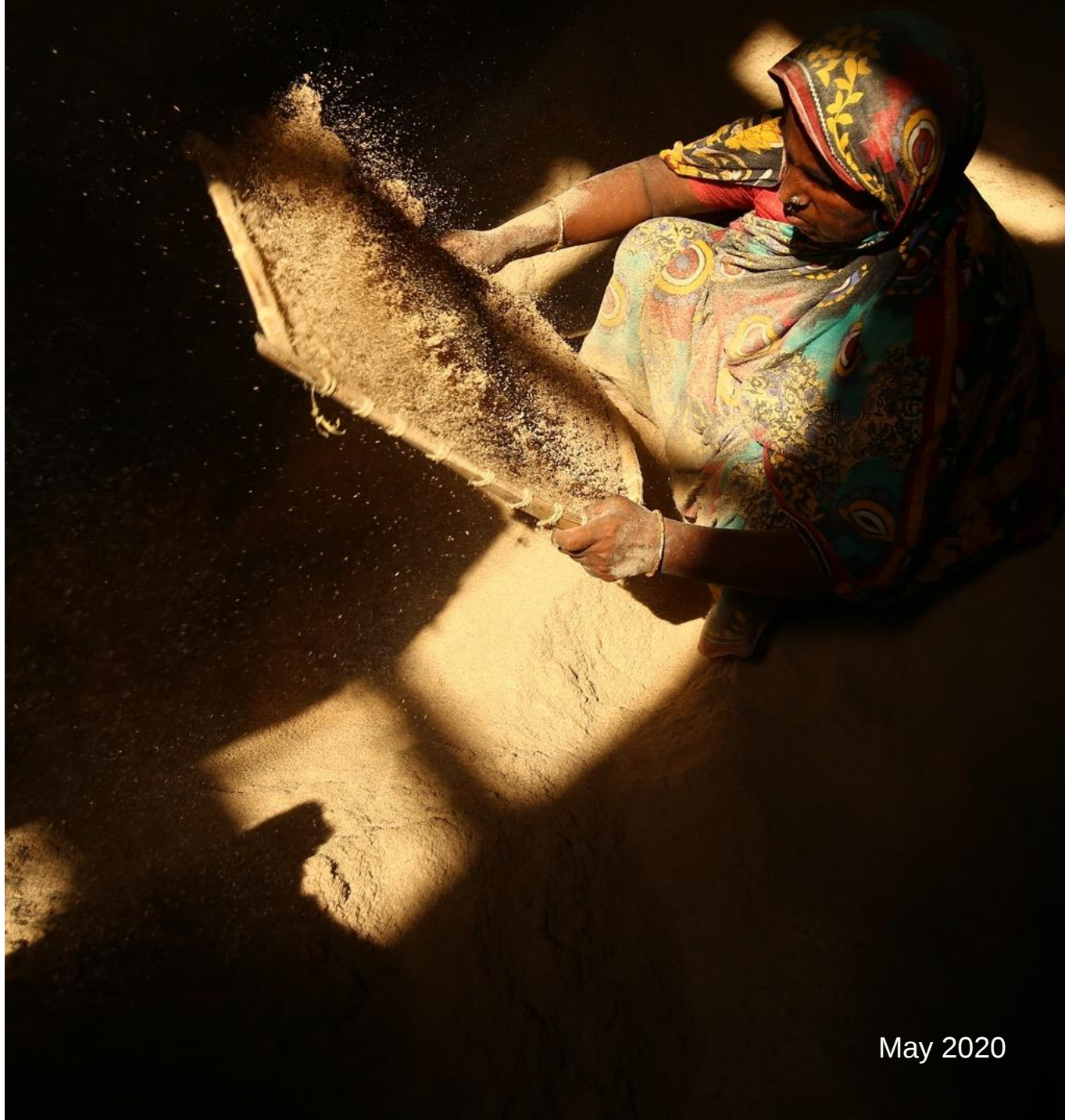


COVID-19 Pandemic

Agricultural market failures and
implications for food security



May 2020

Executive summary

BRAC conducted this study to get an insight on the agricultural market failures occurring during covid-19 pandemic and their implications for national food security in the short and medium term. A combined quantitative and qualitative approach has been used for the analysis. Representative price data from all eight divisions have been analyzed to capture price volatility, while key informant interviews with farmers / producers, wholesalers, retailers, and input sellers have been conducted to draw meaningful conclusions and policy recommendations.

After detection of the first case of coronavirus infection on March 8, and first death from the virus reported on March 18, the agricultural product prices and sales volume went up due to panic buying during the 2nd half of March. People of all walks of life bought more than they need for the rest of the months. During this time, the wholesalers and retailers have also built a stockpile by purchasing whatever stock they can lay their hand on even at a premium.

During the first half of April, the local government institution, NGOs, and private individuals became the largest buyers in the market who bought huge quantities of selected items as relief goods. Hence, starting in April we see that for those selected items such as Coarse Rice, Imported Lentil, the price levels stayed high or even continued the upward trend **(30% rise in prices of both coarse rice and lentils).** Whereas due to depletion of buying power and stockpiling in March, **the demand and the price for non-relief items started to falter starting in the middle of April. Prices of items most popular during the Ramadan recover the decline in the fag end of April and even increased in first week of May.** However, the continued low level of purchasing power of common people meant that the wholesaler and retailer at times had to sell their stock at a loss at several points in April.

Starting May, especially from the second week of May, the wholesalers and retailers are finding it difficult to hold their stock much longer. In addition some of the associated costs such as transportation costs are going down mostly due to lack of demand for transportation services and low cost due to reduced traffic congestion. Hence, it is expected that the agricultural commodities' prices, both wholesale and retail, will further decline throughout May.

