

# The COVID-19: Socioeconomic Crisis and Its Management on a Bangladeshi Coastal Island

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**Abstract.** This study aimed to investigate the socio-economic crisis aroused due to the COVID-19 pandemic and associated prevention measures on the coastal riverine island Nalua in Bangladesh. The cross-sectional household questionnaire survey was done among the randomly selected households in the study area. This study revealed that more than 70 percent of the surveyed households had at least one member with COVID-19 symptoms. The local administration and community-based organizations have taken initiatives to enforce the government's order on the island, but about three-fourths of households did not test their family members having COVID-19 symptoms because of fear of isolation and societal barriers. However, whether tested or not, approximately 15 percent of households took steps to isolate the infected person from the rest of the family. The demand for hand washing agents, face masks, and gloves increased in the study area. Island dwellers' food supplies were hampered and about 74 percent were supposed to buy food items at an increased price. For recovering from the educational crisis, the students watched live television classes, participated in online class lectures, and submitted their desired assignments to their institutions. According to survey results, about 39 percent of economically active family members lost their income-generating occupations. To manage their livelihoods, island dwellers have switched their income sources and, in most cases, taken consumer loans. This study suggests that governments, non-government organizations, and community-based organizations need to take effective steps to reduce socioeconomic crises during pandemics.

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## 1. Introduction

The coronavirus disease (COVID-19) has been identified as the most threatening infectious disease in the world for the last three years, and its outbreak is still ongoing. It was first identified and reported from Wuhan City, China on December 31, 2019 and declared a pandemic on March 11, 2020 by the World Health Organization (WHO, 2020b, 2020a). The COVID-19 spread to at least 228 countries, killing over 6,360,283 people and infecting over 55.37 million people as of July 2, 2022 (Worldometer, 2022). Non-pharmaceutical strategies such as cancelling social activities, maintaining social distance, closing down educational institutions, shopping malls, cinema halls, theatres, and other mass gathering places; limiting local, regional, and national travel; handwashing; use of sanitizers; body temperature diagnosis, and so on are imposed as coronavirus disease control measures (Bauchner et al., 2020; Iese et al., 2021; Mulugeta et al., 2021). The novel contagious coronavirus disease has created immense health crises in the world. In addition, the non-pharmaceutical strategies followed to limit the spread of such diseases created several socio-economic crises that further disrupted the normal life and social well-being of human beings (Bodrud-Doza et al., 2020; Bukuluki et al., 2020; Firoj et al., 2021; Kithiia et al., 2020; Mulugeta et al., 2021). This safety measure

also caused problems for the stock market, tourism, the flow of money from abroad, etc. (Hassan et al., 2021).

In the case of Bangladesh, the government confirmed the first COVID-19 patient on March 8, 2020 (Crisis24, 2020; Paul, 2020). The country has recorded 1,975,682 confirmed cases and 29,154 human tolls until July 2, 2022 (Worldometer, 2022). The government first declared a countrywide lockdown on March 26, 2020 and prohibited all sorts of mass gatherings and related employment sectors (Gautam et al., 2022; Islam et al., 2020). The lockdown has suddenly and unexpectedly changed the social protection and employment conditions for the workers employed in the informal sectors (Firoj et al., 2021). These kinds of preventive measures have already resulted in 20 million people losing their jobs and being temporarily unemployed (Riaz, 2020). Furthermore, the COVID-19 situation created depression and anxiety in all groups of people. For example, many people worried about the crisis of emergency services, including healthcare facilities, food supply, etc., socially stigmatized healthcare workers, making them depressed. This situation has also made it hard for farmers and people who work in the garment industry to make a living because market demand has gone down and there have been problems in the supply chain (Gautam et al., 2022).

Several researchers have investigated the COVID-19 issues in Bangladesh based on the information available in the published sources. Amongst them, Begum et al. (2020) analysed the socio-economic consequences of the coronavirus pandemic for future correspondence. They found enormous adverse effects on the social, economic, and cultural well-being of the country. Similarly, Billah (2021) evaluated the social and economic impacts of the lockdown imposed due to the COVID-19 situation on the economy. He found an increasing trend of poverty and unemployment due to this pandemic situation and claimed that many people had lost their informal employment around the country. Kumar & Pinky (2021) emphasized the economic and health impacts of COVID-19 and their overcoming strategies. Likewise, Gautam et al. (2022) investigated the health, economic, and environmental impacts of the COVID-19 pandemic situation. In addition, Hossain (2021) assessed the employment and livelihood impacts created due to COVID-19 among the socially marginalized population of the country. Furthermore, Bidisha et al. (2021) examined the vulnerability of households during COVID-19 in the context of food poverty and food consumption behaviour concerning socio-demographic and environmental variables. They found that a greater percentage of households with elderly members were more likely to become food insecure. Also, they found that people who live in areas where disasters are common were more likely to run out of food.

