



Report

**Country-based Assessment regarding the
Consequences of the COVID 19 crises on
Agricultural Value Chains and Market systems**

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Country-based assessments regarding the consequences of the COVID 19 crises on agricultural value chains and market systems.

For

Value-chain Capacity Building Network (VCB-N)



From,

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Acronyms

COVID	Coronavirus Disease
ACI	Advanced Chemical Industries
BBS	Bangladesh Bureau of Statistics
BD	Bangladesh
BDT	Bangladeshi Taka
BIDS	Bangladesh Institute of Development Studies
CAPI	Computer-assisted personal interviewing
DAE	Department of Agricultural Extension
DLS	Department of Livestock Services
EDF	Export Development Fund
FY	Fiscal Year
GDP	Gross Domestic Product
IFAD	International Fund For Agricultural Development
IMF	International Monetary Fund
KG	Kilogram
KII	Key informant interview
LGRD	Local Government and Rural Development
LSP	Local Service Provider
MFI	Micro Finance Institutions
PACE	Promoting Agricultural Commercialization and Enterprises
PKSF	Palli Karma-Sahayak Foundation
PL	Post-larvae
RMG	Ready-made Garments
UAO	Upazila Agriculture Office
UFO	Upazila Fisheries Office
ULO	Upazila Livestock Office
UNB	United News Bangladesh
USD	United States Dollar
VCB-N	Value-chain Capacity Building Network
WPSA	World's Poultry Science Association

Executive summary

Introduction

Background: Since December, 2019, COVID-19 had spread in more than 200 countries affecting more than 33 million people. The pandemic has generated global public health, domestic and global economic and political crises across the world. The crisis severely disrupted agricultural value chains and markets and have a significant impact on the economic performance of the agricultural sector. In order to effectively respond to the crisis in efforts to mitigate negative impacts and contribute to economic recovery, it is necessary to understand the extent of disruption, its direct and indirect consequences and potential areas of interventions. With this aim, VCB-N commissioned country-based assessment studies in Bangladesh, China, India, Indonesia, Laos and Vietnam.

Objective: The primary objective of the study is to provide IFAD and other development actors and projects with relevant data and analysis on the impact of the COVID crises on the economic and social performance of the selected agricultural value chains in Bangladesh and formulate recommendations for short and mid-term level responses to mitigate negative impacts and contribute to recovery efforts.

Limitations: The respondents of the study were selected from the PACE project beneficiaries from selected districts of Bangladesh. Overall impact of the selected value-chains on the national economy hence, was not comprehensively analyzed. Due to the pandemic, field visit to all the project locations for data collection was not possible. This study does not provide quantitative analysis as evidence for conclusion.

Methodology

Selected value-chains: Value-chains for the assessment were selected based on two criteria- **a.** Level to which the chain is affected by the crisis with a focus on most affected value chains dealing with fresh products / perishables and **b.** Value chains that are of interest to IFAD in the Bangladesh. Considering these criteria, selected value-chains for this study are- **(i) shrimp-carp (ii) native chicken (iii) safe vegetable and (iv) livestock.**

Study method and data collection: The study was conducted following a qualitative method. Contemporary articles and reports published in national and international print media were reviewed as means to collect secondary data. Primary data was collected in two phases. A total of **15** interviews were conducted with **PKSF value-chain focal, producers, business development service providers and output market traders** in the first phase. Based on the key findings from phase-1 interviews were conducted with **key value-chain actors, service providers and key stakeholders** in phase-2. A total of **256** interviews were conducted (210 through telephonic interviews and 46 through face-to-face interviews). Data was collected from **33 upazilas of 16 districts** across Bangladesh.

Status of corona outbreak in Bangladesh and its impact on the economy

In order to tackle the spread of Coronavirus and to safeguard the local economy, the Government of Bangladesh undertook several measures. The initiatives included phase-by-phase lockdown, restriction on physical movement, free-of-cost testing facilities, stimulus package to safeguard the economy etc. Free-of-cost testing facilities were arranged at 28 hospitals across the country and later was withdrawn.

The Government of Bangladesh announced **country-wise lockdown in a total of 6 phases from March 26 to May 30, 2020.** The general lockdown was withdrawn from May 31, 2020 and the economic activities started to function as before. Public and private offices reopened and ban on transportation withdrawn. However, educational institutions remain closed. To safeguard the economic activities, the Government of Bangladesh had announced a set of **stimulus packages worth around \$11.90 billion** till May 29, 2020.

Like most other nations, the outbreak of COVID-19 pandemic is an unprecedented shock to the Bangladesh economy. **Garment exports fell 18.12%** in FY 2019-20. 85.1% of the country's total workforce are employed in the informal sector, that is more than 50 million people and it is now estimated that **the pandemic has left 80% of them unemployed. 16.4 million People are sliding below the poverty line.** The impact of the crises on the agriculture sector is also massive. Crab, shrimp and fish producers faced export bans resulting in significant economic loss. The

market price of milk **dropped to 40%** than of January during May, 2020. The prices of vegetables and cattle as well as other agro products are falling down. The restriction on transportation and physical movement significantly affected farming, including food supply and demand.