In the case of poultry, dairy and fisheries, demand was low since the very beginning of lockdown contributing to a very low price till the end of April, but the prices are heading towards a different direction starting May.

Probably the single biggest consumer of poultry and eggs is restaurants in urban and peri-urban centers. In addition, individual consumption of commercially farmed chicken and eggs are highest in Urban areas. **The lockdown led to closure of all restaurants throughout the country which reduced the demand from the poultry sector to almost zero.** The urban consumption faltered in the initial days due to misconceptions about whether raw chicken can carry the virus or not. These resulted in a massive reduction in demand and price for both chicken and eggs.

Hence, starting at the mid of April, due to low demand, the farmers have stopped hatching eggs and thereby reduced the production capacity. In the meantime, due to difficulty in transportation and increased prices in the international market, vaccine and other medicine costs for chicken started to increase **(by 5%-7%)**. Now, when the restaurants started to open slowly in the 2nd week of May and the demand for both poultry and eggs started to grow, we have a situation when the prices are gradually increasing **(26% for farm chicken and 8% for eggs)** and likely to increase significantly throughout May.

Similarly, dairy prices fell since the beginning of lockdown as demand was low due to closure of confectionary and sweet shops. Demand declined by almost 33-60%, and prices fell by **12.5% at retail level** on average. Prices of livestock feed (bhushi by 19%, khail by 50%) also increased due to disruptions caused by lockdown. As lockdown restrictions loosened up, Dairy prices are also picking up as demand for dairy increased as hotels, confectionaries, sweet shops, and tea stalls restarted their operations since end of April.

In case of farmed fish, almost the same situation reenacted. Demand slump following closure of restaurants and decreased demand due to declining purchasing power both contributed to low demand for fish. As a result the fish farmers stopped producing hatchlings, which can reduce supply to the wholesale and retail level. Now that the demand is starting to increase, the prices are expected to increase as well. **The producers seem to be the net loser in the situation.** During the initial lockdown days while the prices in the wholesale and retail market increased, the prices at the farmers end remained relatively unchanged. Specially for rice farmers, who have already sold their stock before the lockdown, gained nothing from this demand hike. The only notable exception are the producers of early varieties of Boro rice--though in most cases the benefit accrued to the millers and not to the actual producers.

Because most agricultural products are perishable and the demand for their products reduced due to decline in purchasing power throughout the country but mostly in the villages, they had to accept any price that they could get. A brief look at the producer's price paints a sorry picture of the situation.

For poultry and fish farmers, the reduction of prices in April actually meant depletion of their production capacity as they have stopped hatching chicks or producing hatchlings in their hatcheries. Farmers had to sell every last produce to recover whatever cost they could.

As a result, as the demand for some of the products like poultry and fish is increasing, without new injection of capital they might not benefit fully from this recovery. For agricultural farmers, a wide scale injection in cash to boost people's purchasing power would be needed to boost demand. They too will need additional investment to make the best out of such future recovery.

Public sector initiatives to reconnect the agricultural supply chain up to the smallholder farmer would be critical at this junction. While the government has declared large incentives for the agricultural sector, a more accessible and transparent delivery mechanisms may be critical.

Public sector initiative to make quality seed available at a minimal price to them should benefit a large number of farming families and prevent a price hike.



Background

Agriculture sector took a major hit due to COVID-19 pandemic induced disruption of economic activities. As the country embraced a nationwide “lockdown” policy (March 27-present) that restricted movements and access to various production and supply chain necessities, news of agricultural market failures began surging in. As a matter of fact, market inefficiencies are common in the agriculture sector, in both developing and developed countries alike. It is also one of the sectors most heavily subsidised in many countries, because the nature of the sector innately gives rise to certain forms of market inefficiencies. Therefore, heavy subsidies as well as other corrective measures are often required to tone down these market failures and alleviate food insecurity.

The agricultural market failures during COVID-19 pandemic draw particular policy attention because during (and after) any catastrophe, the food security of the nation becomes a major concern. BRAC Enterprises with support from BRAC ASC, undertook this study with the aim of shedding light on the nature and extent of market failures occurring in the agriculture sector while the country battles a full-fledged pandemic, and what needs to be done in the short and medium term for improved food security.

Methodology

The study combines techniques of basic quantitative and qualitative analyses to draw meaningful conclusions from the study findings. The agricultural product prices for the study have been collected from the Department of Agricultural Marketing (DAM) under the Ministry of Agriculture, GoB. Two districts have been selected from each division for price analysis: one divisional headquarter and another district from divisional periphery. Weekly prices since the beginning of COVID-19 affected period have been considered for trend analysis. A few key products [rice (coarse Aman and coarse Boro), imported red lentil, potato, onion, vegetables (pumpkin, bottle gourd, cucumber, green chilli, ladies finger), poultry, dairy] have been selected for the price analysis from different agricultural sub-sectors. Finally, key informant interviews with agro producers, wholesale dealers (aartodars / “byapary” / middlemen), wholesalers, retailers, and input sellers have been conducted to obtain insight into the market failures occurring at different levels of production and supply chain, market expectation of those involved in agro business, and their policy implications.