On the other hand, several other researchers worked based on primary data collected from households or general populations using an offline or online questionnaire in different areas of Bangladesh. Amongst them, Firoj et al. (2021) investigated informal workers' livelihood conditions in Dhaka and Chittagong, including socio-economic, physical strength, mental health, and cultural wellbeing. They discovered that informal workers change their profession frequently, which has several negative consequences for the food-consuming behaviour, happiness, and education of the

family's children. Besides, Hossain et al. (2021) assessed the public understanding and psychological state of the COVID-19 pandemic in Bangladesh based on social and economic parameters. They observed that the amount of awareness was dependent on the severity of trauma and the amount of household wealth. Bodrud-Doza et al. (2020) conducted a people's perception study and identified psychological, social, and economic emergencies created due to this pandemic situation. Haque et al. (2020) studied the consequences of socio-economic variables in some areas of Khulna City Corporation, Bangladesh, which imposed a lockdown during the pandemic. They explored several consequences, including loss of employment of household maids due to hygienic issues evolving due to the current pandemic situation and of drivers to minimize operating costs. Furthermore, Karim & Tasnim (2022) explored the impacts of the COVID-19 lockdown on household food availability and nutritional status in the country. Moreover, Hosen et al. (2022) examined the impacts of the coronavirus pandemic on face-to-face education in tertiary educational institutions in the country. They found that the components of tertiary level education, including teachers, students, and administration, suffered from serious psychological problems as well as technical and financial problems. Therefore, it can be concluded based on literature reviews that there is still a lack of research into the link between COVID-19 and the socio-economic crisis in the coastal Riverine Island (Char) of Bangladesh. The char land occupies around 1,723 square kilometres (sq. km) and accounts for approximately 1.2 percent of the total land area of the country (Barkat et al., 2007). These char lands have a distinctive natural environment, comprising a total of 5 percent (6.5 million) of the country's population (Islam, 2006; Rahman & Siddik, 2018). This study aimed to investigate the socio-economic crisis aroused due to the COVID-19 pandemic and associated prevention measures on a coastal riverine island in Bangladesh.

