

Environment Development and Health Safety System in Rural Areas of Bangladesh (Noakhali and Lakshmipur Districts)

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Abstract

At present time, Bangladesh is developing its position in all sectors of world prosperity. Economic development of Bangladesh depends on working ability of whole population of this country, although Bangladesh is not developed in health status of its whole population. A large percentage of people live in rural areas without any proper shelter. This study revealed the environmental development and health safety system in rural areas of Bangladesh, which is located in Noakhali and Lakshmipur districts of Bangladesh. Many sections were studied, which are the main structure of environmental development and health safety system of southeastern region of Bangladesh. The study found that there were three types of handicraft enterprises in the surveyed area such as handicraft input, like palm leaf, factories, Betel nut businesses, and Coconut businesses were headed and owned by the women and they were unaware of their health, environment and waste management or reduction of pollution. This study also reveals that microentrepreneurs did not ensure purified water supply and hygienic toilets within enterprises in the study area. The study also found that a significant portion of the microentrepreneurs are workers, and their family members were always fewer users of protective equipment during the COVID-19 pandemic. This study identified that most MEs faced transport or carrying facilities or big costing problems, including problems in available services for raw materials in the high category. In contrast, the high cost of transport facilities was very intensive in the study area. Moreover, it found that Microentrepreneurs (MEs) faced high product marketing costs for transport facilities, and a lack of proper pricing of the products in the study area. In addition, it explored that most of the microentrepreneurs did not receive sufficient credit support, and they faced negative attitudes and delayed responses from the credit services providers in

the study area. It also found that the majority of the microentrepreneurs argued that capital support, loan, aid, technological assistance, infrastructural assistance, availability of skilled labor forces, availability of raw materials, and getting the government assistance and services were the major reasons for the highest growth of the enterprises in the study area. In addition, entire MEs had no knowledge and understanding of climate change in the study area. It is worth mentioning that MEs were not aware of climate change and its impacts on nature in the handicrafts sector and in their daily lives. A significant portion of the MEs took safety measures against risk and protected themselves and workers within the enterprises in the study area. MEs had various demands such as infrastructural development, economic assistance (/aid/loan/grants/financial), training and development, assistance for environment development, and machinery assistance for promoting their business. MEs argued that the implementation of their suggestion is the key to improve the current situation of the enterprises. The MEs suggested appointing expert workers, ensuring quality inputs, training workers and reserving products carefully.

Keywords

COVID-19, Handicraft, Ingredients, Microenterprise, Environment, Climate-Change, Waste-Management

1. Introduction

SOPIRET is implementing a sub-project of the Sustainable Enterprise Project (SEP), namely “Promotion of Natural Ingredient Made Handicraft Entrepreneurship in the South-Eastern Region of Bangladesh” in Noakhali and Lakshmipur district. Handicraft refers to the necessary products produced by the skilled artisan, for instance, Nakshi Katha, baskets, tables, chairs, Sheetal Pati (mat feels cold during summer, made from Murta tree), clay toys, nets of fisherman, painted pottery and image-making crafts, woven clothes, ornaments, carpet craft, work of a blacksmith, and so on. On the other hand, natural ingredients refer to the elements used for handicrafts products, such as bamboo, cane, date palm leaf, hogla (bush-like small plant), jute, metal leaf, sea grass, cotton, terracotta, and other relevant handicrafts ingredients. However, this study tried to obtain a snapshot assessment of the current business, economic, environmental, and climatic conditions of the microentrepreneurs likely to participate in the project activities. The changes related to the project interventions and their progress will be evaluated after the project period.

Enhancing environmental sustainability and climate resilience is becoming increasingly important for sustaining Bangladesh’s economic progress. Bangladesh ranked 173 out of 180 countries on Yale’s 2016 Environmental Performance Index. Globally, Bangladesh ranks among the countries with the economy most at risk due to the impacts of climate change. The rapid growth of manufacturing,

dominated by Micro, Small and Medium Enterprises (MSMEs), has led to a massive increase in natural resource use and degradation and to growing air, soil and water pollution. Reducing negative environmental externalities has been identified as a priority area for Bangladesh to continue progress toward reducing poverty and inequality. Embarking on a greener growth pathway would provide major benefits for Bangladesh in terms of increased productivity and innovation, access to new markets, generation of public revenue, and reduction of vulnerability to shocks. The Sustainable Enterprise Project (SEP) supports microenterprises in agribusiness and manufacturing clusters with a focus on areas that are environmentally stressed and/or vulnerable to climate change and natural disasters. The project aims to support microenterprises through environment-friendly investments (energy, water and resource efficiency) in the agribusiness and manufacturing sectors to promote environmentally sustainable technologies and practices among microenterprises in environmentally vulnerable areas, induce changes in the micro-lending ecosystem, and support the adoption of basic operational safety norms in project-supported enterprises. The project will consist of three components: 1) enhancing services and enabling systems, 2) strengthening access to finance for commercially viable environmentally friendly and resilient microenterprises, and 3) project management, knowledge management, and monitoring and evaluation. The project will prioritize: a) a selected number of polluting microenterprise business clusters that can reduce emission and increase resource efficiency and b) the expansion of innovative economic activities that contribute to environmentally friendly clean and green business and climate resilience. The role of PKSF in promoting environmental issues in microenterprises is crucial. PKSF's Microenterprise Program extends financial services to its Partner Organizations (POs) for undertaking Microenterprises. PKSF has been facilitating women's empowerment in microenterprise sector by providing opportunities for loan financing for women entrepreneurs. Currently, more than 77% of the total ME loan borrowers of PKSF are women. With the help of the Government, PKSF is implementing the "Sustainable Enterprise Project (SEP)" financed by World Bank for the microenterprise sector to improve its environmental sustainability.

1.1. Aims and Objectives

This thesis report has been conducted to obtain an assessment of the current business, economic, environmental, and climatic conditions of the microentrepreneurs who are likely to participate in the project activities. It will help to trace the changes related to the project interventions and their progress can be evaluated after the project period. Moreover, the survey established the project participants' baseline situation on a significant number of variables related to sales, profit, employment, asset creation, environment and health, safety situation, etc.

The objective of SEP is to increase the adoption of environmentally sustainable practices by targeted microenterprises. SEP has selected 30 lead districts as the

project working area to demonstrate the project's impact on different sub-sectors. The project prioritizes a selected number of polluting microenterprise business clusters and supports the expansion of innovative economic activities conducive to a more sustainable environment.

1.2. Methodology

This research has utilized mixed approach. A total of five unions were covered by the survey, three unions such as Lakshmipur pourashava union under Lakshmipur Sadar Upazila, Raipur pourashava and keroa union under Raipur Upazila of Lakshmipur District are from Lakshmipur District, and two unions are from Noakhali District such as char motua and ewazbalia unions under Noakhali Sadar Upazila. The study included 200 microentrepreneurs that who interviewed with a questionnaire schedule. In this survey, 5 Key Informant Interviews were conducted through which important stakeholders were interviewed. Moreover, 2 Focus Group Discussions were conducted with interview guidelines where 10 MEs were present in every FGD session in the study area. The questionnaire for the sample survey, interview guidelines for KIIs, and FGD guidelines were used to collect the data. The sample was selected as per provided list of the MEs by the project implementing organization.

To facilitate the support to the Microenterprise (ME) clusters and the MEs through the selected POs, the project is following a stepwise process beginning with submission of Sub-Project Concept Note (SPCN). The POs would be encouraged to collect information from the clusters they are familiar with and submit cluster-level Sub-Project Concept Note (SPCN). After acceptance of the SPCN, the selected POs receive financing to support the environment-friendly activities at the PO level and are requested to share the Detail Sub-Project Proposal (DSPP). The objective of the DSPP is therefore to assess the detailed plan and needs of the cluster and cluster members to implement the proposed common activities of the sub-project.

2. Materials and Methods

2.1. Materials

This project area is located in the southeastern region of Bangladesh. It is under Chittagong City Corporation. My project area is basically Noakhali and Lakshmipur's rural coastal area which is situated in Lakshmipur Sadar (22.9396°N, 90.8279°E), Raipur (23.9816°N, 90.8799°E), Ramganj (Latitude, 23°6'13.82"N; Longitude, 90°51'59.68"E) thana and Noakhali sadar thana under Saheber hat-Awabaliya Union, Uday sadhur hat-Char motuya (Latitude: 22.8333°N Longitude: 91.1000°E). The total population of the laxmipur district Bangladesh is According to the 2011 Bangladesh census, Lakshmipur Sadar Upazila had 144,228 households and a population of 684,425, 12.3% of whom lived in urban areas. 11.4% of the population was under the age of 5. The literacy rate (age 7 and over) was 51.9%, compared to the national average of 51.8%. And Noakhali district

also my project area so According to the 2011 Bangladesh census, Noakhali Sadar Upazila had 100,219 households and a population of 525,934, 24.9% of whom lived in urban areas [1]. 12.3% of the population was under the age of 5 [2]. The literacy rate (age 7 and over) was 51.7%, compared to the national average of 51.8% [3] [4].

The boundaries of the upazila were redrawn in 2005 to create a new upazila, Suborno Char [5] and again in 2006 to create Kabirhat Upazila [6]. The combined population of the three in 2011 was 1,012,392, a 32% increase from 2001.

