



COVID-19 and Food Supply in Bangladesh: A Review

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Authors' contributions

This work was carried out in collaboration among all authors. Authors AAZ and AM conceived the presented idea, designed the study, managed the literature and wrote the first draft. Authors MAI, SCA, FY and AD managed the literature searches, cross checked the data and evaluated the study. Author SCA prepared the map and author MAI supervised the study. All authors read and approved the final manuscript.

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ABSTRACT

The pandemic COVID-19 has slowed down human activities globally and throwing countries into a slump and possibly economic depression. Bangladesh, a growing economic country, is also experiencing severe economic shockwaves. Besides the economic shock, it is also facing an imbalance in the food supply in all of its channels. The purpose of this paper is to provide a general understanding of the possible impacts of COVID-19 on food supply in Bangladesh. The paper presents a brief summary of the global COVID-19 situation and the current food supply status concerning COVID-19. In Bangladesh, the trend of COVID-19 cases is increasing and due to the lockdown situation, the food supply is hampering badly. Since most farmers are not adapted to mechanized agriculture and facing labour shortages, their production has fallen at risk in terms of harvesting. Due to buyer shortage and unavailability of supply channels, products are being forced

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to sell at a low price and it will take years to overcome this shock as the prognosis of COVID-19 is still unknown to all. Though the government has taken some policy measures to maintain a sufficient food supply, protect the agriculture sector, and mitigate the possible losses.

Keywords: COVID-19; food supply; coronavirus; agriculture; Bangladesh.

1. INTRODUCTION

Currently, the world is going through a critical moment and the phenomenon is the newly emerging one of the SARS virus which was named '2019 Novel Coronavirus' by the World Health Organization [1]. Quickly after the first detection, the virus spread from China to 210 countries and territories around the world and two international conveyances [2]. The World Health Organization declared that this is not controllable from the first place, spreading day by day and has become a global pandemic [3]. From past pandemics, the world has faced some awful consequences and now this coronavirus has made one of these situations which is called a 'Quarantine Situation'. Quarantine is such a situation that mostly affects human activities and economic growth [4–7]. A recent study by Baldwin and Mauro (2020), reported that the coronavirus outbreak situation causes the economic downfall of countries like G-7 who have 65% of the joint share in the world's manufacturing units further there has been a 60% of falling rate of world's demand and supply, and 41% of world exports have been badly affected by this outbreak [8].

Besides these dreadful scenarios in the world economy, this virus has rigorously affected the agricultural sector by creating labor shortages which ultimately make farmers unable to harvest in time. The consequences of this imbalanced agricultural production system are inadequate food supply, increasing hunger, and malnutrition [9,10]. Before the COVID-19 incident at the beginning of 2020, 135 million people were already facing extreme hunger and the World Food Programme (WFP) forecasted the number will become 265 million by the end of 2020 [11]. At present because of the Corona crisis World Food Programme predicted COVID-19 threats to food security under different circumstances. It has been expected that COVID-19 will cause pervasive poverty, poor healthcare infrastructure, lack of robust social safety nets, acute hunger, breaking the food supply chain, lowering food prices and most significantly recession in the economy [12]. Like many other countries, Bangladesh is also hit by a coronavirus

pandemic and now the whole country is locked down. Due to the lockdown situation and zero trade rate, already 2 million people lost their job in the export-oriented garment industries of Bangladesh. Lately, when there is almost no trade in markets and there is an insufficient supply of food, the most dreadful problem that arises is feeding the entire country. In a survey, BRAC (Bangladesh Rural Advancement Committee) reported that extreme poverty has rambled 60% than before and 14% of the people have no food at home [13]. The government and many volunteer groups are trying to raise funds and give food supply to the people but still, it is not enough. A notable number of people in Bangladesh are dependent on agriculture, but due to this pandemic, their products are also being interrupted going in trade which is creating a large food supply gap. Experts are suggesting this upcoming loss will take years to recover and more people will be vulnerable and aid-dependent [14]. On the other side, many analysts argued that currently there is enough food in Bangladesh to feed the whole country. But still, people have less food access because of poor distribution strategy [15].

Food supply crisis has become a major issue that Bangladesh is facing now. Every day the number of COVID-19 affected patients is rising and this food supply insufficiency is growing. So, this presented alarming situation needs to be viewed with utmost importance but there is not enough literature that has covered the food supply situation during this global pandemic in an organized way. This paper tried to accumulate the major findings as well as valuable information from secondary sources like websites, published research articles, and newspapers about COVID-19 and food supply status in Bangladesh.