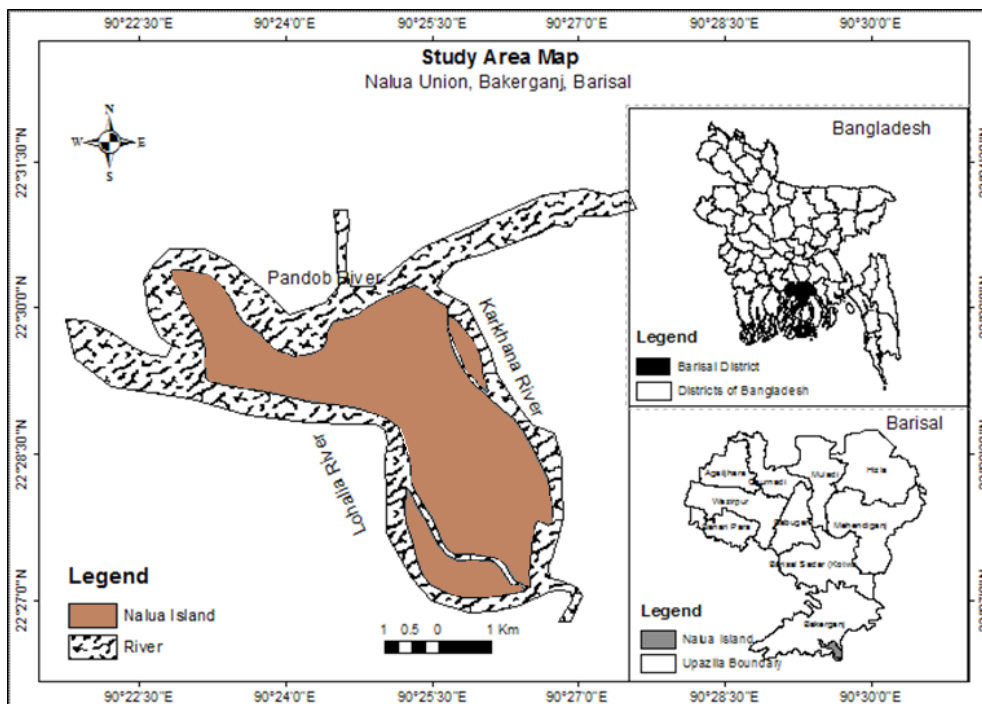


Figure 1. The study area map shows the landmass of the Nalua Union and surrounding rivers, including the Pandob River in the northwest, the Karkhana River in the east, and the Lohalia River in the southern part.

## 2. The Methods

### Study Area

Nalua Island has been purposefully selected for the study. It is a coastal island situated in the southern part of Bangladesh (Fig. 1). The Union (the lowest administrative unit of the local government), Nalua comprised of five Mouzas (the lowest revenue collection unit), of the Bakerganj sub-district under the Barisal district. It has a total area of 15.4 sq. km, including 7.7 sq. km of net cultivable land. There is a total of 9,270 people, including 45.8 percent of males and 54.2 percent of females, living in 2,157 households in this coastal Union. The Pandob River is located to the northwest, the Karkhana River is located to the east, and the Lohalia River is located to the south of this area (BBS, 2012; Siddik et al., 2017).

### Data Collection and Analysis

An intensive field investigation was carried out from March to June 2022 to accomplish the research objectives. This study explored the various socio-economic crises and related management practices in the COVID-19 pandemic situation. After conducting an extensive preliminary field visit, a semi-structured questionnaire was prepared and surveyed among the randomly selected different socioeconomic classes in the study area. With 90 percent confidence levels and 10 percent errors, 66 households were chosen from a total of 2,157 in the study area. The questionnaire was prepared in the Bengali language to communicate with the local community. After cleaning and cross-checking, the questionnaires were translated into the English language version. The questionnaire included basic socioeconomic information about the respondent and surveyed households. It also had questions about how to handle the food crisis, the medicine, and medical equipment crisis, the employment crisis, the education crisis, how to keep the virus from spreading through social isolation, and how to handle the social crisis. After conducting the household survey, the first stage of data checking was done at the desk. However, after the completion of the whole survey, the second and final stage of data checking was done through field cross-checking (2 percent). The obtained field data were processed and analysed through SPSS software (17.0 version) and MS Excel (2019 version). Both qualitative and quantitative analyses were made and presented in both tabular and graphical formats in the paper. The map of the study area was prepared using ArcGIS 10.0 software.

## 3. Results and Discussions

### The General Profile of the Households

A total of 66 respondents from randomly selected households were surveyed in the study area. The average age of the respondents was 47.68 years, with a minimum of 20 years and a maximum of 75 years. Table 1 shows the basic information of the households, including the main sources of family income, number of family members, number of economically active people, and monthly family income collected from the respondents. Results of the study revealed that the average family size was 5.01, whereas an average of 2.31 were male and 2.70 were female in each household. However, the average economically active person was about 1.5 in a family. This study found agriculture as the main source of income among 41 percent of households in the study area, followed by business, service, labour, fishing, and other sources of income. The average family income was 17,394 Bangladeshi Taka (BDT), including a minimum of 5,000 BDT and a maximum of 70,000 BDT.

### The COVID-19 Cases and Management

The COVID-19 cases and their management-related six questions were asked to the respondents during the household survey in the study area (Table 2). The respondents were first asked whether any family members were suffering from fever, cold, or cough during the pandemic situation. Amongst them, about 71 percent of the respondents said yes, at least one member of their household was affected by these symptoms of COVID-19. The second question was a follow-up linked question, i.e., whether the person with COVID-19 symptoms was tested or screened. This research found that about 26 percent of the households had taken the initiative to do the COVID-19 test on their family members with such symptoms but did not observe any COVID-19-positive cases. The other 74 percent did not screen their patients for COVID-19. A follow-up linked question was also asked this group about why they did not participate in testing. Fear of isolation and societal barriers was identified as the common cause by all the respondents. Only about 15 percent of the households with at least one patient with COVID-19 symptoms isolated their infected members from the rest of the family. The patients were mainly treated as per prescribed medicine (tested group), took medicine from a local medicine shop (not tested group), wore masks (both groups), and took homemade therapy (both groups).

