

**ERIA Discussion Paper Series**

No. 527

**Post-Pandemic Strategies for Promoting  
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July 2024

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**Abstract:** *Agriculture and cottage, micro, small, and medium-sized enterprises (CMSMEs) – the two critically important sectors for pro-poor and inclusive growth in Bangladesh – were severely affected by the coronavirus disease (COVID-19) pandemic and the subsequent lockdowns. Supply chains were interrupted, jobs were lost, and businesses were closed. This study identifies the major challenges faced by these two sectors and develops intervention strategies to promote them in the post-pandemic period. This is done through an extensive review of relevant literature, discussions with sector experts, and a survey. Based on the research findings, we recommend some policy interventions, such as greater digitisation and the development of uninterrupted cold-chain infrastructure across the country. We also recommend more supportive policies to scale up start-ups that offer solutions to at least one of the major challenges faced by these two sectors.*

**Keywords:** Agriculture, SMEs, start-ups, Bangladesh, COVID-19

**JEL classification:** Q10, L10, M13, R11, I1

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## 1. Introduction

Bangladesh, a lower middle-income country in South Asia, has been experiencing steady real gross domestic product (GDP) growth of 6.5% and above since the mid-2000s, except for the global pandemic year (2020) when it dropped to 3.4% before bouncing back to 7.1% in 2022 (World Bank, 2023). This remarkable post-pandemic recovery is attributed to the rapid containment of the coronavirus disease (COVID-19) pandemic by fully vaccinating two-thirds of the population by 2021, the pent-up domestic and foreign demand, and supportive government policies. All major sectors of the economy have experienced expansion since the 1990s, contributing to the consistently high rates of economic growth. Nevertheless, sectoral growth rates varied, reflecting a structural transformation as industry and services' contribution to GDP increased continuously while that of agriculture declined.

Despite the structural transformation and lower contribution to GDP, agriculture and cottage, micro, small, and medium-sized enterprises (CMSMEs) remain two critically important sectors – for their macroeconomic significance (massive employment generation, increasing domestic demand, and potential for foreign exchange earnings) and most importantly for their contribution to pro-poor and inclusive growth. Most of the population is employed directly or indirectly in these two sectors, a substantial portion of which is from the lower income quintiles. Evidence suggests that other things remaining the same, a 1% increase in the income of agriculture GDP per worker reduces poverty by 0.39% while a 1% increase in the income of non-agriculture GDP per worker reduces poverty by only 0.11% (Hossain, Bayes, and Islam, 2018). Moreover, the population engaged in the agriculture sector spends most of their income on domestically produced goods and services, raising domestic and aggregate demand. Importantly, both sectors employ female workers widely – around 60% of the employed women in Bangladesh are engaged in agriculture (General Economics Division, 2020). Both these sectors are therefore important drivers of pro-poor and inclusive growth for Bangladesh's economy. Although the two sectors' contribution to export earnings is currently low, it has huge potential to stimulate the much-needed diversification in the country's export basket.<sup>1</sup>

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<sup>1</sup> Ready-made garments (RMG) have been Bangladesh's major export item for decades – in 2022, 83.6% of total merchandised exports were from this sector (World Bank, 2023). Graduation from least developed country status in 2026 could affect exports availing of preferential access to Europe and thus RMG exports.

Notwithstanding their contributions, the sectors lack competitiveness due to lower productivity and other inherent challenges and barriers that inhibit further growth and development. Additionally, the COVID-19 pandemic and subsequent lockdowns had a heavy toll on these two sectors, exacerbating the inherent challenges. Although the sectors rapidly recovered from the losses caused by the pandemic, the crisis acted as a stress test for both sectors by highlighting shortcomings and weaknesses. These should be useful guidelines for the government and policymakers to develop targeted and specific mitigation strategies and policy interventions to address these challenges. Raising the competitiveness of the sectors through rapid productivity growth in addition to addressing the inherent challenges is vital for attaining sustainable economic growth and reaching upper middle-income country status by 2031 as targeted.

Under the current market structure, intermediaries play a critical role in the two sectors, particularly by providing market linkages and access to credit for small farmers and businesses. Farmers' negotiating capabilities with these intermediaries is often compromised because of lack of resources, information/technological know-how, and collective bargaining, as well as the perishable nature of the produce, resulting in lower profit margins and market distortion. Moreover, farmers' lack of direct access to markets makes them unaware of market trends, and they do not have the capacity to react proactively to threats or opportunities. The gap between farmers and final consumers – the supply chain from farm to fork – is not easy to overcome, especially for perishable products. This puts poor farmers in a vulnerable situation.

The objective of this research is to examine the old and new challenges and barriers faced by these two sectors and their post-pandemic recovery, and to design suitable policies to promote them. The research methodology used is a qualitative research approach, which includes a review of the literature, a survey of start-ups and CMSMEs, and key informant interviews (KIIs). Our survey identified several inherent challenges that continue to restrain the growth performance of these two sectors. Moreover, as in other sectors, the COVID-19 pandemic had a heavy toll on these two sectors – supply chains were interrupted, jobs were lost, and businesses closed. Nevertheless, pent-up demand following the pandemic-induced economic downturn, in addition to supportive stimulus packages and increasing use of e-commerce, helped the sectors bounce back to their pre-pandemic level relatively quickly. Based on the survey findings, this study has developed mitigation strategies to address some of the barriers and challenges in the two sectors. The main recommendations are greater digitisation for both sectors, which is expected to reduce price distortions by reducing

information asymmetry between buyers and sellers, and providing access to finance and supply chain efficiency by reducing the dependency on intermediaries. For the agriculture sector and CMSMEs that produce perishable goods, the development of uninterrupted cold chain infrastructure across the country is recommended. This is expected to give small producers greater control of their products, maintain product quality during transit, and increase the potential for export diversification. According to the study survey, most of the sample start-ups are involved in offering solutions to at least one of the major challenges faced by Bangladesh's agriculture and CMSME sectors (albeit on a relatively small scale) – supply chain issues, lack of access to financial services, the absence of cold chain infrastructure, or lack of know-how amongst farmers or CMSME owners. Scaling up support for start-ups will contribute to the growth and modernisation of the two sectors.

The study is organised as follows. Section 2 describes the research methodology and provides a brief description of the survey participants. Section 3 discusses the state of the agriculture and CMSME sectors in Bangladesh and the effects of the COVID-19 pandemic and the enforced lockdowns on these sectors. Section 4 details the survey findings. Section 5 identifies the major barriers to the growth of these sectors and presents the study's recommendations on how to promote the sectors. Section 6 concludes.