Figure 1 is describing the map of the study area where location is called Noakhali and Lakshmipur districts in Bangladesh. **Figure 2** briefly describes the working area of sub-project. And also describe the lead cluster of project area.

Sustainable Enterprise Project (SEP) project is jointly financed by Palli Karma-Sahayak Foundation (PKSF) and World Bank. SEP aims to increase the adoption of environmentally sustainable practices by targeted microenterprises.

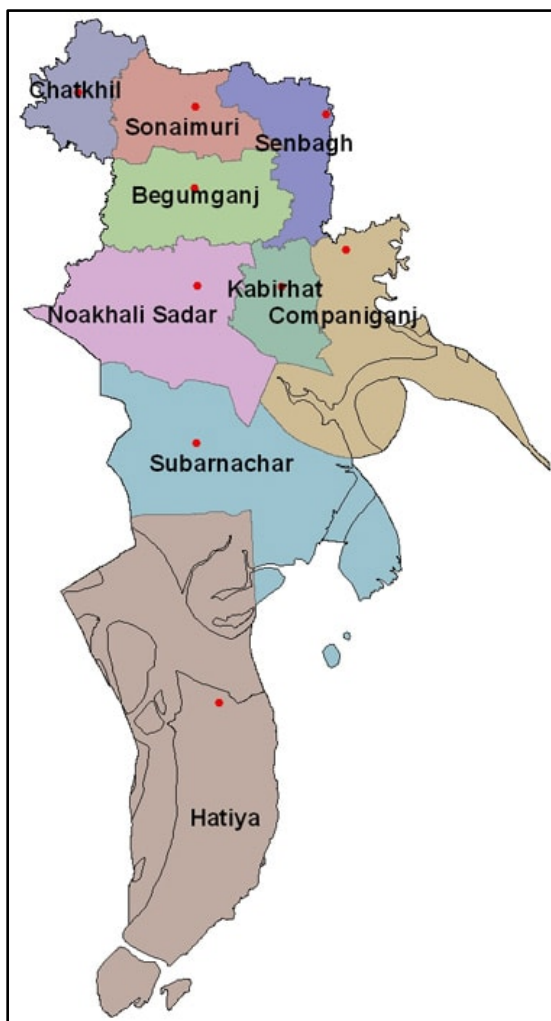


Figure 1. Map of the study area-1 Noakhali district in Bangladesh.

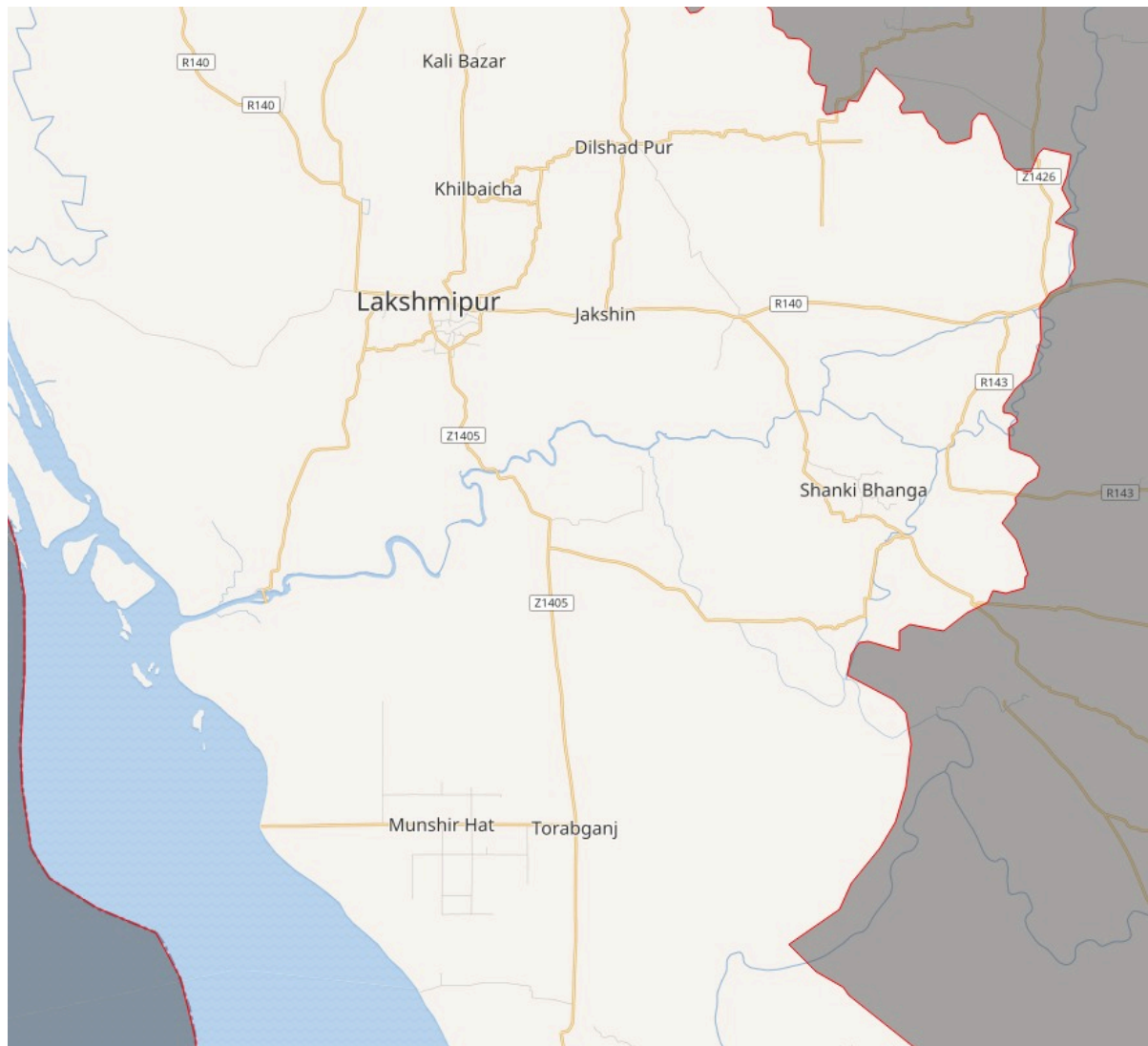


Figure 2. Map of the study area-2 Lakshmipur district in Bangladesh.

SEP has selected 30 lead districts as the project working area to demonstrate the project's impact on different sub-sectors. The project prioritizes some polluting microenterprise business clusters and supports expanding innovative economic activities conducive to a more sustainable environment.

Society for Project Implementation Research Evaluation & Training (SOPIRET) is implementing this sub-project in 3 Upazila under Bangladesh's Lakshmipur and Noakhali districts. This 2 years (2021 to 2022) sub-project will support achieving the global goals of the main SEP project. The sub-project activities will be implemented in the business clusters of Handicrafts in the project areas.

2.2. Background of the Thesis Survey

The global environment is degrading everyday by manufacturing sectors. However, use of synthetic raw materials is also reducing as people becoming more

concerned about the environment and shifting their shopping habits to more environment-friendly items. Now, a significant portion of the global customers are very concerned about environmental preservation [7]. In the perspective of Bangladesh, a big part of the daily necessities and luxurious products are being produced from hand-based industries. Large amounts of the population remain attached to handicraft industries. Having its roots firmly in the long heritage of the land, it has developed gradually overage embodying the rich, unique traditions of the soil and its people and their distinct culture. Now handicraft industries are well organized, and facilitation services provided by the government and other private organizations to arrange and improve the sector have prepared the path for the industry to execute more effectively and efficiently [1].

Microentrepreneurial activities play crucial roles in developing rural economies in developing nations, particularly in Bangladesh.

For more than three decades, the government of Bangladesh has concentrated its efforts on poverty reduction via rural-centric microentrepreneurship development [8]. The Palli Karma-Sahayak Foundation (PKSF) initiated a project named as Sustainable Enterprise Project (SEP) for Bangladesh, aiming to increase the number of small businesses in the country that use environmentally friendly methods while also strengthening their marketing and brand development capabilities. It seeks to enhance environmentally friendly practices by selected microbusinesses [9]. Among the total \$130 million (BDT 1040 crore) budget, the World Bank's share of the project is \$110 the PKSF's part is \$20 million. For five years (2018-2023), the project will assist 40,000 microenterprises in the agricultural and industrial sectors, particularly in ecologically challenged and climate-vulnerable regions. Society for Project Implementation Research Evaluation & Training (SOPIRET) becomes associated with this project as an implementing partner of this project in 3 Upazila of Noakhali and Lakhimpur districts. The handicrafts-based microbusiness will get the patronization under this project to improve the microenterprises' overall business and environment to attain a more sustainable environment.

Bangladesh is unquestionably a shopper's paradise, offering a diverse selection of handicrafts, jewelry, and building materials at various price points. Travelers particularly like purchasing souvenirs such as silks, coconut masks, and bamboo items, handloom textiles and woodworks, cane and conch shell products, gold and silver decorations, cotton and printed saris, and folk dolls, among other things [4]. Promoting handicraft-based microenterprises in Bangladesh under these circumstances will undoubtedly accelerate the broad goals of the Sustainable Enterprise Project (SEP).