Impact of COVID 19 crisis on the Shrimp-carp value chain

Shrimp is the second-largest export product in Bangladesh after ready-made garment commodities. In 2018-2019, the country exported 29,543 tons of shrimp worth \$361 million. PKSF is implementing a shrimp-carp value chain sub-project in collaboration with 6 POs under PACE project in 17 upazilas of 5 districts with a total of 16,800 direct beneficiaries. Farmers cultivate shrimp for 7-9 months in a single cycle from March-April to October-December. For the rest of the three months (December-February), these shrimp farmers grow paddy in the fish farming lands, in addition to producing varieties of vegetables in the land isles year-round. Shrimp PL, carp fries, feed, medicines, and probiotics are the primary inputs for shrimp-carp mixed culture. The main point of sales of the shrimps and carps is the local wholesale markets. Wholesalers collect fish from the farmers and sell to the regional and local traders in the local market places in exchange of commissions.

Disruptions due to COVID-19

PL production and supply was significantly affected: Due to Government-imposed restrictions in transportation and inter-country trading, wild PL suppliers were unable to supply in the local markets. In addition, PL production of the hatcheries were affected due to the unavailability of broods. Due to the shortage in supply, PL price increased by three folds. The usual price of the PL is BDT 1,000-1,200/1000 PLs, whereas this year, the PLs were sold at BDT 3,000-4,000/1000 PL.

There were an inadequate supply of shrimp feed, medicines and probiotics: Due to Government-imposed restriction on transportation, input supply was affected during April-June, 2020. Ready-made feed price was increased from BDT 1,000-1,100/25 Kg to BDT 1,200-1,250/25 Kg. Input retailers incurred an average loss of BDT 100,000-150,000 during April-June, 2020.

Production is expected to be reduced to one-third compared to the usual this year: Typically, farmers release 100-150 PLs and 2-3 carp fries per decimal land. This year farmers were able to release 30-45 PL/decimal and 2-3 carp fries/33 decimals. Shortage in input supply will affect the growth of the shrimps. In addition to a reduced production (feared to be one-third than usual), growth of shrimps will also be affected this year.

Traders had to halt trading during April-May: As per Government regulation, trading was halted during April-May, 2020, which resumed in June, and is now operational as usual. Usual sales volume during April-May is 1,000-1,500 Kg/day and this year the average sales is around 200-500 Kg/day.

LSPs were unable to deliver services during April-June: As the Government imposed restrictions on movement and transportation for three months, LSPs were unable to provide their usual services. LSPs incurred loss of an average amount of BDT 30,000-50,000 during these three months.

Identified constraints and needs

The following table illustrates identified needs and constraints of the chain actors:

Identified constraints	Identified needs
Imminent loss in capital	Producers require long-term loan support
Producers will face difficulties in terms of investment in the next shrimp cycle	Short-term loan facilities for the shrimp hatcheries
Village-level retailers are yet to recover the loss incurred	Credit facilities for village-level retailers

Impact of COVID 19 crisis on the Native chicken value chain

Native chickens are referred to indigenous breeds of chickens raised in the courtyards of households that are typically raised in small flocks and on scavenging method. PKSF is implementing native chicken value chain sub-project in collaboration with two POs in 4 upazilas of Tangail and Bogura districts of Bangladesh under PACE project with a

total 8,580 direct beneficiaries. Model farmers produce fertile eggs, chicks and pullets through poultry farming and supply to the smallholder farmers. Smallholder farmers rear chickens for 3-4 months before selling to the local markets or through the project deployed LSPs. In addition to chickens, farmers also sell eggs to the markets. Farmers rear chickens round the year. LSPs, in addition to marketing the chickens and chicken eggs are providing vaccination and veterinary services to the beneficiaries. Model and smallholder farmers run 3-5 cycles of production per year. Model farmers sell 300-500 eggs, 600-800 chicks and 200-400 pullets in a year. Depending on the farm size, smallholder farmers rear 30-1000 chickens in each cycle. Chickens and eggs are supplied to other regions of the country through the local and regional traders.

Disruptions due to COVID-19

Input sales was affected during April-May, 2020: Due to Government-imposed restrictions on physical movement and transportation, LSPs were not able to procure goods (feed, medicine, vaccine) and supply to the farmers. Input retailers and LSPs reported a 30-50% drop in ready-made feed sales during the two months. Due to less demand, feed price increased from BDT 1950/50 Kg sack to BDT 2000-2100/50 Kg sack. Input suppliers had incurred an average loss of BDT 200,000-300,000 during April-July, 2020. . However, the sales started to recover since June and by August, the sales returned to the usual volume.

Service delivery by LSPs was halted during April-May, 2020: Project deployed LSPs provide veterinary services to the producer groups. One LSP is engaged for 9-10 groups and each of the groups comprises 25 members. Due to the Government-imposed restrictions, LSPs halted their service delivery, vaccination campaign was halted and the group meetings were not held during April and May, 2020. However, the campaign resumed in June and now is operational as usual.