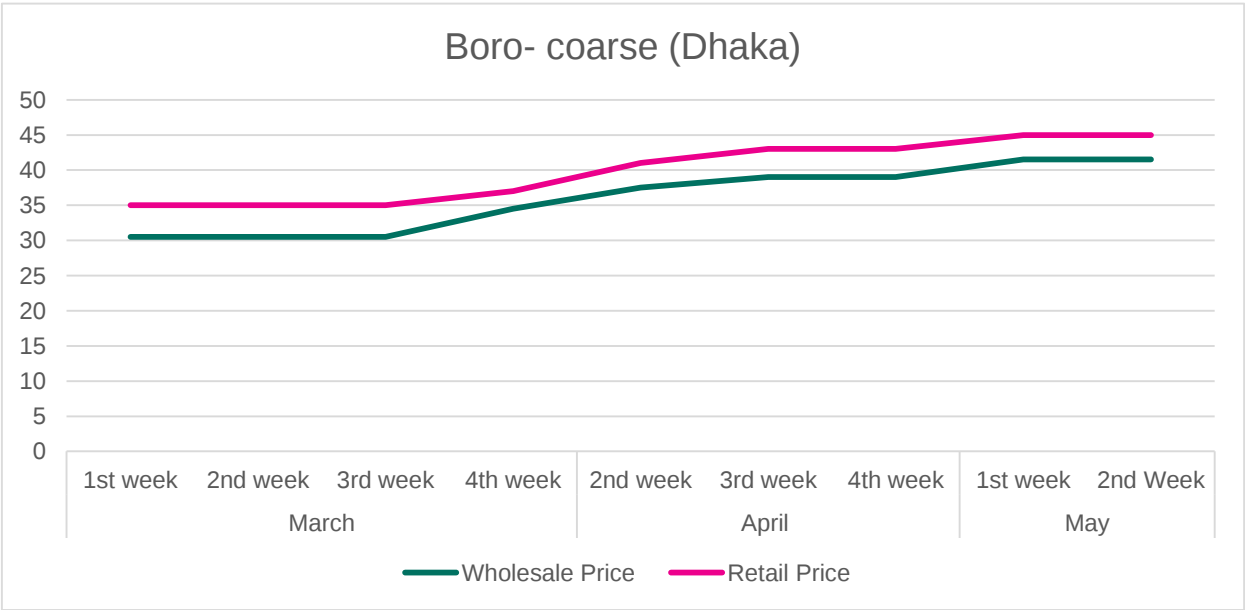
Agricultural Market Failures during COVID-19 Pandemic

Panic buying shot prices up during early lockdown; dropped with drying demand.

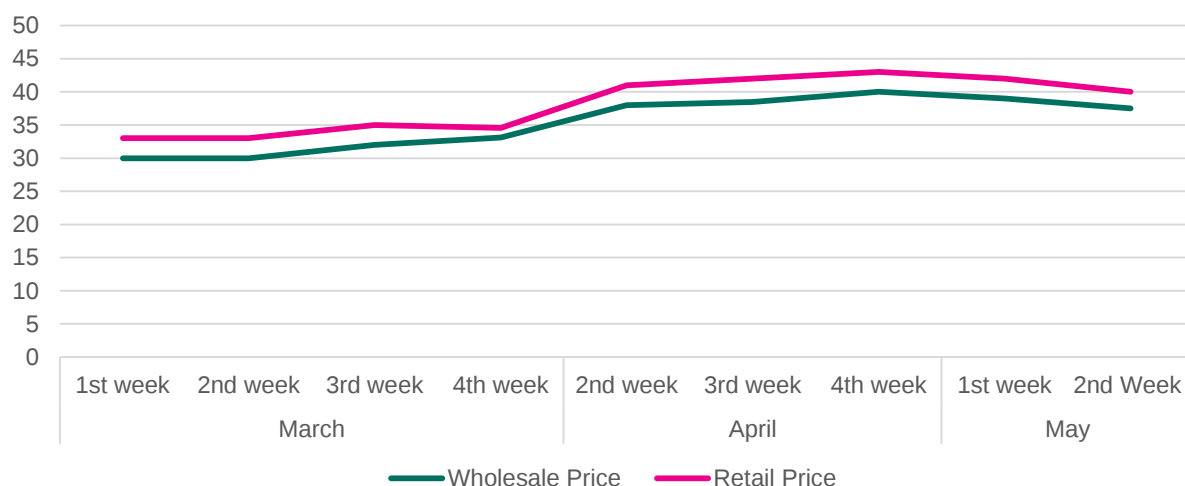
The death of the first COVID 19 patient on 18 March 2020 started a panic reaction; Bangladesh went into a panic buying mode. The economic lockdown declared on 26 March 2020, only added fuel to the fire. People started stocking up rice, lentils, potatoes, onions, and such commodities which are most essential or those that generally show volatility during any abnormal situations. Wholesalers and retailers have reported selling even low-quality rice which are generally used as cattle feed for a bargain. As a result, the prices of these commodities as well as the quantities sold showed an upward trend. Retail prices of Boro coarse rice went up from Tk. 33 in 1st week of March to Tk. 43 in April 3rd week showing a 30% rise. Prices of Aman coarse also shot up by 32%. Mill owners, forecasting higher profits, procured the early-harvested Boro at higher prices from the paddy farmers in April. Price of the early Boro paddy went as high as Tk. 800- Tk. 810 per maund. Both wholesalers and retailers were able to make good profits during the early lockdown days of price hike.

In addition to the consumers, large quantities of procurement by local government organisations, NGOs, and private individuals as relief materials in the first two weeks of April also contributed to the increased price. It may be noted that the demand for lentil and coarse rice increased by up to almost 300% due to bulk procurement as a relief item. Finally, difficulty in releasing imported commodities such as red lentils from the port amid the lockdown may have also pushed the prices of imported materials up by 30%. Wholesale and retail price of imported red lentil, coarse Aman, and Boro rice of four divisions shows the price hike.