2.3. Statement of the Problem

Handicrafts of a country are the unique identification of that nation. Every country has its collection of handicrafts. Handicraft is defined as anything done partially or entirely by a men or women with their own hands or supported by a

machine. Men can demonstrate their originality and expertise. Many tiny and huge works of art of this kind may be found in every nook and cranny of Bangladesh. The history, tradition, and present stream of development of a country and nation are mirrored in this substance produced by the cottage industry. These goods are likewise making their way into the international market gradually. Thanks to those who started the endeavor to expand this sector beyond home boundaries and the international purchasers who have made Bangladeshi handicrafts sector worth thousands of dollars [10].

The Economic Census 2013 reported that cottage businesses and microenterprises accounted for around 89% of the country's 7.8 million economic entities. The average number of people employed by a microenterprise was 1.98 people [5].

In **Table 1**, we see the types of enterprise in surveyed project area. In this table, what number of people is using, what types of enterprise is briefly shown here. We can see the Cottage is using 6.843 million of project area people and percentage is 87.52% which is more than another types of using enterprises. In this table, we also is the lower using rate of large enterprise is just 0.005 million and percent is just 0.07%.

Even though microenterprises employ 13.76 million people or 56% of the total number of persons used by all businesses, these businesses confront a variety of nonfinancial and financial restraints. Among the nonfinancial restrictions include a scarcity of physical facilities and services and governmental laws. Access to credit is the most significant impediment to the development of microenterprises in Bangladesh. Microenterprises have extremely limited access to bank finance, mostly because banks do not consider Microenterprises viable consumers. The cost of issuing such tiny loans is prohibitively expensive. They are often denied getting bank loans. A study by the Business Finance for the Poor in Bangladesh (BFP-B) revealed that the loan demand and supply gap was Tk437.39 billion in 2015 [11].

Typically, the major motivation of a microentrepreneur is to develop self-employment opportunities and, ultimately, to produce revenue. In the context of Bangladesh, microentrepreneurship is often associated with cottage industries, referring it as "informal sectors", and they are primarily engaged in livestock,

Table 1. Type of enterprises.

Type of Enterprise	Number (Million)	Share of Total (%)
Cottage	6.843	87.52
Micro	0.104	1.33
Small	0.859	10.99
Medium	0.008	0.09
Large	0.005	0.07
Total	7.819	100.00

agriculture, fishing, cottage industries, food processing, trading, and any other small manufacturing businesses [8].

This study will explore the existing business, economic and environmental conditions of the microentrepreneurs engaged in mostly natural ingredient-based handicraft production processes in the South-Eastern region of Bangladesh. This study will estimate MEs categorical businesses, the structure of the employment, types of activities, the growth rate of the production, and the total environment and climatic condition of the areas, which will be used as a benchmark for the said project.

2.4. Significant Findings

Categories of Microenterprises: The study found that there were three types of handicrafts enterprises in the surveyed area such as handicraft input, like palm leaf, factories, Betel nut businesses, and Coconut business were headed and owned by the women. The study also showed that palm leaf is the most used ingredients in handicrafts production in surveyed area. The study also found two types of ownership, *i.e.* single ownership and joint ownership, in which single ownership was dominant, which was 99% against all categories of MEs.

Infrastructural and Loan Status: The study found significant changes in infrastructural development. Many mud or tin made houses have been transformed into cement made houses in the surveyed area. Moreover, the majority of the MEs had loans in one or another loan provider organization. However, most MEs had loan below 50-thousand-taka.

Properties and Assets Comparison: A comparison of data on properties of the initial stage to the current phase of the enterprise revealed that enterprises achieved massive changes in properties expansion in the study area. Most enterprises had little asset (below 50 thousand) in the initial phase of the enterprises. In contrast, a significant portion of them had 2.1 lac to 6 lac equivalent properties during surveyed time in the study area.

Contribution to Family Income: Data found that most MEs have poor income while only a minuscule portion of the MEs have 8 lac or above income per month in the study area. The study observed that MEs have significant roles in fulfilling the basic needs and other necessitates related to household needs in the study area.

Employees Comparison: Data on employee comparison revealed that the most enterprises have 1 to 4 employees at the initial stage, and there are no employees above 8 in any enterprise.

Performing Activities: The study found that MEs in the study area perform various kinds of activities ranging from collection of raw materials to production, marketization, and brand promotion of the products.

Capital Status: A significant portion of the enterprises have lower than 2 lac equivalent capital in the study area. It also found that most of them had even lower capital (below 50 thousand) in the initial phase of the enterprises.

Legal and Marketing Requirement: The study found that most of the MEs have little knowledge about legal requirements. It is also found that many enterprises were trying to expand their markets in divisional and metropolitan cities. MEs are aspiring to promote digital marketing and brand promotion for their product to increase their sells nationally and internationally.

The Current Demands: The study revealed that most MEs argued for a loan with minimum interest and a long repayment period. Almost every ME pursued government subsidy or support for their business expansion and infrastructural development. Data on training status within the enterprises revealed that a significant portion of the training receivers of the MEs did not receive training in the study area. It also found that the majority of the MEs argued that capital support, loan, aid, technological assistance, infrastructural assistance, availability of skilled labor forces, availability of raw materials, and getting the government assistance and services were the major reasons for the highest growth of the enterprises in the study area.

Knowledge about Environment: The study found that entire MEs had no knowledge and understanding of climate change in the study area. It is worth mentioning that MEs were not aware of climate change and its impacts on nature in the handicrafts sector and in their daily lives. A significant portion of the MEs taken safety measures against risk and protected themselves and workers within the enterprises in the study area.

COVID-19 and Assistance: The study found that most of the MEs did not ensure purified water supply and hygienic toilets within enterprises in the study area. The study also found that a significant portion of the MEs, workers, and their family members were always fewer users of protective equipment during the COVID-19 pandemic. The income of a significant portion of the MEs decreased during COVID-19 in the study area. A significant portion of the MEs reduced their sales of the production of the enterprises from 31% to 40% during COVID-19. The study also found that most of the MEs did not receive any grant during that time.

Problems: The study found that most MEs faced transport or carrying facilities or big costing problems, including problems in available services for raw materials in the high category. In contrast, the high cost of transport facilities was very intensive in the study area. Moreover, it found that MEs faced high product marketing costs for transport facilities, and a lack of proper pricing of the products in the study area. In addition, it explored that most of the MEs did not receive sufficient credit support, and they faced negative attitudes and delayed responses from the credit services providers in the study area.

Future Demands: The study found that most MEs had various demands such as infrastructural development, economic assistance (/aid/loan/grants/financial), training and development, assistance for environment development, and machinery assistance for promoting their business.

Recommendations: MEs argued that their implementation of their suggestion is the key to improve the current situation of the enterprises. The MEs suggested

to appoint expert workers, ensure quality inputs, train workers and reserve products carefully.

3. Concept of Environment Protection in Project Area

3.1. Knowledge of Environment and Climate Change

Climate change is one of the burning issues the world is facing currently. Climate change impacts include temperature rises, greenhouse and carbon dioxide gas emissions, irregular rainfall, and the increase in floods, cyclones, and storm surges, which seriously affect agriculture and livelihoods and the production of any industry related to the production of rice. Bangladesh is likely to be the most affected due to its geographical location. The main natural reason for using harmful chemicals is global warming, and there is widespread ignorance about the causes of climate change. Humans are the primary cause of climate change. As a result, everyone should be concerned about climate change, its negative consequences, and what we should and should not do. In addition, environmental knowledge helps us keep healthy surroundings and protect against environmental degradation, enhancing our coping strategies with climate change. A sound understanding of the environment can play a vital role in taking preventive measures against environmental pollution. However, data on knowledge about the environment of MEs revealed that only 18% of MEs had knowledge about the environment and pollution.

In comparison, 82% of the MEs had little knowledge about the environment and environmental pollution in the study area. So, a significant portion of the MEs had no expertise and sound understanding on environmental pollution in the study area. Moreover, when exploring the concept and knowledge of climate change of the MEs, regretfully, the study found that entire MEs had no knowledge and understanding about climate change in the study area.

In **Table 2**, we see in our project area people have 0% of knowledge about climate change and 18% of people have knowledge about environment.

3.2. Environment Pollution Defined by the MEs

The study observed that 75% of the MEs are unaware about the environmental pollutions in the study area. Data regarding the understanding of environmental pollution and losses revealed that only 0.5 percent indicated randomly cutting trees and 23.5 percent meant garbage and waste are the pollution. Moreover, 0.5 percent of MEs indicated lacking hygienic toilets & throwing wastages here and there as pollution, and 0.5% percent stated polluting ponds, canals, rivers, and

Table 2. Knowledge about the environment.

Topics	Frequency	Percentage
Knowledge about the environment	100	18
Climate change	100	0

other water bodies are environmental pollution. Moreover, a considerable part of the MEs was unaware of the study area's ecological pollution by air, water, and sound or noise.

3.3. Safety Measure

Existing data indicated that proper knowledge of environmental impacts and safety measures reduces the risks and vulnerability of accidents and hazardous or disastrous situations in the workplace. The study found that merely 25 percent of them knew about environmental impacts. In comparison, 75 percent had no such kind of knowledge of ecological effects. This data indicates that most MEs are unaware of environmental hazards, calamities, disasters, and how to mitigate ecological impacts properly. Only 2 of the MEs ensured an improved workplace, 51 of the MEs ensured sufficient light and air system, 83 of the MEs installed transparent roofs, 5 of the MEs provided face masks, and 16 of the MEs maintained physical distancing.