Demand of chicken eggs, pullets and chicks dropped significantly during April-July, 2020: During the initial stage of the corona crisis, in April and May, 2020, smallholder farmers stopped ordering. Two major reasons behind the sharp drop in advance orders are- (i) Farmers were afraid that the virus may spread through the chickens and (ii) Farmers were afraid that they will not be able to afford the rearing cost as their household income was hit. Thousands of chicks and pullets die as the model farmers could not afford ready-made feed for all. Model farmers incurred significant loss due to this.

Trading was significantly affected during April-June, 2020: Regional traders from the other parts of the country were not able to physically move for trading. In 2019, traders traded an average of 259,500 pieces of native chickens whereas until August, 2020 they only managed to trade 13,961 pieces. The sale was totally halted during April-May, 2020 for the LSPs. Chicken price dropped from BDT 380-400/Kg to BDT 250-300/Kg due to reduced market demand. Many farmers had lost their whole flocks due to the disasters. They will have to start their business from the ground up. Farmers of Bogura district experienced loss in infrastructural damage (farm shelter, small chicken shelters) that requires significant investment to rebuild.

Identified constraints and needs

The following table illustrates identified needs and constraints of the chain actors:

Identified constraints	Identified needs
Many smallholder farmers had to stop chicken rearing and are yet to recover from the loss incurred	Identification of the worst affected farmers and provide in-kind or arrange long-term loan to support them start their business
Model farmers incurred significant amount of loss (an average of BDT 50,000).	Ensure a fixed-rate of product price to encourage farmers into commercial production
Chicken growth was affected due to reduced usage of ready-made feed	Support the model farmers to ensure supply of pullets, chicks and fertile eggs
Future production will be reduced by a significant margin	

Impact of COVID 19 crisis on the Safe vegetable value chain

Vegetable cultivation is commonly practiced across Bangladesh both in form of subsistence and commercial farming. Bangladesh is now world's third largest vegetable producer. In 2017-2018, Bangladesh produced 15,954,300 tonnes of vegetable from 861,300 hectares of land. Safe vegetable refers to vegetable cultivation focusing on increased usage of bio-fertilizers and pesticides. It aims at reduced usage of chemical fertilizers and pesticides to make the cultivation process more environment-friendly and to increase health benefits from consumption. PKSf in collaboration with 4 POs is implementing safe vegetable sub-project in 10 upazilas of 6 districts with a total of 18,225 direct beneficiaries under PACE project. Seeds, fertilizer, insecticides and pesticides are the primary inputs for vegetable cultivation. Private seed companies are the primary seed suppliers and Government-enlisted fertilizer dealers distribute fertilizer to the farmers. Small holder farmers grow vegetables in 10-50 decimals of land whereas commercial farmers cultivate vegetable in 100-500 decimals of land. Farmers usually grow varieties of vegetables round the year in 2-4 cycles. Produced vegetables are being sold through local traders (farias), who collect vegetables from the fields and sell to the local markets. Regional and national-level traders collect vegetables from the local markets and/or from the farmers to trade all across the country.

Disruptions due to COVID 19

Input sales was affected during April-May, 2020: Retailers had to shorten their business hours from 10-12 hours/day to 3-4 hours/day due to Government-imposed restrictions. Input retailers incurred an average loss of BDT 50,000-100,000 during April-May, 2020. However, business started to recover from June and by August, it went back to the usual volume.

Vegetable price dropped significantly during April-May, 2020: Due to Government-imposed restrictions on physical movement and transportation, traders from around the country could not conduct their usual trade. As a result, the demand of vegetables reduced by a significant margin resulting in a significant price drop. Average per kg vegetable price dropped from BDT 29.82 to BDT 20.51.

Farmers had to dump vegetables due to absence of traders in the local markets: Many farmers were not able to sell their vegetables due to absence of traders. Vegetable price was dropped to as low as BDT 1-5/Kg during April. Many farmers had to dump their vegetables in the marketplace as the earning from selling vegetables at the reduced price did not even cover the transportation cost. However, the situation continued for around 15-20 days before the price started to rise up again as regional traders from the adjacent districts started to source products. The scenario is different in Dhaka and Manikganj districts as traders from Dhaka district went to these areas instead to source vegetables. Increased demand resulted in a slight rise in vegetable prices in these districts.

Trading was significantly affected during April-May, 2020: Due to absence of national traders in the marketplaces of Bogura, Faridpur and Shariatpur districts the demand of vegetable reduced significantly. . Usual trade volume was 1,200-1,500 Kgs of vegetables/day that was reduced to 500-700 Kgs/day during April-May, 2020. Local traders who trade with the national level traders, had to incur loss of an average amount of BDT 100,000-600,000 during April-May, 2020.

Natural disaster amidst the corona crisis affected production and trading: Farmers of Bogura district were affected by waterlogging due to heavy rain and farmers of Shariatpur, Faridpur and Manikganj district were affected by flooding. There will be a significant production loss in the next harvesting season during September-October.