## **2. Research Methodology**

To understand how to promote the agriculture and CMSME sectors of Bangladesh, the study uses a qualitative research approach. The investigative nature of this study, which aims to understand the views and perceptions of stakeholders in the two sectors, made the qualitative approach a suitable research methodology. In addition to KIIs and a survey on start-ups, an extensive review of the existing literature is performed. The literature review includes journal articles, government and other national and international organisation reports, and newspaper articles. Interviews were conducted in person, over the phone, or via web apps (Zoom, Google Meet, etc.), depending on the preference of the interviewee. During the survey and KIIs, the aim was to follow a semi-structured open format that allowed the respondent to freely discuss their opinions on the sectors.

The survey covered 45 agriculture-based start-ups and agriculture and non-agriculture-based small and medium-sized enterprises (SMEs). The sample selection includes enterprises of different sizes (from 10 to more than 400 employees) engaged in different industries such as transportation, leather, food, healthcare, textiles, and light engineering. This has allowed us

to capture a wide variety of opinions and perceptions, identify the different nature of challenges in the enterprises, and devise recommendations to address them. Out of the 45 surveyed enterprises, 14 were start-ups with a focus on agriculture, 11 were CMSMEs with a focus on agriculture, and 20 were CMSMEs with a non-agriculture focus. Out of these 45 enterprises, 13.33% of enterprises have less than 10 workers, 66.67% have 10–50 workers, 6.67% have 50–100 workers, and 13.33% have more than 100 workers. Some 25 out of the 45 enterprises are focused on agriculture. The remaining 20 enterprises are from the following sectors: leather (20%), food (25%), healthcare (5%), textiles (20%), pottery/artisan crafts (5%), light engineering (15%), and others (10%). In addition, six KIIs were conducted with professionals, academicians, and policymakers from the agriculture and CMSME sectors of Bangladesh.

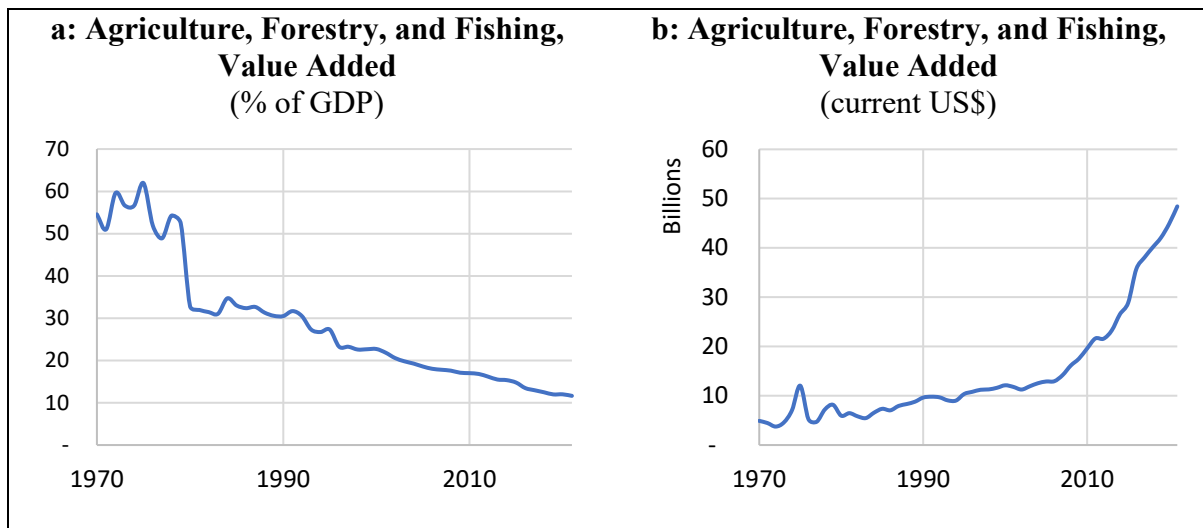
### **3. Agriculture and CMSME Sectors**

This section describes the contribution of the agriculture and CMSME sectors to the overall economy of Bangladesh and traces how the COVID-19 pandemic affected these sectors.

#### **3.1. Status of the Agriculture Sector**

Bangladesh, a predominantly agricultural nation, relies greatly on its agriculture sector for food security, employment, poverty reduction, and economic development. In the mid-2010s, about 87% of rural households were dependent on this sector to earn at least part of their livelihoods (World Bank, 2016). Recent estimates from the Bangladesh Bureau of Statistics indicate that agriculture's share of employment increased from 40.6% in 2017 to 45.33% in 2022 (Bangladesh Bureau of Statistics, 2023). The relative contribution of the sector to the economy has fallen in recent decades but continues to grow in absolute terms (Figure 1). Figure 1a shows the declining contribution of agriculture to the economy of Bangladesh, as a percentage, from over 60% in the early 1970s to just above 10% in recent years. However, Figure 1b shows that in absolute terms, agriculture has continued to grow, from around US\$5 billion in 1970 to almost US\$50 billion by 2021.

**Figure 1: Contribution of Agriculture to Bangladesh's Economy**



GDP = gross domestic product.

Source: World Development Indicators (World Bank, 2022).

A significant number of marginalised and landless poor farmers living in rural areas are dependent on agriculture as a source of employment and income, indicating the sectors' potential impact on poverty reduction. A recent World Bank report suggested that the extreme poverty rate (US\$2.15 in 2017 purchasing power parity) decreased from 11.07% in 2021 to 10.44% in 2022 (World Bank, 2023), and around 90% of the poverty reduction occurred in rural areas (World Bank, 2019). The sector also contributes to the manufacturing and service sectors through forward linkages, e.g. by supplying the manufacturing sector with raw materials, such as cotton, leather, processed food inputs, etc.

Another important contribution of this sector is that it employs most of the female workers in Bangladesh. The female labour force participation rate in agriculture is highest in homestead farming, especially in caring for and rearing small animals. Provisional findings of the Labor Force Survey 2022 suggest that female employment in rural areas increased from 14.1 million in 2017 to 21.0 million in 2022 (while falling from 4.6 million to 4.0 million in urban areas over the same period) (Bangladesh Bureau of Statistics, 2023). Therefore, supporting income growth in rural areas is important for reducing poverty and attaining inclusive and sustainable growth in the future, and the performance of the agriculture sector plays a significant role in this effort.