3.4. Nature of the Wastes

Waste management is vital for keeping the environment healthy and favorable to all types of creatures worldwide. But a significant portion of the world's people have suffered a lack of waste management knowledge; as a result, they do not manage waste properly.

In **Table 3**, data on the waste production within enterprises revealed that 95.5% of the enterprise produced solid waste, 47% made toured bags, and 23% of the MEs have produced boiling water in their enterprises.

Table 4 described briefly the safety measurement situation in microentrepreneurs working area. What percent of MEs having safety system is shown in **Table 4**. This table has shown that we surveyed in 200 microentrepreneurs of project area and see that only 50 of them having safety system and percent is just 25%. And 150 microentrepreneurs don't have the safety measures system percent of them is 75%.

Several nature of safety system which is implemented by the MEs is shown in the table. Like hygienic toilets usable percentages is 20.4%, Purified water drink 20.4% of people, Bin for proper waste management is 9.2%, Emergency Hospitalization 8.6%.

Table 5 briefly showed the frequency of the nature of wastes which is solid waste, Tored bags, boiling water and their percentage is 95.5%, 47.0% and 23.0%.

Table 3. ME's knowledge regarding pollution.

Topics	Frequency	Percentage
Lack of proper knowledge	100	75
Garbage and waste	100	23.50
Others	100	1.50

Table 4. Safety measures.

	Yes		No		Total	
	N	Percent	N	Percent	N	Percent
Having safety system	50	25.0%	150	75.0%	200	100.0%

Nature of Safety System		
Indicator	Responses	
	N	Percent
Hygienic toilets	109	20.4%
Purified water	145	27.1%
Improved workplace	2	0.4%
System of sufficient light and air	51	9.5%
Transparent roof	83	15.5%
Heat resistant insulator	1	0.2%
First aid	1	0.2%
Face mask	5	0.9%
Physical distance maintaining	16	3.0%
Emergency hospitalization	46	8.6%
Separate places for labor rest/relax	14	2.6%
Bin for proper waste management	49	9.2%
Others	13	2.4%
Total	535	100.0%

Table 5. The nature of the wastes.

Types of Waste	Frequency	Percentage
Solid waste	191	95.5
Tored bags	94	47.0
Boiling water	46	23.0

3.5. Nature of the Solid Wastes

The study revealed that 80 percent of the enterprises produce 1 to 20 kg solid waste per day and 9 percent of them produce 21 - 40 kg per day. In case of tored bag, around 48% MEs produce 20 or less number of bags per day. Boiling water is another source of pollution for the studied MEs. Around 23 percent of the MEs produce 2 or less boiling water per day.

In **Table 6**, we see the nature of the solid wastes which is produced in the project area.

3.6. Ways of Waste Management

It was observed that MEs in the study area produced different pollutants. It also

Table 6. The nature of the solid wastes.

KG	Frequency	Percentage
1 to 20 KG	160	80.0
21 to 40 KG	18	9.0
41 to 60 KG	1	0.5
61 to 80 KG	1	0.5
101 to 200 KG	6	3.0
201 to 400 KG	3	1.5
1200 KG	2	1.0
System	9	4.5
Total	200	100.0

Tored Bags		
Bag	Frequency	Percent
1 to 10 Bags	89	44.5
11 to 20 Bags	4	2.0
41 to 50 Bags	1	0.5
Total	94	47.0
System	106	53.0
	200	100.0

Boiling Water		
Liter	Frequency	Percent
1	7	3.5
2	32	16.0
3	7	3.5
Total	46	23.0
System	154	77.0
	200	100.0

observed that a small portion of the MEs had adopted the proper way to dump or discharge it. Only 11 percent of the MEs recycle the pollutants and rest does not have this facility. It has been found in the study that 38 of the ME removed waste it to the nearest land as they had not a specified place to dump it. It also found that 161 of the total MEs store the polluting waste in a particular site in the enterprise. Data also revealed that 65 MEs sell the polluting waste, which can be sold and used as fuel for cooking. Moreover, it is found that 37 of the MEs recycled the polluting waste, and 30 of the MEs burned the rubbish and garbage in a specific place as a way of waste management.

From **Table 7**, we can see the ways of waste management in the project area. Dumping in the nearest lands is 11.5%, store pollutant in a specific place is 48.6%, Selling the pollutant waste is 19.6%.

Table 7. The ways of waste management.

Ways	Responses	
	N	Percent
Dumping in the nearest lands	38	11.5%
Store pollutant in a specific place	161	48.6%
Selling the pollutant waste	65	19.6%
Recycling the pollutant waste	37	11.2%
Burned	30	9.1%
Total	331	100.0%

3.7. Environmental Pollution Defined by the MEs

We see in the project area microentrepreneur's polluted environment in several ways. We see the percentages of pollution in environment in this table. Garbage is produced in project area is 23.5%, cutting of the tree randomly is 0.5%.

In **Table 8**, we can see that microentrepreneurs are doing pollution in the Environment. This table briefly showed that the frequency and percent of environmental pollution defined by the MEs.

3.8. Environmental Constraints

Heavy rainfall and unfavorable weather are two issues where MEs find moderate to difficult problems. Around 50% feel moderate level difficulty and 25% feel severe difficulty in getting assistance to mitigate natural disasters and natural disaster related challenges.

In **Figure 3**, blue Colum is showing the percentage of unfavorable weather, Unfavorable Weather, Natural Disaster Challenges, Excessive pressure by the government authority, insufficient assistance for the mitigating natural disasters, Heavy Rainfall.

In **Table 9**, we see the percentages of environmental constraints in my project area. This table is described the situation of project area when Unfavorable Weather, Natural Disaster Challenges, Excessive pressure by the government authority, Insufficient assistance for the mitigating natural disasters, Heavy Rainfall.

3.9. Environment at Enterprise in Terms of Air, Water, Soil Pollution, and Waste Management

Environmental issues in every enterprise are critical because ecological pollution has a multidimensional impact on the population's health, causing climate change. The study has been tried to know the environmental situation at the enterprise, and it has been found that MEs are not very much aware of maintaining ecological obligations at the enterprise. Some enterprises try to keep their Enterprise health and safety measures; they are food producers from coconut ingredients. And notably, women connected to hogla data-related activities are unaware

Table 8. Environmental pollution defined by the MEs.

Nature	Frequency	Percentage
Cutting of the tree randomly	1	0.5
Garbage	47	23.5
Lacking of hygienic toilet & throwing wastages here and there	1	0.5
Polluting ponds, canal, river and other water area	1	0.5
Soil, water and air pollution	7	3.5
Sound and air pollution	4	2.0
Throwing wastages around	25	12.5
Unknown	102	51.0
Water and soil pollution	12	6.0
Total	200	100.0

Table 9. Environmental constraints.

Nature	Very High	High	Moderate	Low	Very Low	No Problem at All
Unfavorable weather	20.0%	26.5%	2.0%	30.5%	21.0%	0.0%
Natural disaster challenges	4.5%	16.5%	25.5%	50.5%	3.0%	0.0%
Excessive pressure by the government authority	3.0%	9.5%	11.0%	23.5%	2.5%	50.5%
Insufficient assistance for the mitigating natural disasters	6.5%	14.0%	25.0%	5.5%	24.0%	25.0%
Heavy rainfall	12.9%	11.9%	57.7%	1.5%	0.0%	16.0%

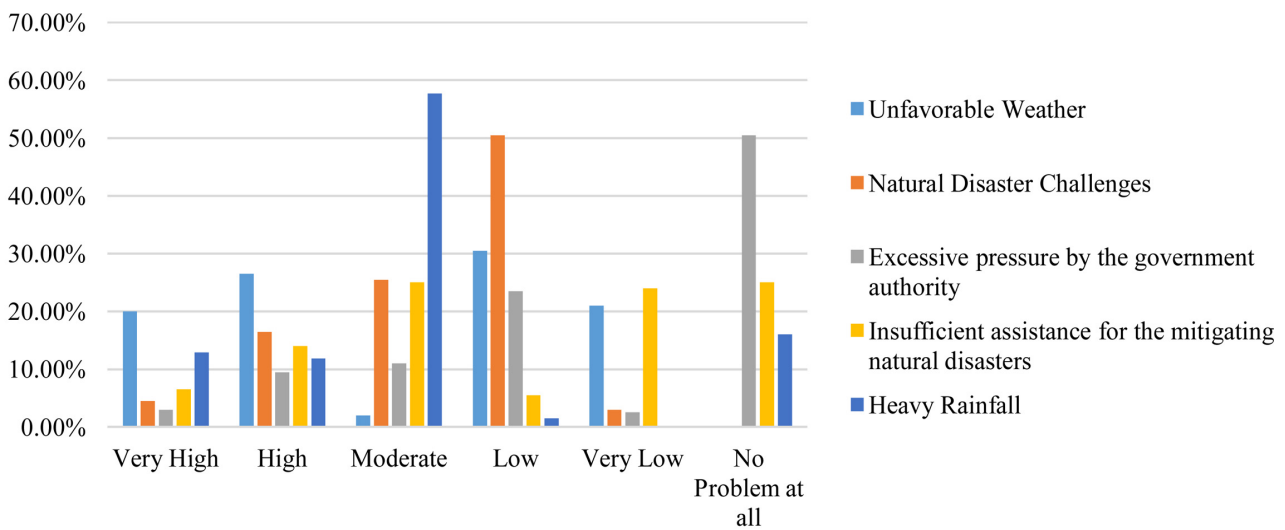


Figure 3. Environmental constraints.

of environmental issues. They dump the extra part of hogla pata on the nearest land or burn them during cooking.