Identified constraints and needs

The following table illustrates identified needs and constraints of the chain actors:

Identified constraints	Identified needs
There is increased loan burden among farmers and traders	Long-term loan support to the farmers
	Product price stabilization for the upcoming seasons

Impact of COVID 19 crisis on the Livestock value chain

Cattle, goat, sheep, buffalo, and poultry primarily constitute the livestock resources of the country. Contribution of livestock sector in overall GDP was 1.66% for 2015-2016 and the share of livestock in total agricultural GDP was 14.21%. In Bangladesh, about 25.7 million goat heads are distributed throughout. Goat represents about 27%, 23% and 28% of meat, milk and skin respectively to the total production from livestock sector. However, buffalo production is not as widespread as goat in Bangladesh. The total buffalo population are 1.457 million heads that are managed in household subsistence farming and extensive *bathan*¹ farming in saline coastal region. PKSF, in collaboration with 7 POs, is implementing buffalo and goat value-chain sub-projects in 11 upazilas of 5 districts and in 6 upazilas of 2 districts respectively under PACE project. Total number of direct beneficiaries in buffalo and goat value chain sub-projects are 18,776 and 14,500 respectively. Feed, medicines and vaccines are the primary inputs for buffalo and goat value chains. Buffaloes are fed mostly through grazing in the char areas and goats are fed with Napier grass, rice bran, rice polish, rice etc. Buffalo and goat are being reared year-round. Buffaloes are mostly reared for milk production and goats for meat production in Bangladesh. Buffalo milk is produced for 6 months (February-July) while the other six months are breeding seasons. Local sweet and curd shops are the primary point of sales for buffalo milk. Goat is being reared and sold year-round through the local village-level traders (Farias). Farmers typically rear 8-25 goats and sell 5-15 goats per year. Traders from all around the country collect goats from the villagers and/or the village-level traders from the local markets. ULO, local LSPs and input retailers are the primary support services for these value chains.

Disruptions due to COVID 19

Farmers had to dump milks due to less market demand: Traders were not able to collect milk primarily because of reduced demand from the sweet and curd shops. In addition, there was restriction on physical movement of the traders. Buffaloes were fed with additional milks and household consumption of milk also increased. The rest was dumped in the char lands. On an average, farmers had to dump 800-2000 liters of milk during April-May, 2020.

Decline in price: Whereas, farmers usually sell milk at a rate of BDT 80-100/Liter, during April-June, 2020, milk was sold at a rate of BDT 40-60/Liter. The price increased slightly (BDT 60-70/Liter) by July and are yet to return back to the usual price. Sweet and curd price had increased due to unavailability of milks and disruption in sales volume. While sweet price changed from BDT 180-200/Kg to BDT 230-280/Kg, curd price changed from BDT 100/Kg to BDT 150/Kg. The prices are yet to return back to the usual.

Sweet makers of the coastal region incurred a significant loss and are yet to recover: Sales volume of sweet and curd dropped sharply and are yet to get back to the usual volume. Average sales of a shop dropped from 3,000-6,000 Kg to 30-50 Kg during April-May, 2020.

Natural disaster amidst the corona crisis slightly increased the rearing cost and affected trading: Due to flooding and heavy rain during May-June, 2020, low-lying char lands were submerged. Farmers had to feed the buffaloes with rice, vegetable, oil cake, rice bran etc. instead of char grass. Traders were not able to move to the marketplaces for trading due to flooding. However, demand of milk remained low even after the flooding.

Prices of Napier grass and other goat feed increased for a short period of time during April-May, 2020: Prices of Napier grass increased due to a slightly increased demand and less supply for a short period of time during April-May, 2020. Goat farmers from Maherpur district usually produce Napier grass to feed their goats. In case of any additional need, they procure grass from the local markets. During April-May, 2020, there were lesser number of grass sellers and buyers in the local markets and hence, the price increased from BDT 20-30/bunch to BDT 40-50/bunch. Price of other goat feeds such as rice bran (from BDT 15/kg to BDT 30/kg) and maize (from BDT 500/40 kg to BDT 800/40 kg) also increased.

Goat trading was affected during April-May, 2020: Due to fear of corona and Government-imposed restrictions on physical movement and transportation, business of village-level, local, regional and national-level traders affected significantly. However, farmers were not impacted much due to the disruption in trading. Farmers usually sell goats on need-basis, 4-5 times a year. Usual sales volume of large traders reduced to 20-50 pieces/month from 800-1000 pieces/month and of village level traders reduced to 5-7 pieces/month from 10-20 pieces/month.

¹ *Bathan* is a form of agrarian business pursued by professional *rakhals* or cattle minders who keep his and other people's cattle under his care for grazing on community land.

Medicine and vaccine sales was significantly affected during April-May, 2020: Due to Government-imposed restrictions on physical movement and trading, Suppliers kept their shops open for 3-4 hours a day whereas usual business hours are 8-12 hours a day. As a result, medicine and vaccine sales was dropped by 40-50% during April-May, 2020.