Table 1. General statistics of the surveyed households

Variables	Statistics (N=66)
a) Average family member	5.01
b) Average economically active person	1.45
c) Main source of family income	Frequency (Percentage)
– Agriculture	27 (40.9)
– Business	16 (24.2)
– Service	10 (15.2)
– Labour (driver, mechanic, and other day labour)	8 (12.1)
– Fishing	3 (4.5)
– Other sources (retirement benefit, depending on others)	2 (3.0)
d) Average family income in Taka	17394

Table 2: The COVID-19 cases and their management practices

Variables	Frequency (Percentage)
1. Whether at least one member of the family suffered from fever, cold, and cough? (N=66)	
– Yes	47 (71.21)
– No	19 (40.43)
2. Whether the person with the COVID-19 symptoms was tested/screened? (N=47)	
– Yes	12 (25.53)
– No	35 (74.47)
3. Result of the COVID-19 screening (N=12)	
– Positive	0 (0.0)
– Negative	12 (100)
4. Why not tested? (N=35)	
– Fear of isolation if detected	35 (100)
– Fear of societal barriers if detected	35 (100)
5. Isolation of the patient with COVID-19 symptoms (N=47)	
– Yes	7 (14.89)
– No	40 (85.11)
6. Treatment of the patient with COVID-19 symptoms (N=47)	
– Taken prescribe medicine	12 (25.53)
– Taken medicine from the local shop	35 (74.47)
– Covered face with a mask	47 (100)
– Homemade therapy (tea, ginger, lemon juice, etc.)	47 (100)

### The COVID-19 Safety Measures Crisis and Management

The COVID-19 pandemic has had an enormous socioeconomic crisis in Bangladesh as well as all over the world. Like other countries, Bangladesh's government has taken several preventive measures, i.e., diagnosis of suspected cases; isolating the suspected family member; local or regional lockdown; imposing social distancing; media campaigning to ensure handwashing using soap and use of hand sanitizer (alcohol-based hand rub); and raising public awareness to minimize the effect of coronavirus disease (Islam et al., 2020). This study found that the local administration and community-based organizations (CBOs) have taken initiatives to execute the government's order in the study area. They frequently advised community members to maintain social distancing and avoid unnecessary movement, to wash their hands with soap or disinfect with hand sanitizer, and to diagnose the COVID-19 suspected family members and follow recommended health guidelines. In addition, they closed two main entrance points to this island during the lockdown period. Moreover, they created barriers on the local roads while emergency movement was allowed only. The demand for hand washing agents, hand sanitizer, face masks, and hand gloves was increased in the study area due to the COVID-19 pandemic. This increasing demand further increases the price of such materials in the local market. All of the surveyed households purchased the antiseptic and disinfectant almost at double the price compared to the price before the COVID-19 situation. In addition, the price of face masks and hand gloves was increased five times at the local market. To manage these crises, local government administrative bodies and CBOs provided hand sanitizer, hand washing materials, and face masks to the community people. This study revealed that about 29 percent and 8 percent of the households got

these materials from the local government administrative body and CBOs, respectively. The result found that a larger portion of the island dwellers was not tested for COVID-19. After having symptoms and medical detection, they got local and homemade treatment. Following that, the supply of food and the materials for safety and preventive measures were somehow available with increased prices in the local market.

### Food Crisis and Management

This study revealed that marginal community people usually purchase their daily food items from nearby markets or shops. Results showed that about 74 percent of the study's island dwellers were supposed to buy food items at an increased price. A question was asked to the respondents about the food supply situation in their families at that period. About 18 percent and 15 percent replied that their food supply conditions were not sufficient and very insufficient, respectively. To manage that situation, they customized the food menu, consumed low-standard foods, and sought the help of neighbours and relatives. Zabir et al. (2021) found an inadequate supply of food in the country due to the lockdown and associated "no trade" situations. Similarly, Rahman et al. (2022) explored that the gross food consumption of all classes of people was affected during this pandemic situation. Furthermore, the Bangladesh Rural Advancement Committee (BRAC) (2020) found that extreme poverty has increased by 60 percent more than before and at least 14 percent of the population has no food at home in Bangladesh due to the COVID-19 pandemic.