2. DISCUSSION

2.1 Food Supply and Indicators

As defined by the Food and Agriculture Organization food security can be ensured when having access to safe and nutritious food all the time [16,17]. Among the four dimensions of food security, probably the availability of food is the

most important dimension since without the availability of food it may not be possible to ensure other dimensions of food security. The production and availability of food have been a key factor in the growth and survival of human civilizations over the centuries [16]. Yet the world already has one in seven people who do not have access to adequate calories in a globally working food system [18]. The main concern for food security is that even food supply is not food security, but there is an integration of security with food availability for a particular household or community.

Food availability is such an indicator that is influenced by several global and regional factors [19]. Food supply chain that is largely dominated by food availability is worked out by four main items namely the production of biomass, processing of food items, distribution, and consumption of foods [18]. But, the current mode of food security indicates a high level of policy risk which focuses on the production of agricultural commodities along with the manufacturing, distribution, and retailing function of food supply [20]. Besides, Technology and policy are important elements of proper food supply and these are reshaping the food supply system to improve the productivity, affordability, accessibility, and diversity of choice that reduce losses and waste [21].

2.2 Current Food Supply in Bangladesh

Food consumption and the nutritional status of people decrease as the population of the country increases. It happens because there exist many gaps among the food production, food distribution, food supply, and consumption of nutritional food. With 165 million population and if it increases at this current rate, the total projected population of Bangladesh will be 200 million in 2050 [22]. In this circumstance, the people of Bangladesh face many demographic, ecological, and social challenges that make them vulnerable to food security [23]. In the future, it will be difficult for the country to feed all people and make them food secured. Data from BBS (2017) suggested that the current food supply was still low for vegetables, fruit, milk, and other nutritious foods compared to the recommended consumption rate [24]. But over the last three-four years, Bangladesh as well as entire South Asia has overcome the problems of food availability [25]. With self-improvement in production and assistance from other organizations, Bangladesh is revolving in the

development stage in food sufficiency. The main food of most people in Bangladesh is rice and far more than 70% of their daily calories come from it. Bangladesh has achieved self-sufficiency in rice, meat, egg, fish production and the production of rice has been estimated to triple over the last 30 years [26,27]. Currently, the country can produce 41.5 million metric tons of food grain each year, which is three times more than in the 1971s [28]. To develop the food production and food supply process in 2017-2020, The World Food Program launched a strategic plan by setting different strategic outcomes like access to food, sustainable food system, sharing knowledge, etc. for Bangladesh [29].

2.3 Global COVID-19 Pandemic

Pneumonia of unknown origin first identified in China in December 2019 has spread globally and was declared a Public Health Emergency of International Importance in January 2020. WHO declared "COVID-19" as the name of this new disease in February 2020 following the recommendations previously established by the World Organization for Animal Health (OIE) besides the Food and Agriculture Organization of the United Nations (FAO). The COVID-19 pandemic has become the greatest challenge since World War-II not only for its health crisis but also for people who are losing jobs and income globally [30,31]. As of May 7, more than 3.83 million cases and more than 2.65 lac have been reported in 210 countries and territories, whereas 12,425 cases in Bangladesh. Primarily coronavirus spread between people through close contact via small droplets produced by coughing [32]. Fever, cough, fatigue, and short breathing are defined as common symptoms of COVID-19. Some complications may also appear such as respiratory distress syndrome and pneumonia [1]. Considering the health aspect, COVID-19 is infectious and case-fatality rates of this virus are very high [25,33,34]. Although people of all levels are facing critical health crises irrespective of gender and ethnicity, this pandemic is severely affecting women's health due to existing inequalities for women and girls [35]. As a result of the pandemic, most of the countries adopted or imposed quarantine, banned transport, and restricted citizens to travel to the most affected area [36]. Some countries also imposed global restrictions that apply to all foreign citizens and trade. Besides the health crisis of COVID-19, economic growth will be the highest suffering sector of all countries. The

spread of the virus was believed to promote social distancing, leading to the closure of financial markets, corporate offices, companies, and events [37]. The crisis has now turned into an economic shake, affecting not only the production of goods and services but also consumption and investment [38]. Even it has been expected that the global effect of COVID-19 may produce a recession in most parts of the world [39]. Fernandes (2020) has estimated that countries that are largely dependent on tourism and foreign trade will largely be affected by this global pandemic compared to the others [40]. The United Nations Economic Commission for Latin America suggested that this pandemic could leave 14-22 million people in extreme poverty [41]. As a travel and transportation restriction on 20 April 2020 Texas faced a negative oil price for the first time [42]. As well as this pandemic has also caused disruptions in the sporting calendar since World War-II. Already the events of the Olympics have been rescheduled including beyond 2020 but not later than 2021 [43]. All types of religious events, festivals, and social events have been canceled due to this pandemic [44]. The COVID-19 has only a positive impact on the environment that reduces pollution all over the world due to the shut down of manufacturing industries and decline of planned travel [45]. Though a risk also appeared like a slowdown investment of green technology because of economic fallout [46].