Figure 1: Wholesale and retail prices of coarse rice and red lentil during March-May (average price in Taka/per kg)



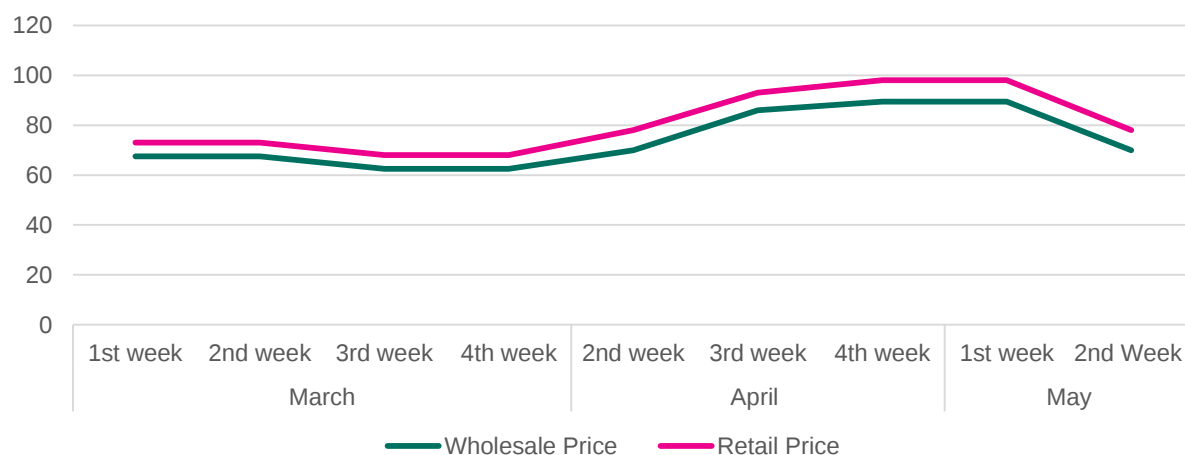
Aman- coarse (Chattogram)



Red lentil - imported ordinary (Sylhet)



Red lentil - imported ordinary (Khulna)



On the other hand, excess stock of commodities in upper middle income and high income homes and lack of purchasing power in the lower middle income and low income households reduced demand for non-relief items such as vegetables, and poultry (Table 1). A survey conducted by BRAC between March 30th and April 5th among lower middle income and low income people showed that at least 93% of the people have had reduction in their income due to pandemic.

Table 1: Change in prices of selected items (average price in Taka)

Product	Type of price	March 1st week	April 3rd week	May 2nd week
Aman Coarse (per kg)	Wholesale	27.67	38.33	38.5
	Retail	30.33	41.00	41
Boro Coarse (per kg)	Wholesale	29.42	40.17	37
	Retail	33.00	43.00	38
Red Lentil (Imported) Ordinary (per kg)	Wholesale	61.38	79.6	79
	Retail	67.00	87.8	88
Onion (local) (per kg)	Wholesale	55	48	36
	Retail	67	55	43
Pumpkin (per piece)	Wholesale	21.0	16.6	11
	Retail	28.8	24.3	13
Cucumber (per kg)	Wholesale	33.2	21.7	17
	Retail	40.3	29.0	26.5
Bottle gourd (per piece)	Wholesale	19.8	17.5	15
	Retail	28.0	26.5	19
Okra (per kg)	Wholesale	44	22	21
	Retail	52	30	29
Green chilli (per kg)	Wholesale	42.5	20.5	35
	Retail	54.5	34.5	58
Potato (per kg)	Wholesale	13.04	19.33	20.5
	Retail	18.17	23.67	25

* Average prices of selected districts; Source: DAM Database

At the start of Ramadan towards the end of April, prices of some of the commodities in mostly high-income market segments showed an upward trend. However, low purchasing power of a large segment of population caused wholesalers and retailers to endure loss at several points throughout April. Rice wholesalers reportedly had to sell coarse rice at Tk. 1-3 loss per kg as they could not hold their storage any longer. Key Informant Interview with the wholesalers and retailers suggests that the prices will be soon heading downward starting 2nd week of May, which already is visible in price trends of Aman coarse and red lentils in Figure 1.



Mr. Hossain (pseudonym), a rice wholesaler from Dhaka has incurred losses of approximately Tk. 2.5 lakh - Tk. 3 lakh during the public holidays. He is having to pay Tk. 1 lakh 10 thousand rent for his shop each month but his sales have dropped to 1/10th.

The other factor that is expected to drive down the prices in the coming weeks are the declining inter-district transportation cost. Transport agencies lost business orders during lockdown as law enforcement agencies only allow agro product transporting vehicles on the roads and highways. With decreased demand and reduced fuel cost due to less road congestion, the transport fare of a 14 ton trailer truck from Naogaon to Dhaka came down from Tk. 15,000 in March to Tk. 6,000 in late April.

Protein prices surge as supply crunches

The reduction in income of a large portion of the population during the lockdown significantly reduced the demand for poultry as people were opting more for basic and essential food items only. This brought miseries at all levels of traders e.g., producers, wholesalers and retailers; but the local farmers were among the most affected.

Table 2: Change in prices of poultry (average price in Taka)

Product	Type of price	March 1st week	April 3rd week	May 2nd week
Chicken (farm) (per kg)	Wholesale	92.5	82.50	122.50
	Retail	113.0	105.00	123.00
Egg (farm) red (per dozen)	Wholesale	6.75	6.1	6.55
	Retail	7.75	6.75	7.25