Identified constraints and needs

The following table illustrates identified needs and constraints of the chain actors:

Identified constraints	Identified needs
Buffalo farmers may fall back to poverty if price stability is not ensured for the next 5-6 months	Product price stabilization for the upcoming seasons
Sweet and curd business is yet to recover	

Recommendations

In order to mitigate the consequences of disruption in the selected value-chain activities, the study recommends the following:

- **Identification of the worst-hit value-chain stakeholders**
- **Support the worst-hit stakeholders through arranging long-term loans**
- **Support the hatcheries for uninterrupted supply of shrimp PLs in the coastal districts**
- **Maintain product price stabilization**
- **Establishing preservation facilities for vegetable and buffalo milk**
- **Establishing effective linkage between village-level input retailers and private companies**
- **Facilitating online-based trading and product sales**
- **Promote awareness to ensure safety measures to tackle the spread of corona during business activities**

Conclusion

Agriculture is an integral part of Bangladesh's economy, contributing around 17% of the national GDP and providing employment to 45% of the labor force. In addition to the impact on public health, COVID crisis has affected the domestic economic activities at scale. Agriculture industry is also being hit by the crisis. Impact on the agricultural sector, hence, have great impact on national economy and domestic economic activities. The unprecedented crisis occurred due to the spread of the coronavirus have tremendously affected the agricultural sector of Bangladesh. However, due to timely initiatives by the Government and effective response from the key stakeholders, the impact of the COVID crisis on the agricultural sector was, to some extent, being able to be mitigated. However, short-term impacts have disrupted agricultural activities and trading in almost all the agricultural value-chain activities in varying degrees. Further disruption in value-chain activities will have a much dreadful impact as majority of the chain-actors are already in a vulnerable position. Millions of people are feared to return back to poverty if proper measures are not taken to tackle the further economic disruptions. In this backdrop, it is highly important to take necessary measures for smooth future operations of the value-chain activities across Bangladesh.

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Chapter 1: Introduction



Chapter 1: Introduction

1.1 Background

A new infectious respiratory disease, COVID-19, emerged in the Hubei province of China in December, 2019. Since then, the disease had spread thorough in more than 200 countries of the world affecting more than 33 million people and caused death of more than 1 million people worldwide till September, 2020 (Worldometer, 2020). Apart from the devastating impact of the disease in global public health, COVID-19 triggered disastrous socio-economic and political crisis in the past months. Similar to other industries, the COVID-19 crisis has severely disrupted agricultural value chains and markets and has a significant impact on the economic performance of the agricultural sector across the world. The pandemic has broadly impacted the agricultural sector in terms of its contribution to income generation, employment and food security. In order to effectively respond to the crisis in efforts to mitigate negative impacts and contribute to economic recovery, it is necessary to understand the extent of disruption, its direct and indirect consequences and potential areas of interventions. With this aim, VCB-N commissioned country-based assessment studies in Bangladesh, China, India, Indonesia, Laos and Vietnam.

1.2 Scope of the study

Disruptions in value-chain activities and the recommendations provided in the report is applicable to selected districts of Bangladesh. In order to understand the impact of the COVID-19 pandemic on agricultural value-chains, this study analyzed four selected value-chain sub projects under IFAD funded “Promoting Agricultural Commercialization and Enterprises (PACE)” project being implemented by PKSF in collaboration with several Partner NGOs.

1.3 Objectives of the study

The overall objective of the study is-

Provide IFAD and other development actors and projects with relevant data and analysis on the impact of the COVID crises on the economic and social performance of the selected agricultural value chains in Bangladesh and formulate recommendations for short and mid-term level responses to mitigate negative impacts and contribute to recovery efforts.

In light of the overall objective, the specific objectives of the study are:

- Conduct value chain assessments for selected value chains in focusing on the impact of the current COVID crisis on the chain functioning and performance taking into account immediate as well as mid-term perspectives.
- Assess the impact of affected chain performance on social areas like income (poverty), food security and employment taking into account immediate and mid-term perspectives.
- Provide indications and recommendations on potential responses to mitigate identified impact (immediate action) and work on recovery of operations and performance (mid/longer term interventions).

1.4 Limitation of the study

The study aims at analyzing the disruptions in value-chain activities in the selected value-chain sub-projects of PACE project. The respondents of the study were selected from the PACE project beneficiaries. In addition, the study reflects findings from the selected districts of Bangladesh. Overall impact of the selected value-chains on the national economy hence, was not comprehensively analyzed. Due to the pandemic, field visit to all the project locations for data collection was not possible. Data was collected from both face-to-face and telephonic interviews. This study does not provide quantitative analysis as evidence for conclusion. It relies on triangulation of qualitative evidence from both primary and secondary data to reach to conclusions.