Ibrahim Khalil, a member of 3 number ward Ewazbalia union, stated that *“Entrepreneur specially women are not aware of environmental degradation at the enterprise level, though hogla pata is a natural ingredient but other MEs like food producer, nursery owner should be aware of environmental constrains at the enterprise, they need proper knowledge and training regarding the different issues and procedure to maintain health and hygiene and keep the environment clean at the enterprise level”*.

Abdul Wadud, a local civilian at laksmipur Sadar Upazilla Added that *“Betel nut has been produced at large amount at laksmipur district, to preserve these nut buyer or owners of the betel nut trees used to put them into the water for long time, because of the water has been polluted and with that stench outreaches around the pond or canal. This kind of activities harms the environment and pollutes the air and water simultaneously; they are not aware of it; they should be made aware of this kind of environmental pollution to keep our environment safe and clean”*.

When attempting to investigate MEs' comprehension of the environment and climate change, most MEs had little information or sound understanding of the environment and pollutants in the research region. Regrettably, study found that 100% (200 MEs) of MEs in the study region had no knowledge of climate change. MEs were unaware of climate change and its effects on nature, not only in the handicrafts industry but also in their daily lives. According to data on environmental pollution knowledge, 82% (164 MEs) of the MEs in the study area were unaware of the environmental pollution caused by air, water, and sound or noise pollution. Specifically, it claimed that the environment knows a large fraction of the MEs. According to data on the adoption of safety measures within the enterprises, 75% of MEs did not take any safety measures against risk and protection themselves and workers within the study area's enterprises, and 72.9% MEs did not ensure purified water supply and 79.6% MEs did not ensure hygienic toilets for workers within the study area's enterprises. According to data on MEs' pollution mediation activities, 51.4% of the MEs did not keep waste and rubbish in separated places within their enterprises in the study region. According to the study, environmental constraints revealed that MEs faced several environmental challenges, including unfavorable weather, natural calamity challenges, and insufficient support for environmental calamity protection, rainfall frequency, and additional pressure from government ecological authorities. Furthermore, a substantial number of MEs in the research area faced various market management issues, including shortage of buyers and lack of customer awareness about handicraft products.

On the other hand, environmental issues in every enterprise are essential, according to the FGD statistics, because pollution has a multifaceted impact on population health and produces climate change. The purpose of the study was to

learn about the environmental situation at the enterprise, and it found that 75% of MEs were unaware of the sound environmental conditions of the enterprises. It found that 25% of MEs strived to maintain health and safety standards at their establishments; they were food makers using coconut products. A portion of women were unaware of sound environment in their work places. They either throw the extra hogla pata on the adjacent land or burn it during the cooking process.

4. COVID-19 Knowledge of Project Area People

4.1. Knowledge about COVID-19

This section shows the impact analysis of COVID-19 for individual value chain actors and suggest there, what possible measures should be taken to overcome economic, social, health (according to WHO/IEDCR guideline) and environmental consequences faced by the individual MEs on their value chain network due to COVID-19.

COVID-19 has wreaked havoc on the entire value chain. The supply chain has been broken. Producers were unable to obtain the required quantity of raw materials. As a result, in this COVID-19 pandemic condition, the production system has been impeded. They have had to pay labor wages for a long time even though they have done no job. The capital has plummeted, and the company is heavily in debt. The market system was interrupted last year, but the situation is progressively recovering. The main issue is a lack of capital. During this time, the entrepreneur faced a significant capital shortfall with managing the family, the factory, and the support of the workers, resulting in a severe capital shortage. The shortage of capital reflects the raw materials purchasing and processing at the factory level. It led to the creation of a whole market system. So, in this COVID-19 situation, capital support would be the most excellent method to run the firm properly and preserve the industry.

4.2. Use of Protective Equipment amid COVID-19

During the COVID-19 pandemic situation, tens of thousands of lives were lost. With vaccination programs and personal protective equipment, it was observed that the pandemic situation was sloth but not mitigated. PPE is adequate for controlling the increasing rate of affection by COVID-19. PPE is applicable not only for the pandemic situation but also it is needed for keeping safe from air pollution. PPE is essential for personal health, safety, and security in handicraft ingredients production enterprises. However, researcher tried to explore the uses of protective equipment in the production houses of the MEs, it found that casual use of mask and hand sanitizer is widely commune which has been reflected by “sometimes” bar graphs across various safety measures. In case of hand sanitizer, no use is dominant practice among the MEs and their family members. As shown in **Figure 4**, ME’s using mask for self is 76.90%, using hand sanitizer is 60.80%, and marinating social distance is 58.40%.

4.3. Effects of COVID-19 on Business

The impacts of COVID-19 are overarching on human society. Due to its enormous consequences, many lives and businesses had reduced. All sectors of human civilization have been affected by the impacts of COVID-19 that are triggering a catastrophic situation. However, MEs were asked whether their business affected or not by COVID-19 and found that 48.7% faced losses, 67% experienced decreasing self-income, 0.5% stopped in-person interaction, and 0.5% started digitalization in business during COVID-19 (as shown in Figure 5).

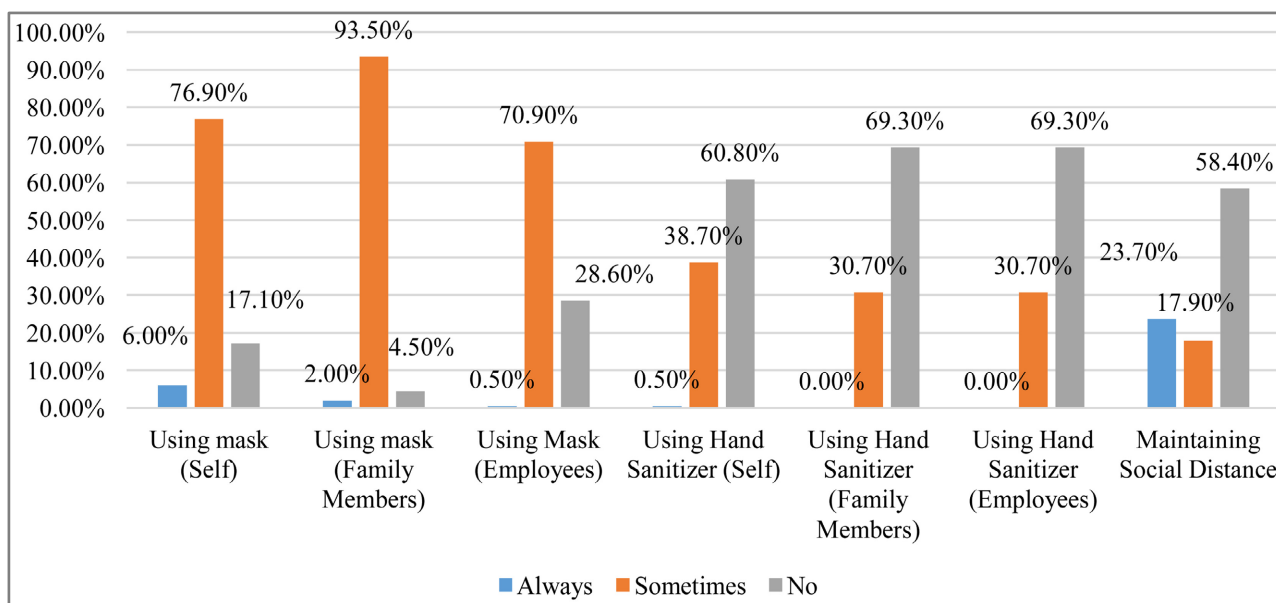


Figure 4. Use of protective equipment amid COVID-19.