The primary aim of agricultural policies in Bangladesh after independence was food security and achieving self-sufficiency in this regard (Rahman, Klees, and Sal-sabil, 2016). The aim was achieved in the late 1990s regarding cereal grain. Since then, food grain

production has increased manyfold (Sircar, 2018). In addition, there has been growth in the production of products such as shrimp, potatoes, pulses, fish, livestock, and leather. The National Agricultural Policy (updated in 2013) and the New Agricultural Extension Policy (introduced in 1996 and updated in 2012 as the National Agricultural Extension Policy) are the two policies in effect. Additionally, the 8th Five Year Plan of Bangladesh, July 2020–June 2025 (General Economics Division, 2020) maps out the near-term goals and targets of the Ministry of Agriculture. The policy reforms since the 1980s have mostly focused on achieving self-sufficiency in rice production through input subsidies and public procurement of rice. According to the World Food and Agriculture Statistical Yearbook 2023, Bangladesh is the third highest rice-producing country (FAO, 2023). This success, however, is now impeding product diversification via a strong bias towards rice (World Bank, 2020). It is important to differentiate between self-sufficiency in rice production and self-sufficiency in food. Bangladesh has achieved rice self-sufficiency, but still lacks food self-sufficiency in production, as it needs to import various food items (e.g. wheat, food grains, edible oil, milk powder, sugar, lentils, and maize).<sup>2</sup> Start-ups are currently playing a small but important and promising role in Bangladesh’s agriculture sector by making small farmers and farms more resilient and productive and encouraging diversification in their products. They are doing so by helping to resolve supply chain issues; disseminating relevant information, know-how, and training; and removing layers of intermediaries between farmers and final consumers.

The next section elaborates on the three subsectors of the agriculture sector: crops, livestock, and fisheries.

### **3.1.1. Crops**

Despite rapid population growth and frequent natural disasters, including the COVID-19 pandemic, Bangladesh has seen a notable increase in domestic food production in recent years. For example, food grain production tripled from 9.8 to 34.4 million tons between 1972 and 2014 and reached 44.4 million tons by 2020 (World Bank, 2016; Ministry of Finance, 2022). The main crop outputs consist of three food crops: rice, wheat, and potato; and one cash crop,

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<sup>2</sup> For FY2022, around US\$8 billion was spent on the import of food items, up from around US\$6 billion the previous year. The sector’s export basket includes limited items – tea, vegetables, tobacco, flowers, fruits, spices, processed food, and dry foods. In 2002, export earnings were relatively low, at US\$1.16 billion (Export Promotion Bureau, 2022).

jute (Islam and Khan, 2021).<sup>3</sup> Rice has been the main crop of Bangladesh from the beginning – culturally, economically, and nutritionally. In fact, according to one of the KII opinions, up to 30% of Bangladesh’s protein intake comes from rice and over 80% of cultivable land is dedicated to rice farming. Policy shifts towards the privatisation of tube wells and subsidisation of chemical fertilisers, along with the introduction of surface irrigation, were amongst the many causes of this high yield (Asaduzzaman, 2021).

Although food grain production reported an increasing trend in general, the per capita availability of food grains (rice and wheat) has plateaued from its level in 2010–2011 (Table 1). Importantly, the per capita availability of proteins, vegetables, fruits, and seeds reported a substantial increase, most likely due to increased demand. A shift in consumption patterns is observed towards more valuable and healthier agricultural products because of rising urbanisation and earnings (Dizon et al., 2019).<sup>4</sup> As a response to emerging new market opportunities in the domestic market, diversification is slowly taking place towards crops with higher profit margins for farmers, such as vegetables and maize (Gautam and Faruquee, 2016).

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<sup>3</sup> Boro, the highest produced paddy in Bangladesh, known as the summer rice, is harvested during April–May. Using 27% of the cultivable land, Boro has been consistently giving high yields due to favorable weather and supportive policies. Kishoreganj, Tangail, Jessore, Mymensingh, Netrokona, Bogura, Naogaon, Dinajpur, Rangpur, and Sunamganj are the prominent districts in Boro cultivation and brought in about 38% of the total Boro production of 2017–18. Aman, which is the second-highest produced paddy in Bangladesh, occupies almost 34% of the total cultivable land in Bangladesh. Aman is a type of winter rice and is harvested during mid-November–December. The districts of Bhola, Chattogram, Patuakhali, Mymensingh, Bogra, Naogaon, Dinajpur, and Rangpur are the frontrunners in Aman production and together produced more than 25% of the total Aman output in 2017–18. Aus, known as an autumn rice or pre-kharif rice, is harvested during mid-July–August. Lower productivity causes reluctance amongst farmers to cultivate this breed. Bhola, Barguna, Cumilla, Naogaon, Chapai Nawabganj, Rajshahi, Hobigonj, Moulvibazar, and Sylhet contributed to more than 50% of the Aus production in 2017–18.

<sup>4</sup> In addition, it is also possible that the data – not entirely reliable (discussed in detail in later sections) – may understate the production of non-food grain agricultural products, implying a better situation.



**Table 1: Per Capita Availability of Food Items**  
(gm/capita/day)

Item	2004–05	2010–11	2017–18
Food grains	495	638	634
Potato	108	153	168
Pulses	10	13	7
Oilseeds	10	15	16
Vegetables	35	57	70
Fruits	68	65	78
Fish	41	53	74
Meat	21	35	125
Milk	42	55	162

gm = gram.

Source: 8th Five Year Plan (General Economics Division, 2020).

Weather uncertainty is one of the key challenges in crop production across countries. In Bangladesh, large-scale flooding in 1999, 2004, and 2005 significantly reduced the output of all crops. Nevertheless, the crop subsector has gradually recovered and even diversified towards non-paddy crops since 2000 through crop substitution and intensification. The substitution of fibre, pulse, and oil crops resulted in a significant shift towards horticulture. The shortage of cultivable land is another challenge, although the total cropped area expanded by 29% and areas under fruit, flowers, fibre, spices, and pulses increased by more than 60% between 2008 and 2018 (World Bank, 2020). Moreover, the areas under maize, fodder, and wheat have grown faster than the overall total cropped area. The proportion of land for farming these high-value crops, however, is still small (World Bank, 2020).

### **3.1.2. Livestock**

Bangladesh's livestock subsector includes ruminant animals (cattle, buffalo, sheep, goats, etc.) and poultry (chickens and ducks). According to the Department of Livestock Services, there has been a substantial increase in the output of livestock over recent years. The most prevalent animals in this sector are cattle, buffalo, sheep, goats, chickens, and ducks. Self-sufficiency is achieved in major outputs of this sector: milk, meat, and eggs (Department of Livestock Services, 2022). Cattle produce 98% of the total liquid milk and 39% of the total meat of the country. In terms of absolute numbers, goats are the most numerous ruminant animals in Bangladesh (26.43 million), followed closely by cattle (24.93 million), sheep (3.61

million), and buffalo (1.49 million) (Department of Livestock Services, 2021). According to the 8th Five Year Plan, cattle density in Bangladesh is one of the highest (282 large ruminants per square kilometre), but most of the cattle are genetically poor (General Economics Division, 2020). The average weight of local cattle is 25%–35% below the average weight in India, for example. Similarly, the production of milk from animals in Bangladesh is low (>250 litres per year) compared with other countries in the region such as Pakistan (more than three times Bangladesh's level) and India (twice the level of Bangladesh). The major export items of this sector are leather and leather products, whereas the major import items are live animals, animal products, rawhide, and skin. The sector's contribution to agricultural GDP in 2021–22 was 16.52% (Ministry of Finance, 2022). However, most of the Bangladeshi workforce is directly (20%) or indirectly (50%) employed in this sector (Department of Livestock Services, 2021). A significant number of poor landless farmers, particularly female and child workers, are involved in this sector, indicating the importance of this sector in poverty reduction efforts. The government has taken a multifaceted approach to livestock development, which includes the expansion of artificial insemination activities, the production and distribution of vaccines for disease prevention, and the provision of medical services and diagnosis for livestock and poultry (Ministry of Finance, 2022).