Promoting Agricultural Commercialization & Enterprises (PACE) Project
 "দেশি মুরগির সম্প্রসারণ ও বাজার উন্নয়ন" শীর্ষক ভ্যাগু চেইন উন্নয়ন প্রকল্প

দেশি মুরগির প্রদর্শনী মিনি হ্যাচারী

উদ্যোক্তার নাম : মোঃ রফিকুল ইসলাম
 মোবাইল : ০১৭০০০-১০৮৪৭৩
 গ্রাম : শংকর দিঘী,
 ইউনিয়ন : কাঁশোড়ী,
 উপজেলা : বগুড়া সদর,
 জেলা : বগুড়া।

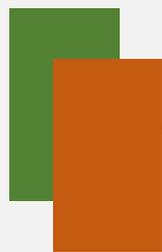
এখানে ১মিল বহুশী দেশি মুরগির বাচ্চা
 কুচনা ও পাইকারী বিক্রয় করা হয়।

বাস্তবায়নে : গ্রাম উন্নয়ন কর্ম (গাক)
 সহযোগিতায় : পল্লী কর্ম-সহায়ক ফাউন্ডেশন (পিকেএসএফ)।

IFAD
 গাক



Chapter 2: Methodology



Chapter 2: Methodology

2.1 Selection of the value-chains

Value Chains are selected based on the following two criteria:

- i) Level to which the chain is affected by the crisis with a focus on most affected value chains dealing with fresh products / perishables (vegetables, eggs etc.) and
- ii) Value chains that are of interest to IFAD in the Bangladesh, thus chains that are part of the IFAD project portfolio.

In consideration of these criteria, we selected four value chains in consultation with the IFAD funded PACEA project which is being implemented by PKSf, the apex microfinance wholesale and development agency of the Government of Bangladesh. The value chains selected are (i) Shrimp-carp mixed culture (ii) Livestock (iii) Native chicken and (iv) Safe vegetable value-chain.

2.2 Study method

The study was conducted following a qualitative method. Data was collected in two phases. The first phase included key-informant interviews in order to understand key disruptions in value-chain activities. Based on the critical finding from phase-1, detailed assessment with the key stakeholders of respective value chains was conducted.

2.3 Data collection

2.3.1 Secondary literature review

We reviewed literature to understand the impact of COVID-19 crisis on the agriculture and economy of Bangladesh. Contemporary articles and reports published in national and international print media were reviewed. In addition, overall contribution of the selected value chains in the national economy were reviewed through available reports, publications and journal articles.

2.3.2 Primary investigation

The primary investigation included Key informant interviews (KII) and In-depth interviews with key value chain actors from local, regional and national level within the selected value-chains. Due to the ongoing COVID-19 crisis, field visits to all the project locations were not possible. In addition to the face to face interviews in some project locations, data was collected through telephonic interviews. Telephonic interviews were recorded through Computer Assisted Personal Interviewing (CAPI) and was further translated into detailed scripts for analysis. Respondent contact numbers were arranged from the implementing agency of PACE project, PKSf.

Interviews were conducted in two phases. Some key value-chain actors were interviewed in order to understand the key issues and difficulties within the value-chain operations raised due to the crisis. Phase-2 included face-to-face interviews and telephonic interviews for a thorough investigation on the identified issues.

Sample size for phase-1: A total of 15 interviews were conducted with **PKSF value-chain focal, producers, business development service providers and output market traders** in order to understand the disruptions in value-chain operations due to the COVID crisis (Table 1).

Table 1: Sample size for the first-phase of data collection

Value-chain	Respondents
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	PKSF Value chain focal	Producers	Traders/processors	Business development service provider
Shrimp-carp	1	1	1	-
Native chicken	1	2	1	1
Safe vegetable	1	1	-	-
Livestock	1	2	1	1
Total		15		

Sample size for phase-2: Detailed data collection, primarily based on the key findings from phase-1 was conducted with key value-chain actors and key stakeholders. Data for phase-2 was collected from face-to-face interviews and from telephonic interviews. The following table details the sample size for face-to-face and telephonic interviews:

Table 2: Sample size for the second phase of data collection

Face-to-face interviews					
Value-chain	Input supplier	Producer	Trader	Business development service provider	Government official
Shrimp-carp	2	7	2	1	-
Native chicken	1	4	1	3	-
Safe vegetable	2	4	3	-	-
Livestock	4	6	4	1	1
Sub-total	9	21	10	5	1
Total			46		
Telephonic interviews					
Value-chain	Input supplier	Producer	Trader	Business development service provider	Government official
Shrimp-carp	4	32	9	5	5
Native chicken	5	22	6	4	5
Safe vegetable	9	36	7	4	7
Livestock	7	28	9	4	2
Sub-total	25	118	31	17	19
Total			210		
Total number of interviews conducted			256		

2.4 Study locations

Data was collected from 33 upazilas of 16 districts across Bangladesh. The districts and the upazilas were selected as per the working area of PACE project. The following table details the geographic location covered in each of the value-chain analysis:

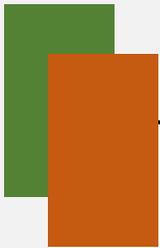
Table 3: Study locations

Value-chain	District	Upazilas	Value-chain	District	Upazila
Shrimp-carp	Bagerhat	Fakirhat	Native chicken	Bogura	Bogura sadar