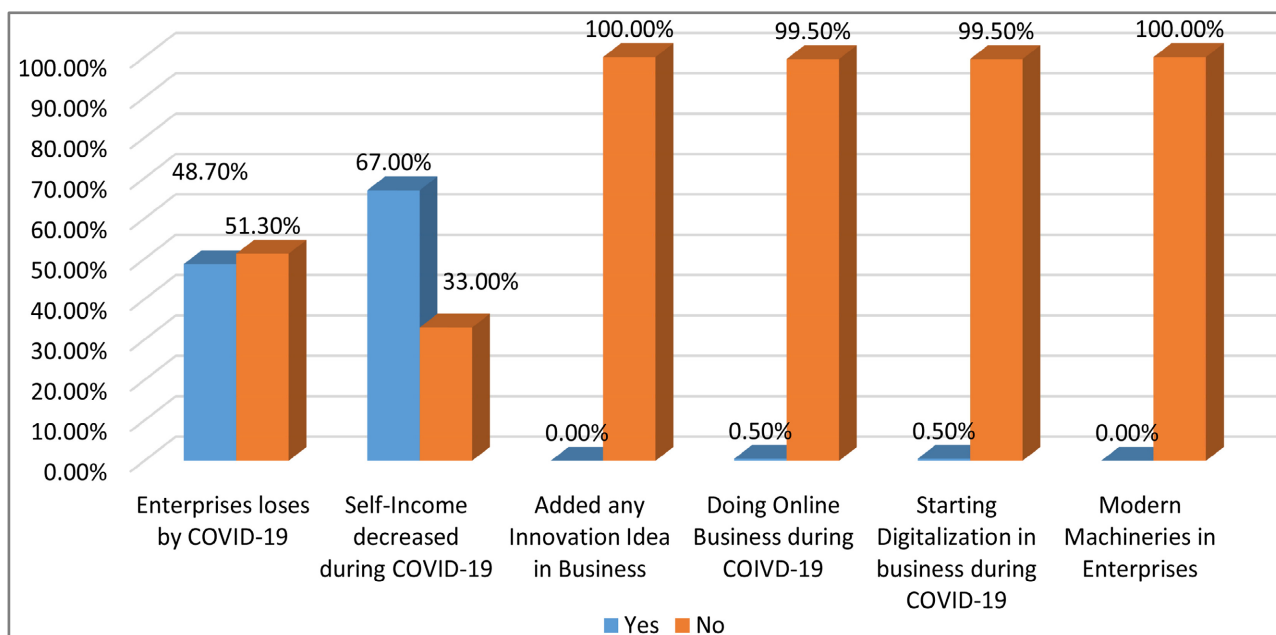


Figure 5. Effects of COVID-19 on business.

4.4. Layoff during COVID-19

During the COVID-19 period, a considerable number of the employees were the victim of layoffs over the globe. In the context of Bangladesh, many private and non-government organizations suspended employees due to a lack of orders or funding. Data on layoffs within enterprises revealed that 40% of MEs opined an incident of dismissal, while 60% opined that there had been no incidents. In addition, 22.5% of MEs opined that there had been one employee layoff and 15.5% of MEs had opined that there had been two employee layoff incidents (as shown in **Figure 6**).

4.5. Reduction of Sales during COVID-19

It observed that many orders during the COVID-19 period were canceled. As a result, a significant portion of the enterprise’s sales had decreased during the COVID-19 period. This study found that 72.5% of the MEs argued that they had faced sales reduction during the COVID-19 period. On the other hand, 27.5% of the MEs had opined that they had not faced sales reduction during the COVID-19 period. Moreover, data on the percentage of income reduction of the enterprises revealed that around 76% experienced 10% - 50% income decrease due to pandemic (as shown in **Figure 7**).

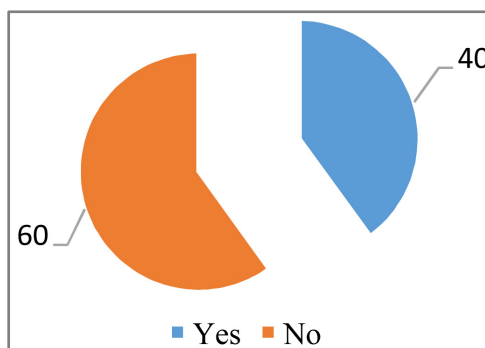


Figure 6. Layoff during COVID-19.

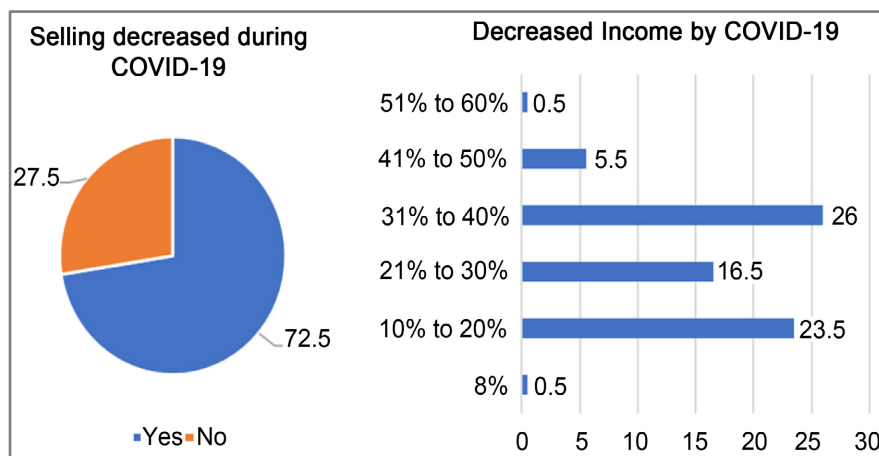


Figure 7. Reduction of sales during COVID-19.

4.6. Measures against COVID-19

The government and many non-government organizations have been providing support and assistance with monetary assistance and motivational packages for recovering and reconstructing their activities or business. Several efforts have already been taken to minimize the impacts of the pandemic situation. Along with this situation, many enterprises have adopted drastic changes in their business, even selling their assets and infrastructure. The study found that 93.5 percent of the MEs had taken measures against COVID-19 in the study area.

Around 174 MEs borrowed money from different stakeholders and organizations to cope with the pandemic and 13 MEs had not borrowed money. Moreover, data on asset selling during a pandemic revealed that 98 MEs had sold their partial assets to cope with the pandemic situation. Many MEs (94) had changed their family food habits to cope with the pandemic. Ninety-four of the MEs took employee termination to reduce COVID-19 losses. At the same time, 97 of the MEs decreased their production, 82 MEs had been thinking about changing business patterns, and 6 MEs had taken different measures like the partial opening of the enterprises, online business starting, digitization, and so on to reduce the losses created by the COVID-19 (as shown in **Figure 8**).

4.7. Impact of COVID-19 and Lockdown Nationwide on the Enterprise

The COVID-19 virus has had far-reaching consequences all around the world. Bangladesh's government used lockdown and social distancing measures to prevent the virus from spreading. Despite their importance in limiting the virus, these efforts have triggered an unparalleled economic catastrophe. Lockdown and social distancing measures have hit Small and Microenterprises (SMEs) especially hard. MEs from Noakhali and Laksmipur districts are also affected by the nationwide lockdown due to the spread of the COVID-19 virus. The baseline study found that the COVID-19 virus primarily influences almost all enterprises. Due to the market closure, coconut food products, Coconut oil, and Betel nut businesses were shut down during the lockdown or restriction period. Elephant

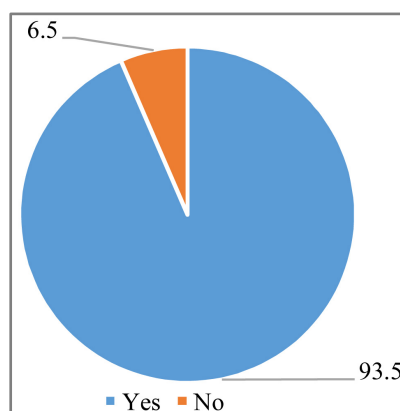


Figure 8. Measures against COVID-19.

grass (Hogla pata) related enterprise also shut down due to the COVID-19 virus. Though women produced rope and chatai during that time, buyers didn't come due to the restriction.

Sumi Akter, age 25 and FGD participant, added that *“COVID-19 virus and lockdown largely impacted our work and actives related to elephant grass, we largely made rope, chatai and other things to sell but buyers didn't come to collect it from us due to coronavirus. We fall in hardship to manage our family expenditure in that time”*.

“Ward counselor of the nine no ward of Laksmipur Sadar Upazila, who was an FGD participant, include that, in Laksmipur during the lockdown, no business had been operated. As a result, the product of the enterprise also remained unsold, and the enterprise owner cut down the salary of the worker, decreased the number of employees at the enterprise, in a nutshell, COVID-19 impacted the micro and medium level entrepreneur vastly, the recovery from these will not be easy for these kinds of the entrepreneur.”

Identify the types of assistance that the MEs have received and their sources, as well as their future need for technical, managerial and financial assistance.

4.8. Received Assistance during COVID-19

Assistance is the essential proper and smooth operation of any activities, particularly for the microenterprises. The growth and development of microenterprise are primarily dependent on support and assistance from different stakeholders and parties existing in the ME's operating localities. Various organizations, such as NGO/private banks, Government Bank/government institutions, and Financial Institutions, provide additional assistance, including loans, grants, and technical, infrastructural, and human capital development supports. It is found that 10.5% of the MEs had received assistance from different sources like banks, NGOs, local institutions, government subsidies, etc. On the other hand, 89.5% of the MEs had not received any assistance in the study area. So, most MEs had not received any assistance in the study area.

Furthermore, when it found that 0.5 percent of the MEs had received government food aid and support, 0.5 percent of the MEs had received government food support, 8 percent of the MEs had received essential need support like rice and dal, and 0.5 percent of the MEs had receive rice, dal, and potatoes support for coping with the pandemic situation. So, a significant portion of the MEs (8%) who received assistance had received basic needs support like rice and dal in the study area. The fact that the project has come forward and assisted entrepreneurs in producing handicraft ingredients is very encouraging. The FGD report shows that financial assistance was provided from the project to purchase eco-friendly equipment, raise capital, and adopt advanced technology. The project also provides financial services for improving the health hygiene situation in the workplace. Moreover, it was also seen that there are some common challenges faced by new entrepreneurs, including developing a vision and a business idea, raising capital

for a startup, assembling a business team, finding the right business location, finding good employees, finding good customers, dealing with competition, unforeseen business challenges and expenses.