Bangladesh achieved self-sufficiency in the production of both meat and milk, while making significant progress in the production of eggs, almost reaching self-sufficiency during the period 2015–2020 (General Economics Division, 2020).

### **3.1.3. Fisheries**

The fisheries subsector contributed 21.83% to the agriculture sector in 2021–22 (Ministry of Finance, 2022). More than 16.47 million people are directly and indirectly involved in this sector (General Economics Division, 2020). Hilsa is the most important fish for the economy, contributing around 12% of the country's total fish production and more than 1% of the country's economy (General Economics Division, 2020). The fisheries subsector has been one of the most promising export-earning sectors since the country started following a trade liberalisation policy in the mid-1980s. Bangladesh has now become a leading fish-producing country thanks to private sector-led diversification (World Bank, 2020). In 2022, with a sixfold increase in fish production, self-sufficiency has been achieved. Bangladesh currently exports fish and fisheries items to more than 50 countries, including the European Union, United States, Japan, Russia, China, Viet Nam, Australia, the United Arab Emirates, India, and Malaysia. The exportable fish include hilsa, shrimps, tilapia, and pangas. Water pollution,

changes in water salinity due to climate change, the extinction of species due to climate change and overfishing, the disappearance of wetlands and water bodies, and natural disasters, are some of the production and export challenges faced by this subsector (Billah and Billah, 2020).

### **3.2. Status of the CMSME Sector**

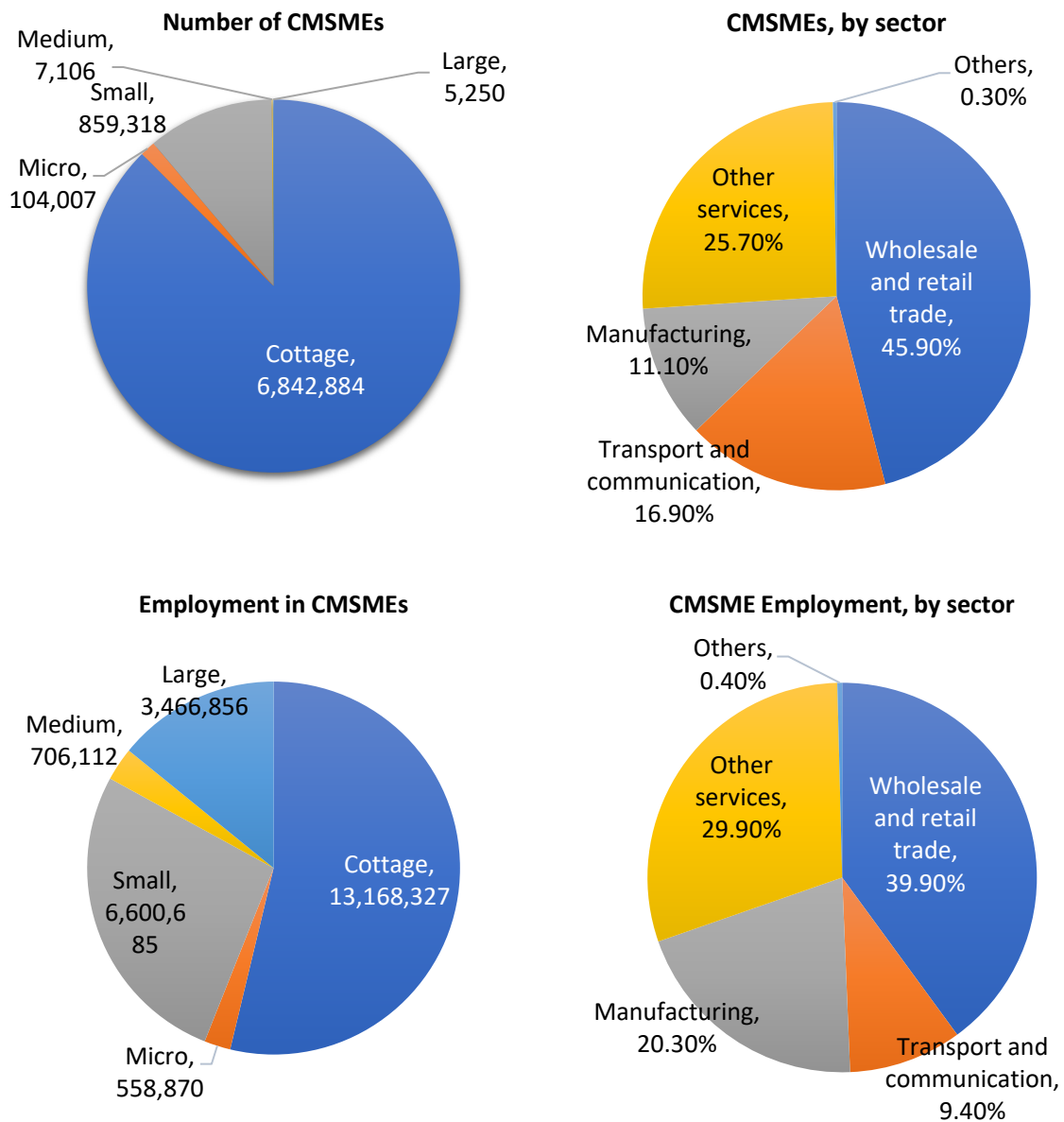
The CMSME sector is the largest employer in Bangladesh, employing 86% of all workers and constituting 99.97% of all industries (ADB, 2021). It contributes 25% of the nation's GDP – with the aim of reaching 32% by 2024 – and is made up of over 7.8 million businesses that employ around 20.3 million people (Ministry of Industries, 2019). In addition to its own contributions, the sector supports other sectors through backward and forward linkage effects.<sup>5</sup> However, the contribution of the sector to GDP and employment is relatively low compared with other developing countries in Asia. Given the current demographic transition and slow job creation, the sector is probably the best way to create off-farm jobs in rural and urban areas. Not only is the CMSME sector important for Bangladesh on its own, but as we will discuss, its growth and maturation will also play a large role in the development of the agricultural sector.