Livestock	Jashore	Chitalmari	Safe vegetable	Tangail	Shahjahanpur
		Bagerhat sadar			Bhuapur
		Monirampur			Gopalpur
		Avaynagar			Ghatail
	Khulna	Keshobpur		Bogura	Mirzapur
		Dumuria			Bogura sadar
		Rupsha			Shahjahanpur
	Shatkhira	Khulna sadar		Dhaka	Shibganj
		Tala			Dhamrai
	Bhola	Bhola sadar		Faridpur	Boalmari
		Charfassion			Faridpur sadar
		Lalmohon		Manikganj	Ghior
	Chattogram	Swandip			Shingair
	Meherpur	Meherpur sadar		Pabna	Pabna sadar
Gangni		Iswardi			
Mujibnagar		Shariatpur	Vedorganj		
Patuakhali	Baufol		Jajira		



Chapter 3:
Status of corona outbreak in Bangladesh and its
impact on the economy



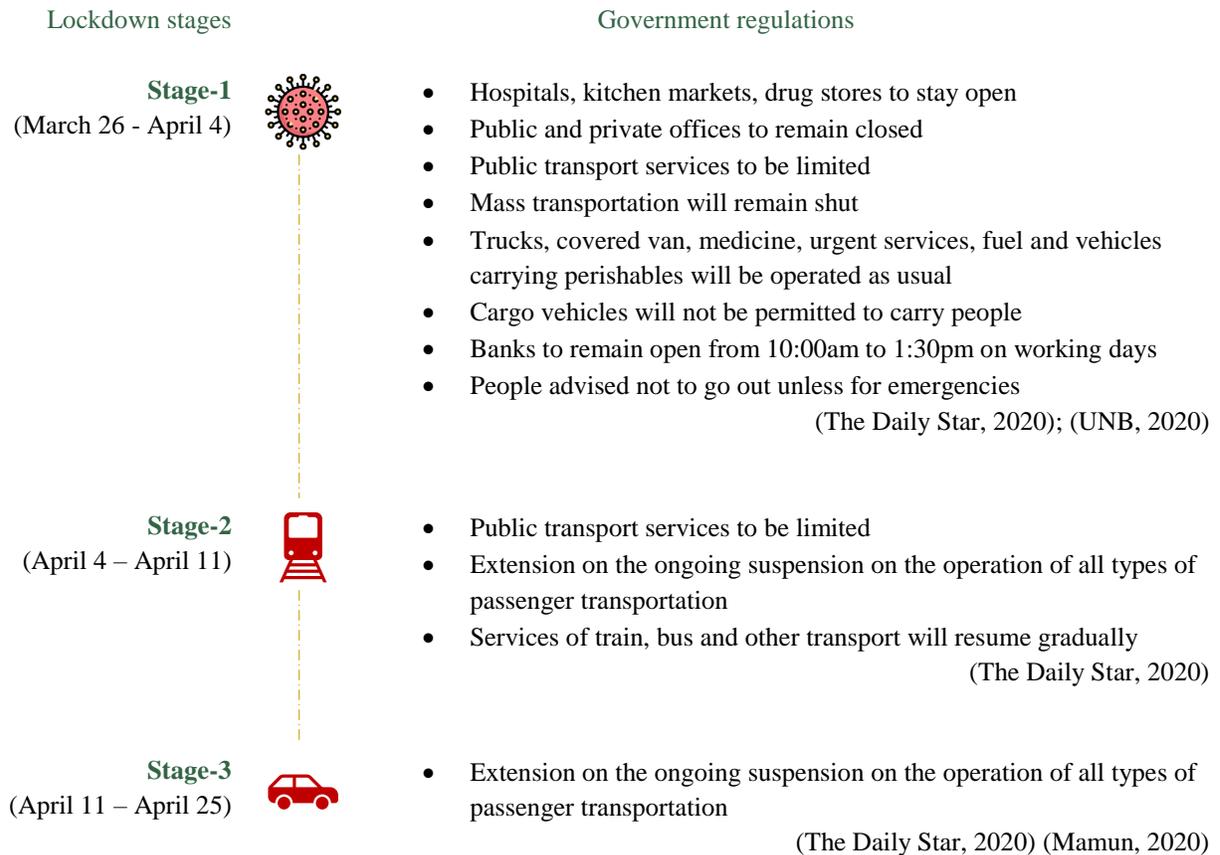
Chapter 3: Status of corona outbreak in Bangladesh and its impact on the economy