* Average prices of selected districts; Source: DAM Database

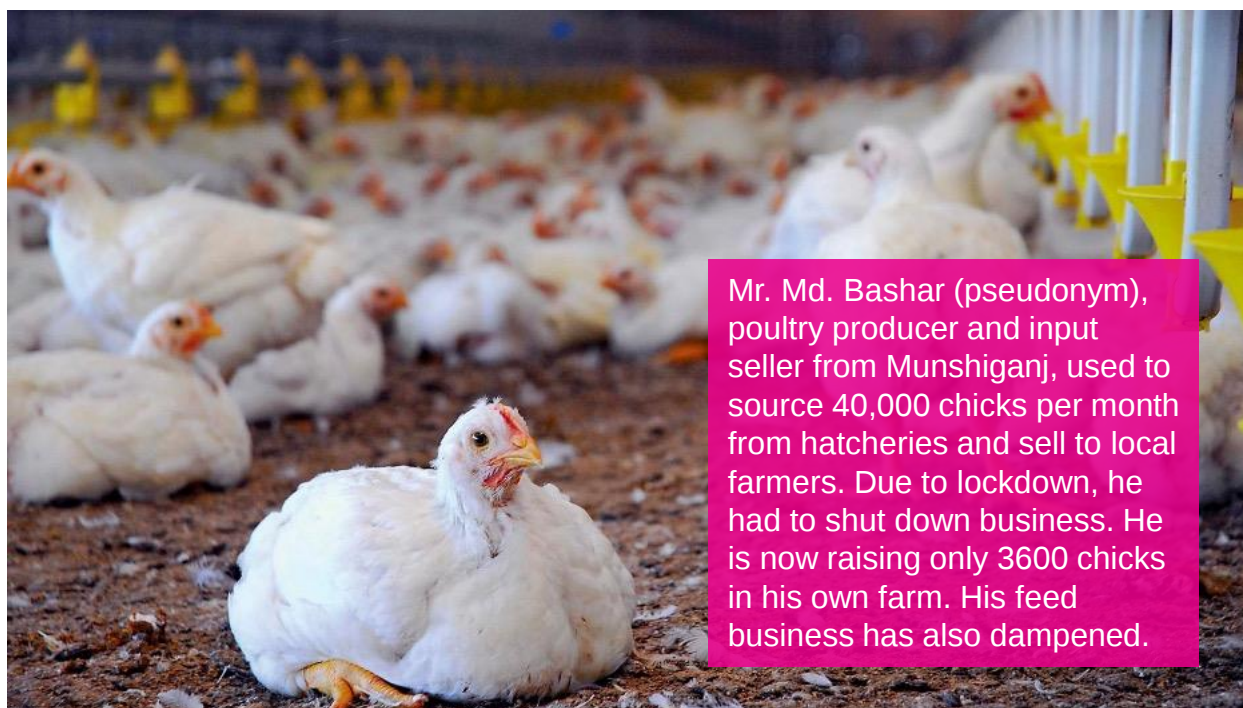
Figure 2: Wholesale and retail prices of farm chicken (average price in Taka/per kg)



A large portion of the demand for poultry and eggs come from hotels and restaurants. As hotels and restaurants closed down during lockdown, the market price of poultry drastically fell. Poultry farmers incurred almost 50% loss (Table 2) due to closure of restaurants as well as limited operations of markets (markets are allowed to stay open till 2 pm only during lockdown). In addition, a misconception was arising among people that coronavirus may spread through chicken and eggs, which further reduced demand for these items. Fearing that people might stop buying poultry and eggs because of this misconception, some producers sold their poultry at whatever price they could get. Hatcheries also sold the hatched chicks at Tk. 3 to Tk. 5 per piece which usually costs between Tk. 25-Tk. 30, as the demand drastically fell.

Prices of farm chicken started to fall since early April and went down from Tk. 113 to in March 1st week to Tk. 105 in April 3rd week at retailer level. At the level of wholesaler, the reduction was from Tk. 92 to Tk. 82. Farmers’ prices went down by almost 44%, from around Tk. 90 to as low as Tk. 50. Farmers who already had bought one-day old chicks had to destroy/bury those as they could not afford further losses. Some commercial hatcheries have reduced their production of hatchlings. Local feed sellers also stopped sourcing feed as there was almost no demand from the producers’ end. Though feed prices remained unchanged, the prices of medicines have increased by 5% to 7% and the sellers are blaming restrictive transportation systems for this rise.

The market has already started to see supply shortage of poultry due to the factors mentioned above. Moreover, hotels and restaurants have begun reopening slowly since the 2nd week of May, causing prices of poultry and eggs to gradually increase. In some places, poultry prices have already started to rise by Tk. 15-20 in May at the retail level. Wholesalers and retailers are expecting the prices of poultry and eggs to increase even further throughout May.



Mr. Md. Bashar (pseudonym), poultry producer and input seller from Munshiganj, used to source 40,000 chicks per month from hatcheries and sell to local farmers. Due to lockdown, he had to shut down business. He is now raising only 3600 chicks in his own farm. His feed business has also dampened.

Similar scenario was reported with regard to fisheries. Retailers reported that the demand for fish has sharply decreased owing to the decrease in consumer's income, closure of hotels / restaurants, and the limited market hours.

The producers are facing challenges to sell fishes to the wholesalers due to the demand shock and do not have the capital to invest in further production. As a result the fish farmers are forced to decrease the production. As a chain effect, the feed sellers now also have limited income. These can reduce supply of fish to wholesaler and retailer levels. Also, now that demand is on the rise again, prices are expected to increase as well in the coming days.

Farmers become the net loser of the market lockdown and reduced consumer demand

Prices of vegetables drastically fell after declaration of lockdown/public holiday (Table 4). The primary reason for such low prices of products for the farmers is the limited number of wholesalers interested to buy vegetables since demand in both wholesale and retail markets have dropped. In normal situations, wholesalers come to farmers and then the farmers pick/pluck the products from the fields based on wholesalers' demands. But now as not many of the wholesalers are sourcing products, farmers are harvesting without having any means to store and vegetables being perishable, they are forced to sell at whatever prices they get. In addition, the recent rain has also damaged a lot of vegetables awaiting to be sold.

Due to lockdown, the farmers themselves couldn't go to larger markets in search of better prices and had to sell locally. Price differences of wholesalers and retailers also have reduced in May, owing to the reduced demand of products in the market.