As shown in Figure 2, most of Bangladesh's micro, small, and medium-sized enterprises (MSMEs) focus on wholesale and retail (45.9%), followed by services (25.7%), transportation and communications (16.9%), and manufacturing (11.1%) (ADB, 2022b). By firm size, Bangladesh has 6.8 million cottage firms (87.5% of the total), followed by 0.9 million small enterprises (11%), 0.1 million microenterprises (1.3%), and around 7,000 medium-sized enterprises (0.1%) (ADB, 2022a). A recent estimate by ADB suggests that MSME households' earnings are three times higher than those of non-MSME households (ADB, 2022a).

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<sup>5</sup> Such as buttons, zippers, and packaging materials to the RMG industry.

**Figure 2: CMSME Sector in Bangladesh**



CMSME = cottage, micro, small, and medium-sized enterprise.  
 Source: Asian Development Bank (2022a).

The use of backward technology and low-skilled workers results in low productivity, which has been a major constraint in this sector for decades. Other significant challenges include lack of access to financing and appropriate insurance schemes; the absence of a direct connection between enterprises and the final consumer; and inadequate policy support. Market access – including the international market – is another challenge for the sector. Almost 90% of manufacturers sell their products domestically (ADB, 2022b). A strong domestic base may have helped the recovery of most CMSMEs after the COVID-19 pandemic lockdowns were

lifted, but improving the competitiveness and diversification of products is vital to reach the international market.

### **3.3. Impact of the COVID-19 Pandemic on Agriculture and CMSMEs**

The COVID-19 pandemic and the subsequent lockdowns had a heavy toll on the agricultural and CMSME sectors of Bangladesh. During this period, farmers simultaneously faced lower demand for their products and higher costs of inputs (e.g. transportation, labour costs). Although bumper Boro rice production saved millions during the pandemic, Boro farmers are reported to have lost Tk39.9 billion in the pandemic year 2020 (Das, Rahman, and Islam, 2021). The CMSME sector also experienced similar challenges. Several rounds of lockdowns in 2020 seriously hampered business activities, especially for smaller firms engaged in personal-contact-based services (ADB, 2021). A study conducted by the National Association of Small & Cottage Industries of Bangladesh (NASCIB and ActionAid, 2021) reported that the first lockdown in 2020 led to 64% of businesses remaining closed for 5 months, with a third having no sales or orders. Almost two-thirds of the firms reported a fall in sales of three-quarters. As a result, 16% of enterprises could not pay staff salaries while most (up to 80%) could only pay partial salaries (NASCIB and ActionAid, 2021). Another study, based on a survey of 500 MSMEs, reported that 21% of the surveyed MSMEs closed either by choice or government mandate, 70% of workers were vulnerable to losing their jobs, 91% of firms were affected by a decrease in cash flow, and only 9% of the firms were able to increase their use of digital technology during the pandemic (Kader and Pattanayak, 2020).

Our survey finds similar evidence of challenges that the CMSME sector experienced during the pandemic. With strict lockdowns limiting the movement of workers, goods, and raw materials, small businesses suffered greatly from reduced demand and high transportation and raw material costs. All interviewed CMSMEs mentioned that the pandemic and enforced lockdowns had led to a substantial decline in consumer demand, difficulties in gaining access to consumers (even if some demand prevailed), and transportation challenges (for both raw materials and finished products). For larger enterprises, an additional challenge was the shortage of workers. The nature of the businesses also meant that alternatives such as work-from-home, etc., were not open to these establishments. Nevertheless, a few positive outcomes from the pandemic and the lockdowns did emerge. Our survey findings suggest that SME start-ups that readjusted their business model swiftly by migrating to a digital infrastructure during the pandemic survived better and even thrived. E-commerce businesses started flourishing during this crisis period with the launch of new businesses, in addition to many existing

businesses that transitioned to e-commerce during the lockdowns. Most enterprises maintained their online activities after the lockdowns ended. The lockdowns in effect acted as a stress test for both the sectors under discussion. It highlighted shortcomings and weaknesses in the two sectors, which will provide useful guidelines for the government and policymakers to develop targeted and specific mitigation strategies and policy interventions to address these challenges (some of which we will discuss in the next section).

Our survey findings also suggest that as soon as the lockdowns ended and restrictions on movements were lifted, the two sectors started to recover. The recovery was accelerated by pent-up demand immediately after the pandemic, rapid implementation of stimulus packages, and accommodative monetary policies. The Food and Agriculture Organization of the United Nations (FAO, 2022) reported that agricultural products rebounded to the pre-pandemic level by 2022 (with some crops, such as Boro rice, registering above-regular production).

#### **4. Survey Findings**

The two sectors – agriculture and CMSMEs – are strongly linked and complement each other in numerous ways. Many SMEs are agri-focused and operate within the agriculture supply chain to offer services such as providing inputs and agricultural tools, and processing, packaging, and distribution of agricultural products. Similarly, an increasing number of start-ups are operating to find agricultural supply chain solutions by leveraging technology, which should increase agricultural productivity and growth. To understand the link, our survey included agri-focused start-ups and agri-focused SMEs in addition to non-agri-focused SMEs. This study therefore surveyed enterprises of various sizes, from different subsectors, to collect their experiences and assessments of operations during and after the pandemic period. Additionally, to formulate intervention strategies to overcome these challenges, these surveyed enterprises were asked for their opinions on what would help them the most, going forward.<sup>6</sup>

##### **4.1. CMSME Findings**

The surveyed CMSMEs are involved in sectors such as livestock, fisheries, processed food, leather, textiles, and light engineering. The primary finding suggests that there is a gap in the understanding and/or capacity of setting up and operating these enterprises, which acts as an obstacle for external financing from bank and non-bank financial institutions. This challenge was exacerbated during the pandemic, when most of the surveyed firms suffered

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<sup>6</sup> The survey questionnaires are in the Appendix.

from cash flow issues due to falling demand but did not have any recourse to formal financing. Overall, the surveyed enterprises stated that very few supportive rules and regulations (especially pertaining to financial access) are aimed directly at small enterprises. Most of the surveyed enterprises reported that inadequate institutional and policy support prevented them from fulfilling their potential.

As mentioned in the previous paragraph, almost all the surveyed enterprises experienced a drastic reduction in demand during the lockdowns, resulting in a cash flow crisis. However, the crisis forced them to branch out into the digital sphere (supported by start-ups – discussed in some detail in the next subsection). The speed of digitalisation was limited by the low digital literacy in the country, underdeveloped information technology (IT) infrastructure, and the absence of widely available smart devices outside urban areas. The surveyed enterprises acknowledged the potential of the digital sphere to their businesses and all of them reported that even after the end of the lockdowns, they have maintained their digital presence. All the surveyed enterprises reported that they had gone back to or even exceeded the pre-pandemic level of business during the time of the survey.