5. Results and Discussion

To identify benchmarks and indicators, those can be used as a point of reference for monitoring and evaluation of the project.

5.1. Benchmarks and Indicators

The study finds some mentionable indicators based on field data collection and discussions with key handicraft stakeholders. The indicators that would be used for monitoring and evaluation of the project during and after completion of the project are as follows:

1) Gender Category of the MEs: The study found that 96.5% of the surveyed enterprises were headed and owned by women, and only 3.5% were headed and owned by men in the study area.

2) Category and Property Owners of the Enterprises: There were three types of enterprises of handicraft ingredients production such as Hogla pata business, Betel nut business, and Coconut business in the study area in which dominant business was Hogla pata production. In addition, study found that 98% of these enterprises were self-owned, and only 2% were rented in the study area.

3) Ownership of the Enterprises: The study found two types of ownership in the study area: single ownership and joint ownership. The most dominant part was single ownership, which was 99% against all categories of MEs.

4) Income of the MEs: Data identified the income level of the MEs in the study area starting from below 50 thousand to 8 lacs. Data finds that most MEs have the lowest income level while only a tiny portion of the MEs had the highest (8 lac or above) income per month in the study area.

5) Monthly Income and Expenditure: The study found that most MEs had the lowest (below 50 thousand) income and expenditure per month in the study area. The monthly cost was more than the monthly expenditure of the handicraft ingredients production enterprises in the study area.

6) Loan Status of the MEs: It was observed that most of the MEs (96%) had a loan in one or another loan provider organization, while most of the MEs (41%) had below 50-thousand-taka loan in the study area.

7) Assets of the Enterprises: Most enterprises (48.5%) had the lowest tiers of assets (below 50 thousand) of the enterprises. In contrast, only 2.5% of the enterprises had above ten lac equivalent assets in the study area.

8) Infrastructural Status: The study found that most enterprises (84.5%) had tin house infrastructural conditions. Only 1% of the enterprises had completely terraced building for operating their business in the study areas.

9) Male Workforce: Most enterprises had 1 - 3 male employees and there were no male employees above 7. In contrast, only 2.1% of the enterprises had above 7

male workers in the study area.

10) Female Workforce: It was seen that most of the enterprises had 1 - 2 female employees of the enterprises, while 1% of the enterprises had 7 female employees in the study area.

11) Activities of the MEs: Study finds that MEs in the study area are performing different kinds of activities such as quick and easy access to production, collection of raw materials, maintaining all procedures of production, products packaging, products marketization, products supplied to the retail sellers, assistance collection, facing the problems in business operations, branding and promotion of the products, opening the local outlets, and increasingly on.

12) Capital Investment: It was seen that a significant portion of the enterprises had below 2 lac equivalent capital investment in the study area. So, most of the enterprises (69%) had the lowest tiers of capital (below 50 thousand) investment of the enterprises, while only 1% of the enterprises had above ten lac equivalent capital investment in the study area.

13) Monthly Sales Status: It was seen that most of the enterprises (91%) had the lowest tiers of monthly sales (below 1 lac) of the enterprises, while only 1.5% of the enterprises had 2 lacs to five lac takas of monthly sales in the study area.

14) Employee Status: Data on employee revealed that most enterprises had 1 to 4 employees and there were no employees above 8. In contrast, only 4.5% of the enterprises had seven to eight workers in the study area.

15) Savings Status: The study indicated that major portion of the MEs (91.4%) had the lowest amount (below 10 thousand) of savings in the study area. In contrast, only 8.6% of the MEs had 11 to 40 thousand savings per month.

16) The Enterprise's Legal Status: The study found that knowledge of having legal certification from the government authorities among MEs was meagre. It also found that most enterprises lacked legal status in the study area.

17) Nature of the Potential Customer: Observational data explore that many enterprises are trying to create broader markets like divisional and capital level markets. They had also argued for promoting a digital market system and facilities for their branding and selling their products over the country and the globe. A significant portion of the enterprises (90.5%) produce handicraft ingredients and products to fulfill the customers of local markets in the study area.

18) Loan, the Government Supports, and Infrastructural Status: Study revealed that most MEs argued for a loan with minimum interest and an extended repayment period. Almost every ME pursued government subsidy or support for their business expansion and infrastructural development.

19) Training Status of the MEs and Workers: The study finds that a significant portion of the training receivers (16.5%) had received training on technical skills in the study area. On the other hand, a considerable part of the training receivers (13.5%) of the employees of the enterprises had received training on technical skills in the study area.

20) Reason for Highest Growth: Most of the MEs argued that all the indicators mentioned above are the fundamental reasons for the highest growth of the

enterprises in the study area.

21) Ways of Promoting the Future: The study found that MEs draw attention to different methods for future growth of the enterprise, such as ensuring access to the competitive markets, increasing the networking, value chain development, enhancing the effectiveness, developing the competitive mentality, and building a skilled workforce.

22) Contribution of the MEs in Household Income: Data denoted that MEs had significant roles in fulfilling the basic needs and other necessities related to households in the study area.

23) Understanding the Environment and Climate Change: It was seen that a significant portion of the MEs lack knowledge about the environment and environment pollution in the study area. It found that MEs have poor knowledge about climate change and its consequences in the study area. It is worth mentioning that MEs are unaware of climate change and its impacts on nature, not only in the handicrafts sector but also in their daily lives.

24) Knowledge of Environmental Pollution: A significant portion of the MEs were not conscious enough about their environmental pollution by air, water and sound or noise pollution in the study area. Precisely, a significant portion of the MEs was known to the environment.

25) Adopting Safety Measures: It was seen that a significant portion of the MEs (75%) had not taken safety measures for their workers though they had to ensure pure water supply and hygienic toilets within the enterprises in the study area.

26) Pollution Mediating Activities: Data on waste management revealed that most of the MEs do not recycle or ensure proper waste management within the enterprises in the study area.

27) Use of Protective Equipment amid the COVID-19 Pandemic: The study found that a significant portion of the MEs, workers, and their family members were always fewer users of protective equipment during the COVID-19 pandemic.

28) COVID-19 on MEs Income: Precisely, the payment of a significant portion of the MEs decreased during COVID-19 in the study area.

29) Layoff within Enterprises: A significant portion of the MEs who had layoff incidents within their enterprises had 1 to 2 layoff incidents in the study area.

30) Sales during COVID-19: A significant portion of the MEs (72.5%) faced sales reduction during the COVID-19 period in the study area. Data on the reduced percentage of sales during COVID-19 revealed that a significant portion of the MEs (26%) had faced a 31% to 40% sales reduction during COVID-19 in the study area.

31) Getting Assistance during COVID-19: A study found that 89.5% of the MEs had not received any grant in the study area. So, most MEs had not received any assistance in the study area.

32) Branding and Promotional Initiatives: A significant portion of the enterprises (29%) of the MEs who had branding and promotional initiatives had used signboards to brand and promote their products and enterprises in the study area.

33) Problems in Input, Output and Credit Services: Study finds that most of the MEs faced the transport or carrying facilities or significant costing problems, including difficulties in available services for raw materials, which was a high category. In contrast, the high cost of transport facilities was very intensive in the study area. Moreover, MEs faced increased product marketing, charges for transport facilities, and a lack of proper pricing of the products in the study area. In addition, most of the MEs had not received sufficient credit support and faced negative attitudes and delayed responses from the credit services providers in the study area.

34) Problems in Getting Standard Services: Study finds that MEs faced different types of problems related to legal services in the study area, such as government policy Obstacles, Tax Burden, Problems in getting government certification, Limited Marketing, Problems in getting approval from Local Administration (LA), Local Political Pressure, Government Officials Bribe, Problems in getting membership in the local association, and Problems in getting help from the other MEs.

35) Environmental Constraints and Market Management Problems: Study finds that environmental constraints revealed that MEs in the study area faced several environmental challenges, including unfavorable weather, natural calamities challenges, inadequate support for protection against environmental calamities, frequency of rainfall, and extra pressure from government environmental authorities. Moreover, many of the MEs had faced different market management problems such as lack of buyers and wholesalers, occupancy, and high costs for the handicraft's ingredients production in the study area.

36) Product Traceability, Certification and Promotion: The study finds that 100 percent of the enterprises had no VAT Identification of the products. It also can be said that the majority of the MEs didn't take the branding (99%) and promotional activities (98.5%), Record Keeping system (99%), Product Certification (99.5%) activities for marketing the products in the study area.

37) Current Needs of the MEs: The study found that most of the MEs had various types of demands such as infrastructural development, economic assistance/aid/loan/grants/financial assistance, training and development, assistance for environment development, and machinery assistance.

38) Future Needs of the MEs: Data on future demands of the MEs found that economic supports, infrastructural development support (97.5%), training, and environment development assistance (96.5%) were the most dominant future needs of the MEs in the study area.

39) Recommendations by the MEs: MEs argued for appointing skilled worker, good quality the material should ensure, the worker needs proper training, re-

serve product carefully, provide suitable quality materials, the working capacity of the worker should be increased, ensure appropriate quality materials and appoint expert workers, good storing facility and expert workers, and proper training for the workers.