Table 3: Prices at farmers' End (range of price at different locations)

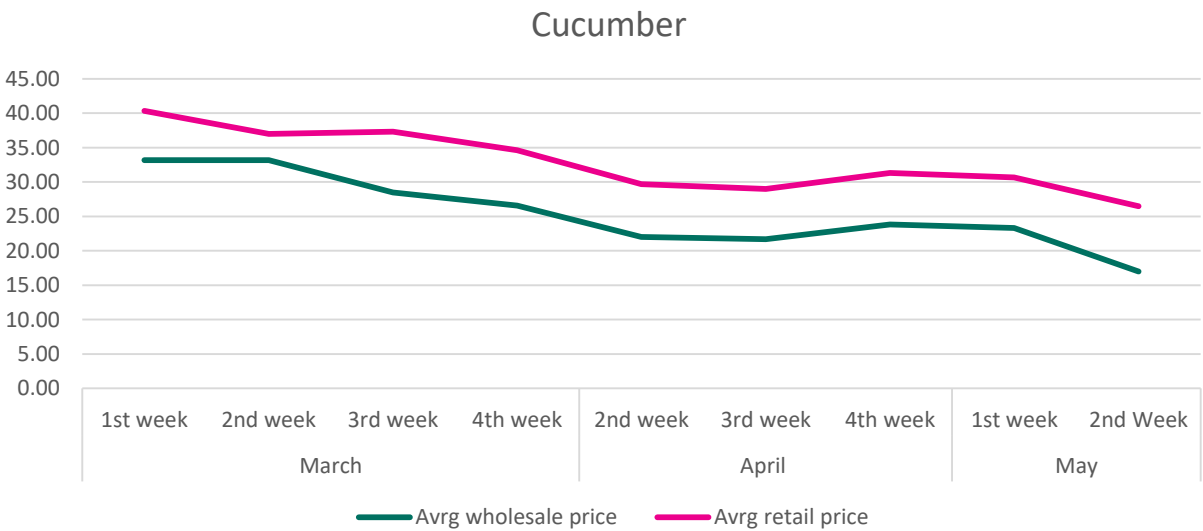
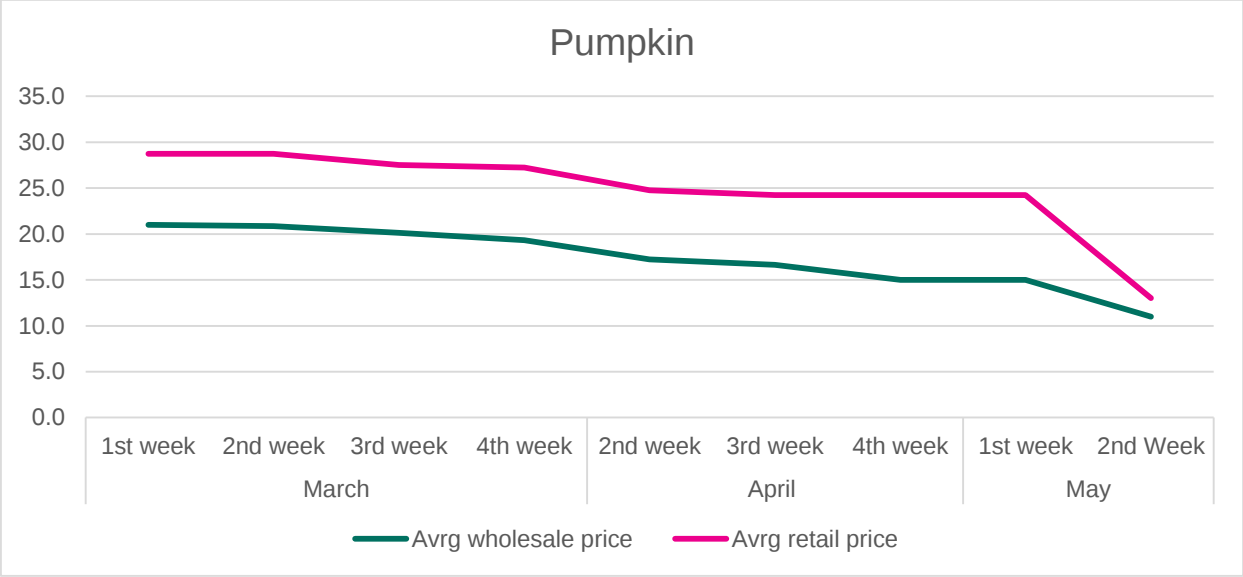
Item	Price during lockdown (per unit)	Usual price (before lockdown)
Pumpkin (per piece)	Tk. 5 - Tk. 30	Tk. 30 - Tk. 60
Bottle gourd (per piece)	Tk. 4- Tk. 30	Tk. 30- 40 Tk.
Bitter gourd (per kg)	Tk. 5- T. 20	Tk.30- Tk. 40
Ladies finger (per kg)	Tk. 3 - tk. 20	Tk. 30- Tk. 40
Brinjal (per kg)	Tk. 2 - Tk. 20	Tk 30- Tk 32
Green chilli (per kg)	Tk 5 - Tk 38	Tk. 15- Tk. 40
Cucumber (per kg)	Tk. 4- Tk. 30	Tk. 15 - Tk. 60
Pointed gourd (Patal) (per kg)	Tk. 6 -Tk. 20	Tk. 15- Tk. 30