#### **4.2. Start-Up Findings**

Most agri-focused start-ups in Bangladesh are working on solving various supply chain issues. Most of the surveyed start-ups are working directly with farmers. They have employees – contact persons, or agents – who are responsible for working with a certain number of farmers who connect them directly with consumers. Many such start-ups have adopted what they call a ‘phygital’ structure of operations, where the digital nature of an app (usually operated by the agent/contact person) complements the physical nature of the operation overseen by farmers (without access to smart apps). This helps remove layers of intermediaries between farmers and final consumers. Some start-ups offer higher up-front prices for working with them, while others enter profit-sharing arrangements with the farmers. Additionally, start-ups engage in the sharing of information and other advisory services, such as best farming and/or animal husbandry practices, which are expected to increase the productivity of the sector. Some start-ups have also focused on creating knowledge hubs or one-stop commercial service platforms, where farmers can access quality agri-inputs, farm machinery, vaccines, and medicines, or financial assistance to buy them. Certain start-ups use their apps to connect farmers with appropriate investors, while others enter a three-way contract between themselves, the investors, and the farmers. Some start-ups offer farm management systems through their apps that help farmers keep track of stocks and inventory, receive alerts about important dates, keep

track of expenses, etc. Not only do these apps facilitate better management of farms, but in the case of livestock, for example, by creating separate profiles for each animal and tabulating the data properly, the app shows the total expenditure behind each animal, which in turn informs farmers of potential sales prices for their produce.

## **5. Barriers Facing the Agriculture and CMSME Sectors and Policy Recommendations**

This section describes the existing and post-COVID-19 challenges faced by the agriculture and CMSME sectors and presents policy recommendation. Sections 3 and 4 mentioned specific challenges. This section elaborates on the general challenges the two sectors have been facing for decades.

### **5.1. Challenges**

#### **5.1.1. Supply chain issues**

Bangladesh's agricultural and CMSME sectors rely on informal and weak supply chain systems, which creates dependence on intermediaries. This leads to inefficiency in various stages of production, distribution, and marketing, creating price distortions and lower profit margins for farmers. The presence of multiple layers of intermediaries in the supply chain pushes down the price received by farmers on the one hand and pushes up the price paid by final consumers on the other. Farmers lack the resources, information/know-how, or capacity to avoid intermediaries, while the perishable nature of their produce and lack of collective bargaining make them less capable of negotiating with intermediaries. An additional issue is farmers' lack of access to information regarding market trends, which makes them incapable of responding proactively to market threats or potential opportunities. The COVID-19 pandemic and several rounds of lockdowns exacerbated this situation, as farmers were completely cut off from the market and had to depend heavily on intermediaries. The rise in transportation and input costs during the lockdown phases further increased price distortions.

Even though most CMSMEs do not produce perishable products (as in the case of farmers), they face a similar challenge of being cut off from the market and only having access to the first of multiple layers of intermediaries before the products/wares reach the final consumer. This puts entrepreneurs in a position with very little negotiating power, in terms of financial agreements and otherwise, and responding proactively to market changes.



### **5.1.2. Lack of cold chain infrastructure**

Most farming produce – fruits, vegetables, meat, milk, etc. – comprises perishable products and requires certain temperatures for quality preservation. This necessitates the presence of uninterrupted cold chain infrastructure to store and deliver the produce between different nodes along the supply chain, from farm to fork (World Bank, 2018). In Bangladesh, at present, cold chain infrastructure is virtually non-existent (UNIDO, 2019). This has both financial implications (wastage of valuable produce and lack of bargaining strength of small farmers) as well as health implications (consumption of harmful, spoilt produce). The installation of cold chain equipment such as freezers, chillers, and delivery vehicles is expensive and beyond the capacity of small and medium-sized farmers. Without public intervention, it is unlikely that the necessary infrastructure will develop in Bangladesh.

### **5.1.3. Lack of information dissemination and reliable data**

Lack of access to information – at least partly due to substandard dissemination of the available information – is an important reason why the growth and modernisation of this sector have not fulfilled its potential in Bangladesh. The situation is exacerbated by the state of IT infrastructure in most of rural Bangladesh, which faces unreliable electricity, internet connectivity, and access to smart devices. This is also inhibiting the mass adoption of mobile financial services (MFS). Some progress has been made to this end in urban and peri-urban regions in recent years, but very little has been done in rural parts of the country. There are some instances of nongovernmental organisations (NGOs) and government initiatives working with small and medium-sized farmers and CMSMEs to provide technical information, training, and knowledge to help farmers improve productivity and output, etc. (Titumir, 2021). However, the scale of these initiatives is limited and covers a minute portion of the total farms and CMSMEs in the country.

### **5.1.4. Lack of access to appropriate financing**

Access to affordable and appropriate finance is a major challenge for agricultural farms and CMSMEs.<sup>7</sup> The SME Foundation started operations in 2008, with only Tk2 billion in seed money. The foundation's funding is limited to the returns earned from the use of this initial seed money, which limits its activities.

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<sup>7</sup> 'Access to finance does not mean only access to borrowing; it also means access where they can save, remit money, pay bills, and insure their business activities. This is what a broader definition of financial inclusion means in the literature – households and enterprises must have access to an array of financial services' (ADB, 2022a: 40).

Small rural farms and enterprises have limited access to formal financing such as loans, savings facilities, and insurance. Many banks and other non-bank financial institutions are unwilling to work with them due to the absence of proper documentation and collateral. Even when CMSMEs are interested in (and aware of) applying for an existing financial scheme, and have the necessary documentation, the lengthy and cumbersome application process often discourages them (ADB, 2022a). Financing through the informal channels that are available to the rural population is often expensive and exploitative. CMSMEs rely mostly on internal financing, which inhibits their growth and adoption of modern practices; their ability to attract better quality workers; their acquisition of better equipment, seeds, medicines, etc.; and their access to services such as veterinary care (ADB, 2021; 2022a).

According to a KII from this study, only 11% of commercial bank loan disbursements in Bangladesh currently go to SMEs, out of which up to 70% of disbursements are made to SMEs in the two major cities. Microcredit institutions are the major source of financing for CMSMEs, but the level is inadequate. The economic slowdown due to the COVID-19 pandemic has worsened the situation and further limited access to finance for small enterprises. However, recent initiatives by private commercial banks to provide digital financing are noteworthy. For instance, in 2023, United Commercial Bank signed an agreement with Syngenta Bangladesh and Upay to facilitate digital loans. Under this initiative, farmers registered with Syngenta will receive collateral-free loans of Tk50,000–Tk200,000 during sowing time at the lowest interest rate. With Syngenta’s referral, United Commercial Bank will do the paperwork and disbursement, and recovery of loans will be processed by an MFS called Upay. Farmers do not need to have a bank account or come to the bank for the loans, hence the ‘digital’ nature of the loan. Other forms of digital loans – not necessarily directed only at farmers or CMSMEs – include City Bank’s initiative with bKash (Bangladesh’s largest MFS provider), which allows users of bKash to request digital loans via the app. The loan amount can range from Tk500 to Tk20,000, at a 9% interest rate per annum, with a loan maturity of 3 months. Likewise, in November 2022, Brac Bank launched the Shubidha app to allow customers to apply for digital loans.