5.2. Problem in Input and Output Levels to Expand the Enterprise

When attempting to investigate problems in the enterprise's input, output, and credit services, study identified that the majority of MEs had transportation or carrying facilities or big costing problems, with problems in available services for raw materials being a high category, and high costing for transport facilities being very intense. Furthermore, MEs in the study area were confronted with high product marketing costs, transportation costs, and a lack of adequate product pricing. Moreover, it is evident that most MEs did not receive sufficient credit support and encountered hostile attitudes and slow replies from credit service providers in the research area. MEs faced various types of problems related to standard services in the study area, including government policy obstacles, tax burden, problems in getting government certification, limited marketing, problems in getting approval from the Local Administration (LA), local political pressure, government officials bribe, problems in getting membership in the local association, and problems in getting help from the other MEs.

KIs argued that the coconut-related companies are having problems managing the coconut since the sale of green coconut surged dramatically due to the COVID-19 lockout. As a result, the supply of cocoa-food raw materials was drastically dropped. Nursery owners could not obtain seeds from different parts of the country for their nurseries due to the COVID-19 regulations. In terms of market development, transportation issues, buyer issues, and so on, they had problems due to the lockup at the output level.

5.3. Source of Assistance and Support Received by the Enterprise to Make an Adjustment

Investigating the aid and support obtained by MEs during COVID-19 found that a considerable portion of the MEs did not receive any form of assistance in the research area. They did not get or not receive any form of assistance. Furthermore, only a small portion got some sorts of support such as government food aid and support, government food support, direct need support such as rice and dal, and rice, dal, and potatoes support for coping with the pandemic situation. It is exhilarating that the project has come out and is aiding SMEs in producing handcraft ingredients. According to the FGD report, the project provides financial help for procuring environmentally-friendly equipment, raising money, and adopting modern technologies. In addition, the project offered financial aid for enhancing workplace health hygiene. Furthermore, developing a vision and a business idea, raising capital for a startup, assembling a business team, finding the right business location, finding good employees, finding good customers, dealing

with competition, unforeseen business challenges, and expenses were all everyday challenges faced by new entrepreneurs.

FGD data revealed that microenterprises played a critical role in the economic development of the south-eastern region and, by extension, the country. COVID-19 had a significant impact on the Bangladeshi economy. Microenterprises, as opposed to large corporations, were the primary victims of the COVID-19 outbreak because they typically lack the financial and managerial resources to deal with a long-term disruption. Furthermore, these businesses relied on a small number of customers and routine business transactions. According to the FGD's findings, entrepreneurs borrowed money or took out loans from various sources to adjust to their circumstances. Most of the MEs in the study area stated that they received financial assistance and support from non-government organizations, particularly SOPIRET and RIC. Some MEs received financial aid from government.

6. Limitations of the Thesis

The study is inevitable for creating the benchmark database for the Promotion of Natural Ingredient Made Handicraft Entrepreneurship in the South-Eastern Region of Bangladesh project. It is worth mentioning that despite having inevitability, this study has some limitations, which take into account during the conducting of the relevant studies. The mentionable limitations are as follows:

1) Availability of the Microentrepreneurs

During conducting the focus group Discussion (FGD), it is found that many of the microentrepreneurs were unavailable and hard to reach. After waiting a while, the data collection team reached them and collected data.

2) Reluctance of the Respondents

It is observed that respondents were reluctant to participate in the data collection processes and give accurate information. They have articulated that they are very busy with their daily activities and do not have sufficient time and energy to participate in the data collection processes. They have urged that so many questions in the schedule are redundant for them.

3) Insufficient Budget and Assistance

Budgetary allocation for the said study is not sufficient. It was hard to conduct the said study within the limited budget. Moreover, this is not a fair budget against the standards budgetary scale for completing the baseline study in Bangladesh. So, it was hard to maintain the maximum quality of the survey within the limited budget.

4) Non-Standard Sample Size Compared to the Statistical Standard

The sample size has not been chosen following the survey's standard probability or non-probability sampling formula. It is confessed that the research team has used the purposive sampling formula instead of the probability sampling method.

5) The Short Duration of the Study Period

Short duration is a standard limitation in conducting field studies in Bangladesh. The timeframe was constrained and scarce compared to the expected timeframe. It was also hard to prepare a report for the survey within a short timeframe.

6) Collecting Huge Redundant Data

The baseline survey has gathered considerable data on handicrafts' natural ingredients. This vast data is extensively redundant and is rarely used. In most baseline studies, the products are not appropriately used in the future. After completing the survey, reports are dumped and preserved as old documents that are not used further benchmark database. Sometimes, this baseline data is not used during midline or online surveys.

7) Lack of Proper Record Keeping of the Baseline Documents

After completing the survey, the report is used temporally to serve the purposes of the current demands. After a few dates, this data has been gone out of the side. Also, most organizations do not have enough record-keeping systems to preserve the baseline report. This survey can lack accurate information-keeping facilities within the project implementing organization.

8) Limited Spaces to Use Secondary Data and Anticipation

There are limitations in using the secondary data in analyzing the field data due to the nature of the study. A baseline survey is solely conducted to fulfill the benchmark data production and the project's purposes. It is fewer spaces to use theoretical and second-hand data in the significant findings and discussions.

9) Lack of Sufficient Previous Studies

The study team has tried hard to gather and compile the existing studies' findings in the survey report due to the insufficiency of the studies on the handicraft sector in Bangladesh. The study team has not found sufficient previous studies in the same fields as the current studies. The team has tried to use citations as much as possible in this situation.

10) The Limited Scope of Generalization

This baseline study is solely creating the benchmark database designed for the Promotion of Natural Ingredient Made Handicraft Entrepreneurship in the South-Eastern Region of Bangladesh. This baseline data will be exclusively used and framed for specific purposes within the particular study field. It is not possible to generalize findings to the other relevant studies.

7. Conclusions

Small manufacturing operations produce handicrafts by Microentrepreneurs (MEs) with natural ingredients, such as Hogla pata, Betel nut and Coconut. Some handicraft items have distinguishing characteristics, such as traditional or artistic elements, derived from the location of manufacture by artisans who operate primarily on a small cottage industry basis. Due to geographical diversity, patterns and types of handicrafts vary from place to site. According to the customer-oriented definition, handicrafts are the creative expression of a group of people

with unique artistic skills who use their talents to produce material goods that reflect their culture and heritage. And these handicrafts help the disadvantaged, and the low-income community acquires financial soundness, more precisely, the women. However, this study finds a unique scenario of handicraft ingredients production and promotion in the study area, including Bangladesh's Noakhali and Laksmipur districts. A significant portion of three types of enterprises of handicraft ingredients production such as Hogla pata production, Betel nut production, and Coconut production was headed and owned by the women in the study area. Currently, the monthly income is gradually increasing compared to the monthly expenditure of the handicraft ingredients production enterprises in the study area. More significant changes have been observed in the field of moving the infrastructural improvement from matir (soil) or tin house toward terraced (paka) or completely terraced (paka) with roofed in the surveyed area.

The study also finds that 89.5% of the MEs have not received any assistance in the study area. So, most MEs have not received any grant in the study area. In addition, the study finds that MEs faced different types of problems related to standard services in the study area, such as government policy Obstacles, Tax Burden, Problems in getting government certification, Limited Marketing, Problems in getting approval from Local Administration, Local Political Pressure, Government Officials Bribe, Problems in getting membership in the local association, and Problems in getting bits of help from the other MEs. Data on future demands of the MEs find that economic support, infrastructural development support (97.5%), training, and environment development assistance (96.5%) are the most dominant future needs of the MEs in the study area.

Furthermore, enterprises produced several types of waste, *i.e.* solid waste, toured bags, boiling water, unusable parts, etc. during the production of handicraft ingredients by using Hogla pata, Betel nut, and Coconut in the study area. A significant portion of the MEs are aware of managing the wastes in healthy and environment-friendly ways in the context of local management procedures, *i.e.* storing in a particular place for decaying, dumping in remote and recycling sites, and preserving for composting by the natural processes. The study suggested that training on environment management and preservation should be conducted for the MEs in the study areas.

From this investigation, it was found that family members though less in number, the knowledge of environment, health status, health consciousness, etc. were very poor in condition.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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Appendix (If Necessary)

As shown in **Table A1**, it is data collection tool.

Table A1. Data collection tool.

SL#	Question	Answer	Remarks
1	Resident's name	:	
2	Address	:	
3	Total no. of resident	:	
4	Ages of resident	:	
5	Education status	:	
6	Old residence	:	
7	Duration of living	:	
8	Settlement of service	:	
9	Utility	:	
10	Type of enterprise	:	
11	Knowledge of environment and climate change	:	
12	Environment pollution defined by ME's	:	
13	Use of safety measures	:	
14	Sanitary latrine	:	
15	Fire resistance	:	
16	House safety	:	
17	Workplace safety	:	
18	The nature of waste	:	
19	The nature of solid waste	:	
20	The ways of waste management	:	
21	Knowledge of reducing pollution	:	
22	result on water issue	:	
23	result on diseases and treatment	:	
24	Management capacity	:	
25	Knowledge about COVID-19	:	
26	Depending on treatment	:	