* Source: KII with farmers

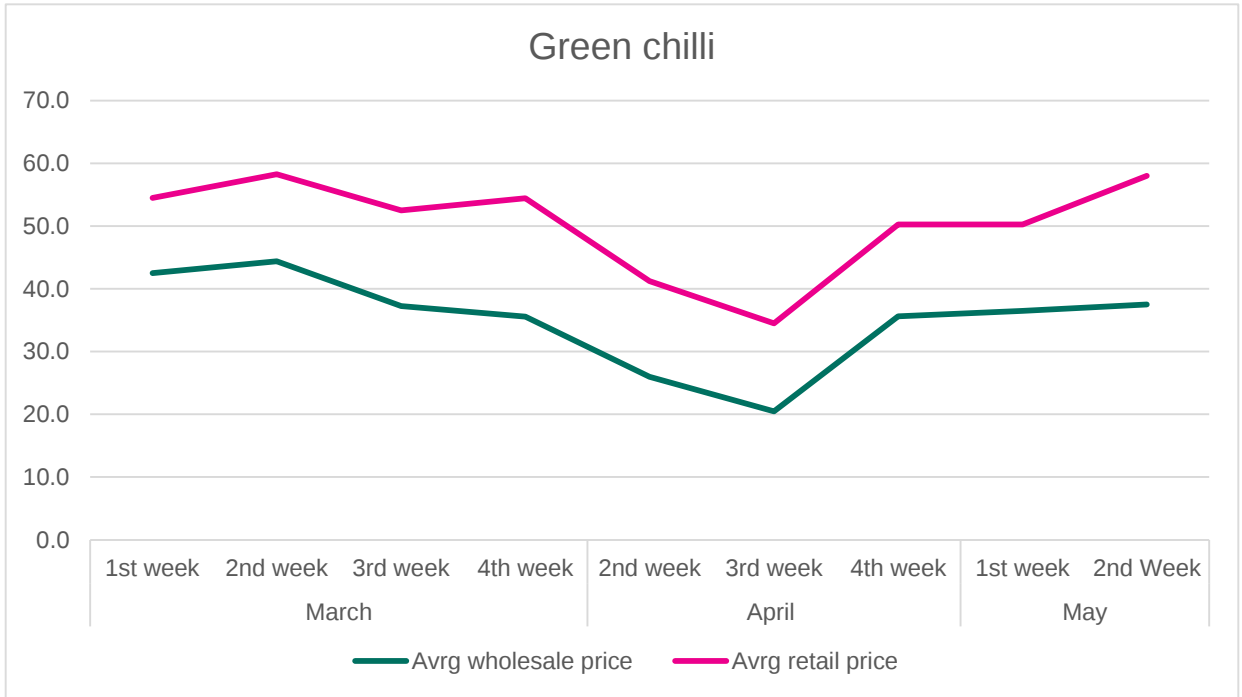
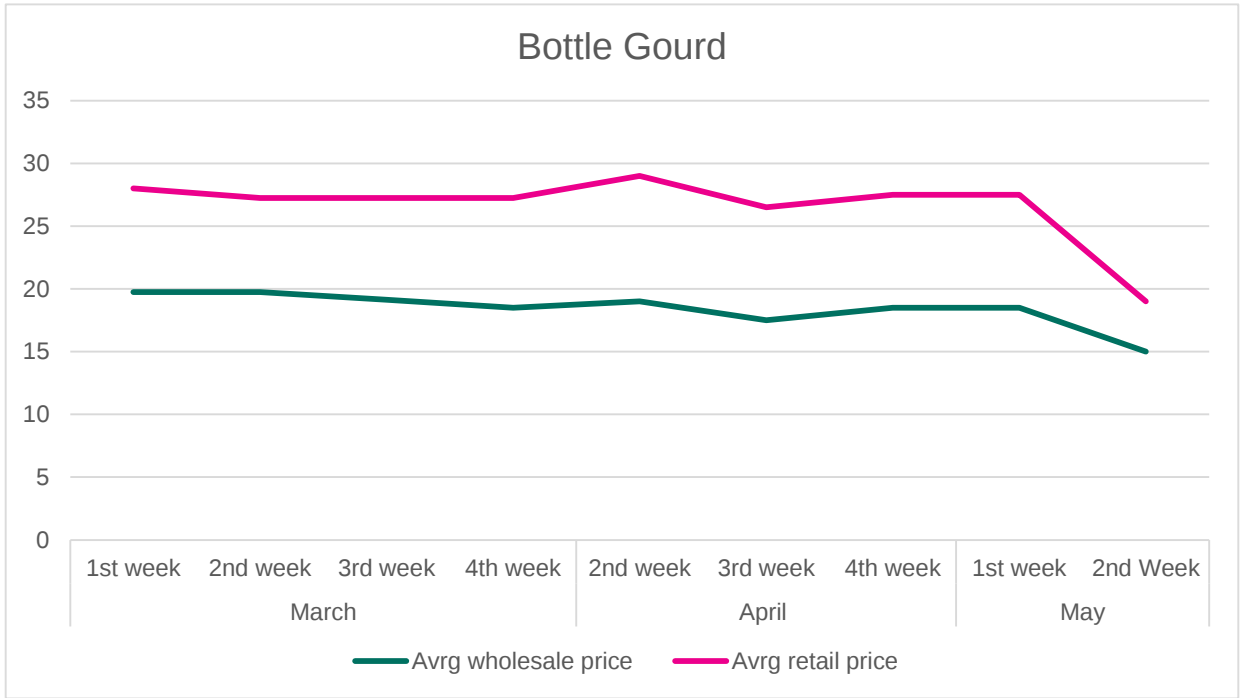


Mr. Kamran (pseudonym), a farmer from Nilphamari, had cultivated 6 bigha land with different vegetables this season of which almost 2 bigha worth of vegetables got damaged because of supply chain failure.