#### **5.1.5. Climate vulnerability**

Bangladesh is one of the most climate-vulnerable countries in the world. In recent decades, due to climate change, the country has experienced rising temperatures, increased rainfall and precipitation, increased salinity in inland and aquaculture ponds, etc. Climate change will not only reduce the availability of arable lands for farming, animal grazing, or

aquaculture wetlands, but also lead to changes in the composition of cultivated rice and reduce the quantity of zinc, iron, and protein available in them, which will exacerbate the nutritional effects of climate change. Climate change is also anticipated to increase the incidence of pests and disease outbreaks. According to near-term projections from the International Food Policy Research Institute, total calorie intake in Bangladesh will decline by up to 17% by 2030 due to the adverse effects of climate change (IFPRI, 2022). Similarly, by 2030, agricultural GDP is predicted to fall by more than 1%.

#### **5.1.6. Land reduction and degradation**

Bangladesh is experiencing significant pressure on its agricultural land due to the country's rising population and the consequent increase in demand for housing, roads, and other industrial and commercial infrastructure. The total available cultivable land in 2020 was 8.5 million hectares, which is projected to fall to 8.0 million hectares by 2025 with the current rate of reduction (General Economics Division, 2020). Factors such as waterlogging, depletion of groundwater and soil fertility, erosion, and salinity are other factors contributing to this reduction (FAO, 2022). As a riverine country, riverbank and topsoil erosion are some other major causes for the reduction of cultivable land.

### **5.2. Policy Recommendations**

Supply chain issues, including the presence of a large number of intermediaries, are one of the major challenges for the agriculture and MSME sectors of Bangladesh. The use of greater technology and digitisation through start-ups could be an efficient way to address this issue. In addition, as ADB (2022a: 77) reported:

If the digitalisation of microfinance helps boost MSME productivity and growth, this would also help MSMEs become formal entities by enhancing the registration process. Commercial banks would be attracted to compete with MFIs in extending financial services to the MSME sector. So, competition can reduce the interest rates charged by MFIs, since commercial bank lending rates are much lower than those of MFIs.

Microenterprises have access to both microfinance institutions (MFIs) and MFS. About 71% of microenterprises have an account with MFIs, while only 19% of MSMEs have an account with a commercial bank (ADB, 2022a). Based on the survey findings, this study also recommends specific policies to promote more private sector entry into this market and support the existing enterprises/start-ups to reduce the number of intermediaries in the supply chain in

order to improve efficiency. Since the country's potential for expanding arable land is limited, future agricultural growth will need to be fuelled by a combination of increased agricultural productivity, increased diversification towards high-value crops, and increased integration into a modern agri-food supply chain.

The second policy recommendation of this study is to develop countrywide efficient and green cold chain infrastructure for agriculture. This will reduce food spoilage, improve farmers' incomes, and improve the health outcomes of consumers. As ancillary features of the cold chain, employment will be created in the form of technicians, technical experts, and engineers, who will oversee the maintenance of the infrastructure. In addition, cold chain infrastructure will directly benefit 2 million households and at least 1,000 MSMEs in Bangladesh (World Bank, 2018).

The third policy recommendation of this study is the establishment of a national agriculture modernisation board and the strengthening of the SME Foundation (with additional focus on cottage and micro industries). These two empowered institutions could then provide a 'single-window' service for the development of the sectors. The boards could be tasked with enacting policies to encourage foreign direct investment and the export of agri- and CMSME products; organising information sharing and knowledge dissemination workshops and seminars at the grassroots level; and developing financing schemes for small and medium-sized farmers and enterprises. In the same vein, the establishment of SME banks, and even an SME ministry, may be considered. This study also recommends incorporating the policy goals and action plans directly into the industrial policy, to help ensure better coordination between all the ministries whose cooperation is needed for the SME sector to thrive.

## **6. Conclusion**

The objective of this study has been to assess the post-COVID-19 agriculture and CMSME sectors of Bangladesh, identify the key barriers and challenges to the growth and modernisation of the two sectors, and develop intervention strategies to help overcome these barriers and challenges. This has been done through an extensive review of the relevant literature, discussions with sector experts and stakeholders from both the public and private sectors and academia, and a survey of CMSMEs and start-ups from different subsectors. This study has identified several challenges inhibiting the growth and modernisation of agriculture and CMSMEs, including supply chain issues and the disconnect between farms and/or enterprises and final consumers, lack of financing, the absence of cold chain infrastructure, and

gaps in information dissemination regarding global best practices and environmental degradation. The agriculture sector needs a well-rounded, progressive diversification and modernisation plan now more than ever (World Bank, 2020). In addition, the shifting consumption patterns need to be addressed to enable a post-pandemic recovery (World Bank, 2020). The National Agriculture Policy (2018) set much-needed goals and targets for the sector but lacks detailed action plans to achieve these goals. Since the country's potential for expanding arable land is limited, future agricultural growth will need to be fuelled by a combination of increased agricultural productivity, increased diversification towards high-value crops, and increased integration into a modern agri-food supply chain.

The primary policy recommendation of this study is to introduce, encourage, and utilise greater technology in these two sectors. To this end, the role that start-ups are playing in these two sectors, including the myriad of services that they provide – and the potential for a greater role under a more favourable policy environment – has been discussed in some detail. Greater use of technology also engenders greater use of MFS, a technology that is becoming increasingly popular and accepted in Bangladesh, which is perhaps the best, if not the complete, solution to the challenge of access to funding for small enterprises. In addition, this study recommends the development of nationwide cold chain infrastructure and the establishment of institutions such as a national agriculture modernisation board, an SME bank, a ministry/department dedicated to SMEs, and the strengthening of the SME Foundation. The survey findings are based on a very limited number of observations. An extension of the survey would enable a deeper understanding of the issues facing these sectors, which is expected to fast-track policy intervention.

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## Appendix

### A. Questionnaires

#### A.1. Start-ups questionnaire

##### Start-up General Information

1. Name of Start-up:
2. What type of business do you do? (Describe your business model briefly.)
3. Which sector do you operate in?
4. What type of services do you provide?
5. How many employees are employed in your organisation? (Verify what is meant by employee; workers for bKash and workers for Pathao will mean different things.)
6. How long has your start-up been in operation?
7. What type of and how much funding has your start-up received so far?
8. Discuss the growth of your start-up since inception (number of employees, revenue, etc.). How do you project the growth of your start-up in the coming years?
9. What is the current valuation of your start-up? (Get a rough estimate if actual valuation is not possible/available.)
10. What were some of the major difficulties that you faced while setting up and during the early period of running your start-up? (Have the interviewee list the difficulties first, and then elaborate on each – focus on these particular issues: market, business environment, policy, IT infrastructure, etc.)

