficiencies of the urban poor. This support will ensure households affected by COVID-19 may continue to safely quarantine.

9. Food and nutrition messaging: Develop public information campaigns to promote the nutritional importance of eating eggs and chicken for overall health and immunity, and to diminish the belief that poultry can transmit COVID-19.

Medium and longer-term recommendations (2021):

10. Financial inclusion of the poorest: Banking access of the poor will aid in participation in social protection programmes and receipt of remittances, crucial to the livelihoods of rural poor, who are often dependent on agricultural-sector incomes.

11. Alternative marketing and food distribution pilots: Promote private sector growth in online platforms for food vendors as online shopping is relatively safer and popular and has the potential to increase employment opportunities for low- and semi-skilled workers.

12. Shorten domestic supply chains: Safeguard the ability to access transportation, movement of merchandise, and connections between supply chain actors. Encourage companies to gradually manage their internal transportation systems so that processed and frozen food can be moved at affordable cost and with quality assurance.

13. Invest in cold-storage chains: Ensure safe food movement through the establishment of modern processing and cold-storage facilities. Access to such facilities has great potential to increase the shelf-life, value and export capacity of Bangladeshi commodities.

14. Promote mechanization and technology: Promote the use of technology to reduce post-harvest losses, in addition to mechanizing planting (seeding) and harvesting operations, given the labour market constraints. Improved post-harvest technologies are available but not widely disseminated.

15. Diversify international supply chains: Policy measures to ensure adequate supplies of key imported inputs for agricultural production, such as fertilizers and agro-chemicals, are required. Diversification of supply chains and promoting import substitution can be vital measures to achieve that result.





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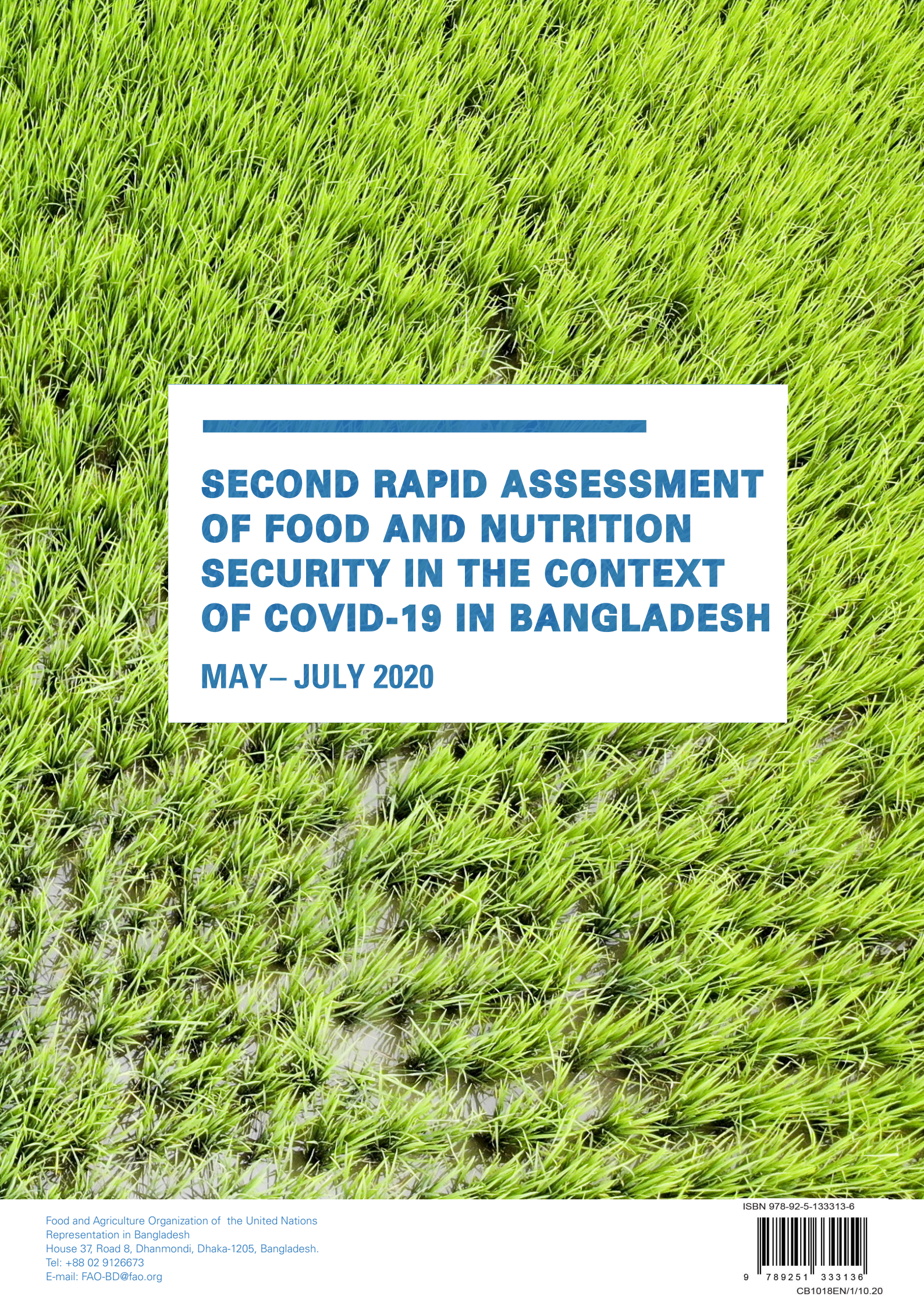
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SECOND RAPID ASSESSMENT OF FOOD AND NUTRITION SECURITY IN THE CONTEXT OF COVID-19 IN BANGLADESH

MAY – JULY 2020