Figure 3: Wholesale and retail prices of vegetables (average price in Taka)



Vegetable farmer Mr. Rahim from Habiganj (pseudonym) used to get good prices for his pumpkins. During normal times, he was able to sell his large pumpkins for Tk. 60-70. During the covid-19 pandemic induced lockdown, he had to endure huge losses and sell even at Tk. 10-12. He could not even preserve seeds for next season's production. He invested around Tk. 75 thousand for farming but could only earn back Tk. 50 thousand by selling his produce. He plans to quit farming and switch to another profession, if the situation continues.





Mr. Md. Islam (pseudonym), a dairy farmer from Chatmohar, Pabna, used to sell 1.5 mounds of milk in the morning and 30-35 kg in the evening on an average day before COVID-19 crisis. Since lockdown began, his sale volume almost halved and he had to give away the rest of the milk in the neighborhood for a minimum price. On the other hand, the increased price of fodders made the situation harder for him.

Figure 4: Wholesale and retail prices of milk (average price in Taka/per liter)

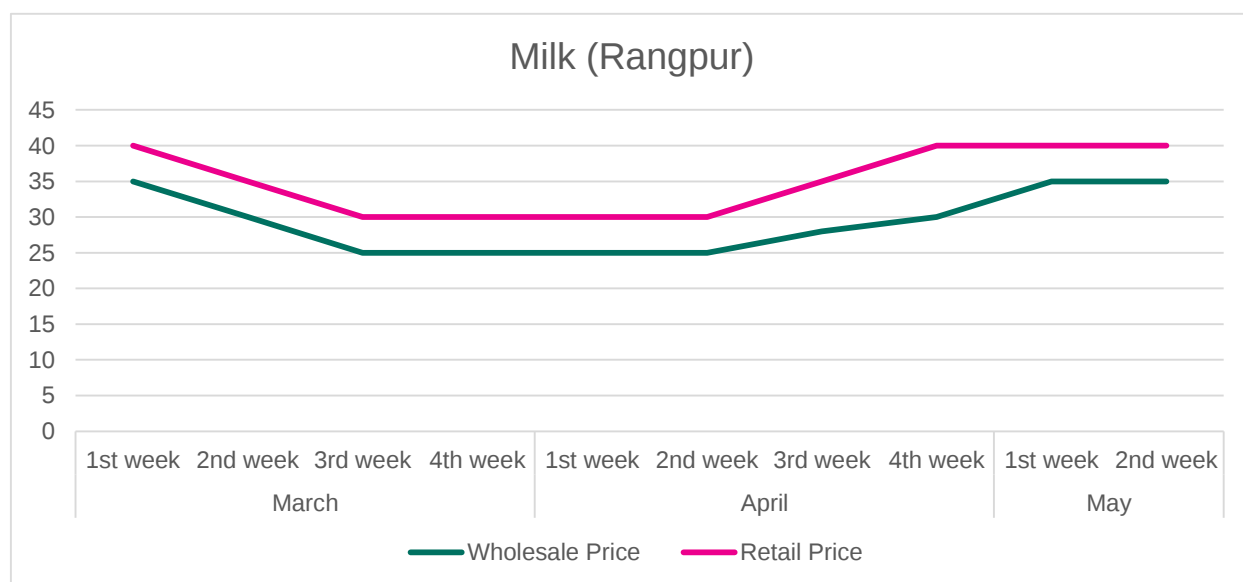


Table 4: Price of milk at different levels (average price in Taka/per liter)

Product	Type of price	March 1st Week	April 3rd Week	May 2nd Week
Milk	Producer	32	25	32
	Wholesale	35	28	35
	Retail	40	35	40

* Source: BRAC Enterprises

The dairy farmers also had to deal with a terrible price slump. Prices at the producers end dropped by 22% during March to April as a large portion of commercial consumers like hotels, restaurants and sweetmeat confectionaries were not in operation and the middle men sourced very limited amounts from the farmers. The demand fell by 33% to 60% during lockdown. Some rays of hope appeared since the end of April as lockdown loosened up and hotels, sweetmeat confectionaries, and tea stalls started reopening. Consequently, demand started to pick up as well as the price of milk. Prices of local feed/fodders have also increased by 19% and 50%.



Poultry and fishery farms have also incurred losses during the lockdown period. A sort of asymmetry of information is observed in the agriculture sector. Farmers, positioned at one end of the supply chain, are not as well informed as the economic agents working as middlemen who are part of the supply chain. Many of these farmers / agro producers suffering huge losses have reported that they are discouraged to invest in new production till lockdown is lifted. Moreover, they are facing difficulties getting poultry and fish feeds and other input materials for production. Therefore, they have temporarily stopped production awaiting the market to return to normal.



Policy implications

The government has introduced incentives for the farmers in forms of easy term credit worth Tk. 5000 crore, harvesting machinery and additional labour force. But what is crucial for enabling the farmers benefit from these incentives is to ensure more accessible and transparent delivery mechanisms. Often, these types of incentives fail to reach those who are at the bottom of the pyramid and need them the most. Therefore incentive packages and their delivery mechanisms need to be made more accessible to even the most marginalised or landless farmers. Public private partnerships can also be considered to ensure a transparent delivery mechanism.

Ensuring a smooth supply chain is important to regain farmers'/producers' confidence in market to invest in new production. Farmers need to remain connected with the market, and public initiatives are needed to reconnect the agricultural supply chain to even the smallholder farmers. Government can think of establishing collection centers for agro-produces, similar to paddy procurement, closer to smallholder producers during and after the crisis. Local administration could be utilised in managing the procurement process.

The low price and lack of demand meant that some farmers could not preserve seeds but sold as many products as they were able to. Moreover, a lot of perishable agricultural products went to waste during lockdown. Local government initiatives to make quality seeds available will benefit the farmers who endured loss, and will also help improve productivity and food security in the medium term.