##### Agriculture and Start-ups

1. Agriculture and start-ups seem like two completely different industries. How does the intersection between these two industries work?
2. What role do you see this sector – agricultural SMEs and start-ups – play in the overall economy of Bangladesh?
3. Who will be the direct beneficiaries from the growth of this sector?
4. Within the context of Bangladesh, who are the major industry-players in this sector? How are their roles relevant and important? (Private sector, public sector, international stakeholders, NGOs, etc.)

5. What are the unique strengths and weaknesses of this sector? What are the unique strengths and weaknesses of this sector, specific to Bangladesh? How can we better harness the strengths and mitigate the weaknesses?
6. Discuss the existing policy landscape of this sector. How do you envision this sector evolving in the coming years in Bangladesh? How likely is this scenario?

#### Policy and Regulatory Framework

1. Are there any areas where the government policy and regulatory framework is harnessing the development of this sector in Bangladesh? (Do not read out this list to the interviewees; instead, have them answer the question on their own and select the options from below that apply)
  - a. Fostering talent
  - b. Youth-oriented development
  - c. University-level research and development
  - d. Sufficient laws and regulations to support businesses
  - e. Facilitating cooperation between large and small firms
  - f. Helping businesses to expand in diverse channels
  - g. Helping businesses to operate/expand in the international market
  - h. Promoting cooperation with venture capital
  - i. Driving angel investment
  - j. Facilitating access to finance
  - k. I don't know
  - l. Others:
2. What government policy areas need further bolstering to help the growth of this sector? (Don't read out this list to the interviewees; have them answer the question on their own and select the options from below that apply)
  - a. Improve the business environment and institutional framework
  - b. Increase the scope of entrepreneurs to receive institutional funding facility
  - c. Support to increase competitiveness and access to the market
  - d. Support short-term, low-cost business support services to the start-ups
  - e. Increase the use of ICT and other technologies
  - f. Expand skill developing education and training programmes for entrepreneurs

- g. Expand women entrepreneurship development programmes and provide specialised services
  - h. Institutionalise local entrepreneurship statistics and conduct research and development activities
  - i. I don't know
  - j. Others
3. Talk about the policy and regulatory environment of Bangladesh, as it pertains to the development and promotion of a sustainable environment in the country.
  4. Discuss the skills and/or skills-gap scenario you have faced amongst potential employees/partners.
  5. Discuss the state of access to funding that exists for start-ups in Bangladesh.
  6. Are you aware of any government-funded initiatives targeted to boost the start-up ecosystem?
  7. Have you been benefited by any of these initiatives? If yes, please discuss.

#### Business Development Support and Infrastructure

1. Have you joined any accelerator/incubator program(s)?
2. If yes, please discuss why you joined the program(s), what benefits you received from the program(s), and going forward, what changes you would like to see in similar program(s)? (Do not read out this list to the interviewees; instead, have them answer the question on their own and select the options from below that apply)
  - a. Access to mentors
  - b. Networking with investors or potential clients
  - c. Creating synergy with other start-ups
  - d. Office setup and other services
  - e. Business curriculum
  - f. Technology support
  - g. Marketing support
  - h. Media support
  - i. Applying to competitions
  - j. Attending start-up related events
  - k. I don't understand the terms 'accelerator/incubator'
  - l. Others: \_\_\_\_

3. What are the top challenges in expanding to the local markets of Bangladesh? (Do not read out this list to the interviewees; instead, have them answer the question on their own and select the options from below that apply)
  - a. Competitors
  - b. Infrastructure
  - c. Differences in divisional cultures
  - d. Fundraising
  - e. Government support
  - f. Hiring and retaining talent
  - g. Underdeveloped capital market
  - h. None
  - i. I don't know
  - j. Others

#### Effect of the COVID-19 pandemic and lockdowns

1. Was your company operational by the first quarter of 2020? (If yes, ask the following questions. If no, ask for perception: how the interviewee perceives things to have gone for operational start-ups.)
2. What was done to safeguard your company during the COVID-19 pandemic/lockdown?
3. What effects did the pandemic/lockdown have on your company? Please elaborate. (Effects can be positive, negative, both, or even neither.)
4. How did adoption of WFH – for both your employees and employees in general – affect your company?
5. Did you receive any government support during this period? If yes, discuss.
6. Going forward, what can be done to support your start-up, and the industry, recover from the pandemic/lockdowns?

## **A.2. Agricultural SMEs**

1. Name of SME:
2. What type of business do you do? (Describe your business model briefly.)
3. Which sector do you operate in? What type of services do you provide?
4. How many employees are employed in your organisation?
5. How long has your company been in operation?
6. What role has the public sector (government) played in the setting up, operations, growth, etc. of your company?
7. Talk about the policy and regulatory environment of Bangladesh, as it pertains to the development and promotion of a sustainable environment in the country.
8. What government policy areas need further bolstering to help the growth of this sector? How do you envision this sector evolving in the coming years in Bangladesh?
9. Discuss the state of access to funding that exists for start-ups in Bangladesh (from banks and other NBFIs; can be both public or private; domestic or international).
10. What effect did the pandemic have on your company?
11. How did you survive it?
12. Did you receive any government support during this period? If yes, discuss.
13. Going forward, what can be done to support your start-up, and the industry, recover from the pandemic/lockdowns?
14. If your business has recovered from pandemic and your production employment levels are at the pre-pandemic level, then how would you define your current business phase? Recovery or in an expansion phase?
15. What type of 'modernisation' do you think is feasible (and needed) in this sector of Bangladesh?
16. What needs to be done to make it possible?
17. What have you done to initiate these steps?

## **A.3. Non-agricultural SMEs**

1. Name of SME:
2. What type of business do you do? (Describe your business model briefly.)
3. Which sector do you operate in? What type of services do you provide?
4. How many employees are employed in your organisation?
5. How long has your company been in operation?

6. What role has the public sector (government) played in the setting up, operations, growth, etc. of your company?
7. Talk about the policy and regulatory environment of Bangladesh, as it pertains to the development and promotion of a sustainable environment in the country.
8. What government policy areas need further bolstering to help the growth of this sector? How do you envision this sector evolving in the coming years in Bangladesh?
9. Discuss the state of access to funding that exists for start-ups in Bangladesh (from banks and other NBFIs; can be both public or private; domestic or international).
10. What effect did the pandemic have on your company?
11. How did you survive it?
12. Did you receive any government support during this period? If yes, discuss.
13. Going forward, what can be done to support your start-up, and the industry, recover from the pandemic/lockdowns?
14. If your business has recovered from pandemic and your production employment levels are at the pre-pandemic level, then how would you define your current business phase? Recovery or in an expansion phase?
15. What type of 'modernisation' do you think is feasible (and needed) in this sector of Bangladesh?
16. What needs to be done to make it possible?
17. What have you done to initiate these steps?

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