### Educational Crisis and Management

The COVID-19 outbreak has caused a serious catastrophe in the education system in Bangladesh. On March 16, 2020, the Ministry of Education announced that all educational



institutions would be closed from March 17 to April 4, 2020. However, this shutdown was later extended until September 31, 2021 through a one-by-one proclamation from the ministry (Gautam *et al.*, 2022). The education of approximately 37 million students in the country has been thrown into disarray as a direct result of this unfortunate circumstance (UNICEF & UNESCO, 2021). This situation further created anxiety, psychological stress, and a lack of confidence among the students (Gautam *et al.*, 2022). To bring alive the educational activities at the primary and secondary level, distance or e-learning programs were introduced by the Ministry of Education and the Ministry of Primary and Mass Education on March 29, 2020. The programs were mainly broadcast by “Sangsad Television” and the ministries’ online portals and platforms (Biswas *et al.*, 2020; The World Bank, 2021). Similarly, the University Grants Commission of Bangladesh declared on March 23, 2022, to start online academic programs at the university level (Genilo, 2021).

In the study area, there is one alim (higher secondary level) and two dakhil (secondary level) madrasahs (Islamic religious educational institutions), three secondary schools, fourteen government primary schools, one kindergarten school, one kindergarten madrasah, and one autistic primary school. Due to the COVID-19 pandemic situation, face-to-face educational activities were closed for at least 432 days at different stages in the period from 17 March 2020 to 28 February 2022. However, a rationing system, i.e., activities of different classes on different alternative working days, was also started for five months from September 2021 to January 2022 in primary-level education. To recover from the education gap, online class lectures were also conducted by the school teachers. In addition, supplementary assignments were also included instead of exams in the education system to recover the gap in face-to-face classes. According to the findings of this study, about 14 percent watched live class lectures on television, about 92 percent prepared and submitted desired assignments, and about 59 percent took part in online class lectures.

#### **Economic (livelihood) Crisis and Management**

The COVID-19 economic collapse disproportionately harmed the poor, many of whom had no savings at all or only a small amount. About 20 million individuals who are dependent on the informal sector for their survival—mostly rickshaw pullers, transportation workers, laborers, roadside sellers, and the workers of residential hotels, resorts, motels, and restaurants—have already left their employment and have been temporarily jobless owing to the lockdown measures in the country (Islam & Jahangir, 2020; Riaz, 2020). This study found a similar scenario for the livelihood of the island dwellers who were involved with some small-scale businesses, mainly shopkeepers, street hawkers, battery-operated auto-rickshaw drivers, etc. In addition, the inhabitants who were working in the garment industries, companies, and informal sectors in the other cities of the country also faced serious situations during their off-income phase. The survey results found that about 39 percent of economically active family members lost their income-generating occupations due to the pandemic conditions. More than 50 percent of them reported that they switched their employment from service to other jobs, 35.13 percent switched from business to other jobs, and 13.51 percent switched from day laborers to other jobs during the COVID-19 pandemic from non-governmental

organizations (NGOs) and relatives. Moreover, island dwellers have reduced their level of food standards to meet their basic needs. Furthermore, they stopped the instalment of the loan taken from various microcredit organizations. In addition, they used their small reserves to manage their operational expenses.

#### **4. Conclusions**

The COVID-19 pandemic affected mostly the various socioeconomic sectors in the study area. Though all of the island dwellers were affected due to this novel pandemic, the marginalized populations of society were disproportionately affected. In addition, being an isolated island in the coastal area of the country, the study area was highly affected during the COVID-19 pandemic situation. This study was also assembled with the management of the COVID-19 cases, the crisis of safety measures, food crisis, educational crisis, and livelihood crisis, and their management. The food supply was hampered due to this pandemic situation. A shortage of food supply further increases food prices, which creates additional panic among these marginal dwellers. Though some alternative measures were taken to recover from the crisis in formal education, this sector affected mostly growing children for a long period of the gap in schooling. This study also identified livelihood as the most affected sector in the study area. A notable number of earners lost their income-generating activities. Some of them shifted their occupations. The residents of the island faced numerous challenges in dealing with the economic crisis in their lives. Even though the local government and some non-governmental organizations (NGOs) worked together to deal with this crisis, their efforts were not nearly enough. Moreover, this study suggested some recommendations for future management during such a pandemic situation in such an isolated landmass. It is strongly suggested that governments, NGOs, and CBOs help marginalized people make a living so they can get enough food, medicine, and medical care.

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