2.4 COVID-19 and Food Supply in Bangladesh

At present, the world is under a critical situation because of the Coronavirus pandemic and Bangladesh is not out of this. In a very short time, this virus has spread and hit the world from different points especially it has broken the economic growth [47]. Like many other countries, Bangladesh is also having this crisis and experiencing its dreadful impacts [48]. Besides affecting the public health sector, Coronavirus has also covered the country's economy, food security, food supply, trading activity, transportation system, and many more [7]. Among these, the lockdown situation has worsened the food supply in Bangladesh as well as other countries in the world [49]. Moreover, it has been expected that the world is going to face a crisis of food in the future due to the labor shortage and less mechanized agriculture [50]. The lockdown state is blocking transport routes and interrupting fresh food supply chains and rising rates of food loss and waste across the

country [51]. In the current years the country enjoys bumper production of agricultural crops then the breakdown of the supply chain due to restriction of free movement has made the situation beyond control. Economic shutdown and the restriction of travel have created an imbalance between the demand and supply of food. Eventually, the farmers are not getting the proper price and on the other side, the average income of the general people is declined due to the country's lockdown. Though Bangladesh has opened emergency transportation system for agriculture but major portion of perishable goods are still now being wasted everyday due to lack of proper distribution and monitoring system.

Bangladesh also needs to import some essential food from abroad but in that pandemic, it is difficult to transport them all over the country. So, the overall food supply crisis of the country may become serious, if necessary, steps are not taken soon. Also, because of the lack of buyers and traders in local markets, farmers were forced to sell their vegetable produce at low prices [52]. The current lockdown situation is presented in Fig. 1. Bashar and Atik (2020) have stated that approximately 350,000 dairy farmers across Bangladesh are trying to survive the coronavirus epidemic as about 27,000 tons of milk are not sold every day [53]. Besides, due to insidious rumors concerning the consumption of chicken meat and eggs, people have begun to avoid chicken and egg consumption during the coronavirus outbreak, which has resulted in a drop in chicken prices of up to 75% with the loss is estimated to reach Tk1200 crore by April 9 [54, 55]. While COVID-19 does not affect fish, the fish sector is still vulnerable to indirect pandemic impacts by increasing customer preferences, market access, or logistical problems related to transport and border restrictions [56].

The impact of the shutdown was felt across the industry with restrictions on the movement of fishers and fish farmers who were unable to move their products to the markets. Customers abandoned retail markets due to fear of infection and locking steps, triggering a sharp fall in the price of fish. Due to the quarantine condition, the farmers are not receiving adequate services which is affecting the entire industry [57]. Not only the agriculture sector, Bangladesh's largest port (in Chittagong), is also suffering from the effects of COVID-19 as the flow of imported products has slowed at this crucial period due to the economic downturn [58]. Furthermore, the pandemic could affect international relations by

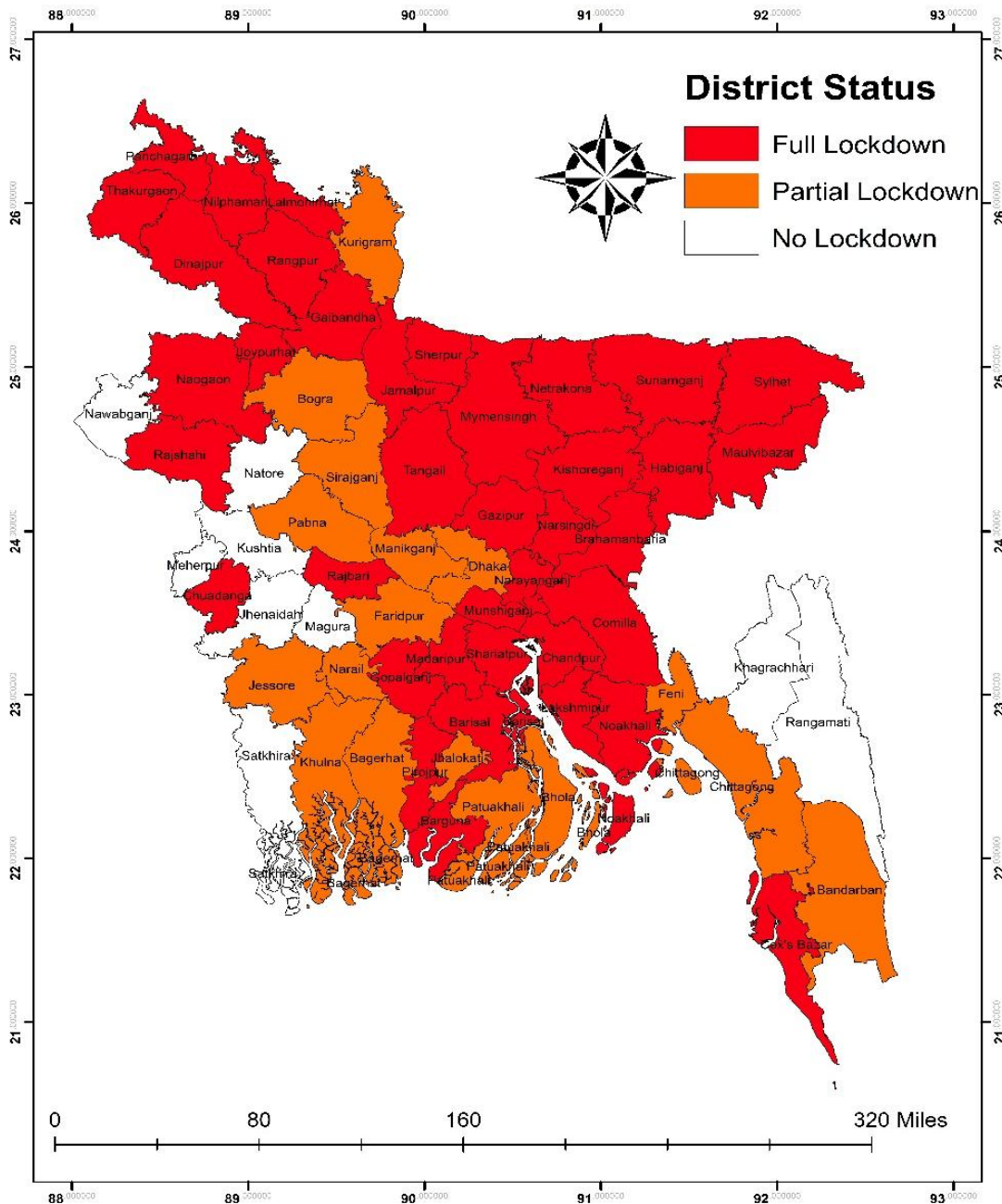


Fig. 1. Lockdown status of Bangladesh (up to 10th May 2020)

affecting the current and upcoming government economic programs of policy cooperation, especially between China and other economies like Bangladesh [59]. Although Bangladesh may have experienced a food crisis in terms of production and distribution, the government is taking several measures to cope with this shock. The Prime Minister of Bangladesh has proposed

a new stimulus package of Tk. 5,000 crore for farmers to support agricultural production in the light of the COVID-19 aftermath [60].

3. CONCLUSION

The uncertain end of coronavirus has made people’s life more difficult not only in Bangladesh

but also all over the world. As a developing country, Bangladesh has a large informal economy with major employment but at this crucial time, most of them have become unemployed which has a negative impact on their livelihood. Having enough access to food is a part of a good livelihood but lack of access to food has always been a challenge. In this case, the global food demand situation has deteriorated as a result of the COVID-19 pandemic. Poor monitoring systems, loss of jobs, and restricted transportation systems are the key factors that are hampering national food supply and demand. So, to overcome this state the Government should introduce subsidy-based transportation systems for agriculture to make the supply chain alive. Besides this in the short run, acquiring some nonperishable foods from farmers and selling them to the consumers via Trade Corporation Bangladesh may reduce the chance of food wastage and shortage. Along with this government should also keep an eye on harvesting rice so that it's not affected by rain and other circumstances. In the long run, to keep the food supply stable in the future, some policies have to be put forward to reduce the agricultural production cost and support the farmers during and after the pandemic period. Besides, undistinguishable medical facilities need to be ensured for the farmers to keep them safe from coronavirus.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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