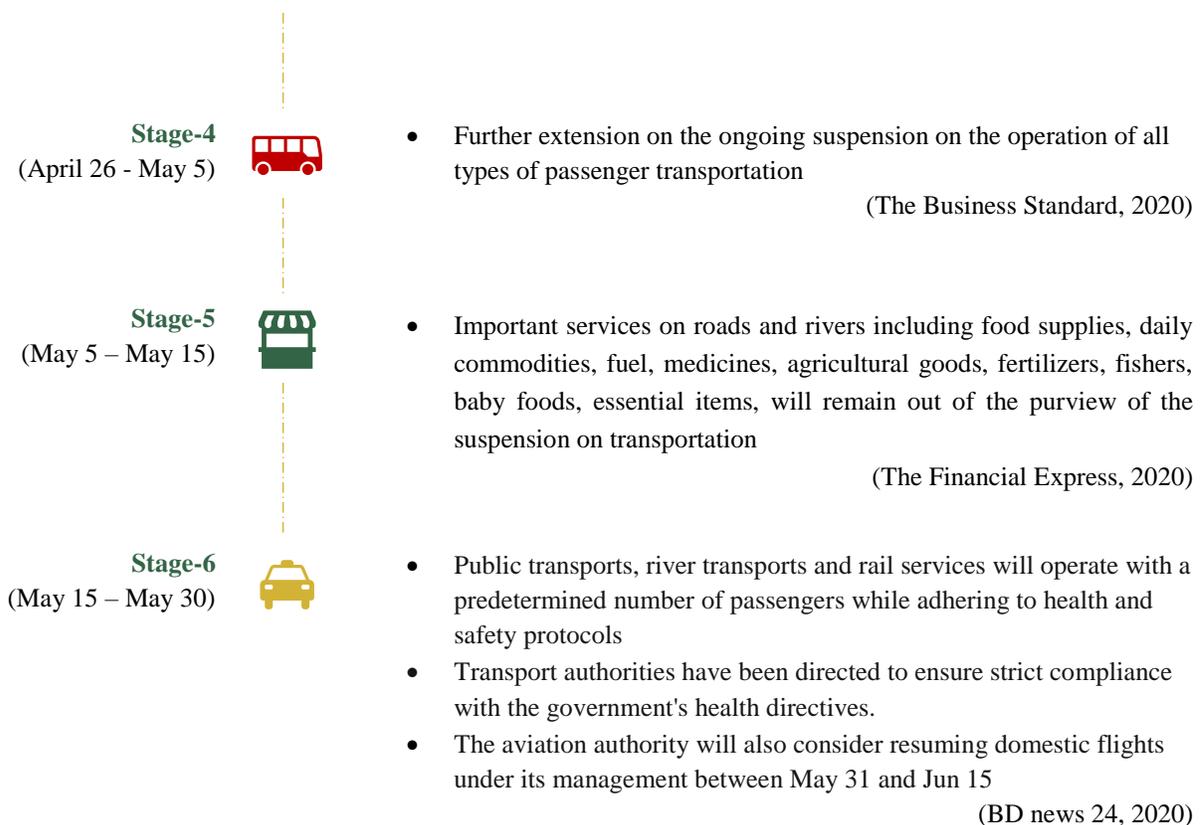
In Bangladesh, the first case of Covid-19 infection was detected on March 8, 2020. Since then, a total of 359,148 confirmed cases have been detected and total casualty stands to 5,161 till September 27, 2020 (Worldometer, 2020). In order to tackle the spread of the virus, the Government of Bangladesh undertook several measures from the beginning of the outbreak in the country. The initiatives included phase-by-phase lockdown, restriction on physical movement, free-of-cost testing facilities, stimulus package to safeguard the economy etc. Free-of-cost testing facilities were arranged at 28 hospitals across the country (UNB, 2020). However, the free testing facilities were withdrawn since end of June and BDT 200-500 was fixed for COVID-19 tests (The Business Standard, 2020).

3.1 Phase-by-phase lockdown

The Government of Bangladesh announced country-wise lockdown in a total of 6 phases from March 26 to May 30. The general lockdown was withdrawn from May 31, 2020 and the economic activities started to function as before (BD news 24, 2020). Public and private offices reopened and ban on transportation withdrawn. However, educational institutions remain closed. The following figure illustrates the lockdown stages and Government regulations in each phase:

Figure 1: Lockdown stages and government regulations for each of the stages





3.2 Stimulus packages

The initial fear among the inhabitants and government-imposed lockdown affected the local economy of the country. Market places were kept closed during April-May, 2020 and sales of daily commodities decreased significantly. However, the government took measures to safeguard the national economy that include stimulus package to offset the covid-19 shock on various sectors.

Till May 29, 2020, the Government of Bangladesh had announced a set of stimulus packages worth around \$11.90 billion (The financial express, 2020). The stimulus packages were announced to fight the coronavirus pandemic and protect the people and economy amid the crisis. The following table illustrates the sector-wise allocation of the stimulus packages (UNB, 2020):

Table 4: Stimulus package allocations by the GoB

Stimulus Packages	Amount (in Taka)
Affected industries and services sector organizations	300.00 billion
Small (including cottage industries) and medium industrial enterprises	200.00 billion
Special fund for the export-oriented industries [expanding the facilities of Export Development Fund (EDF) introduced by Bangladesh Bank with Taka 127.50 billion]	50.00 billion
Pre-Shipment Credit Refinance Scheme	50.00 billion
Special honorarium for the doctors, nurses and health workers	1.0 billion
Health insurance and life insurance	7.50 billion

Stimulus Packages	Amount (in Taka)
Free distribution of food materials	25.03 billion
Agriculture subsidy	95.00 billion
Agriculture refinancing scheme	50.00 billion
Refinancing scheme for the low-income professional farmers and small businessmen	30.00 billion
Expanding of the coverage of allowance programme	8.15 billion
Construction of houses for the homeless people	21.30 billion
Boro rice/paddy purchase operation (additional 200,000 metric tons)	8.60 billion
Mechanization of agriculture works	2.00 billion
the qaumi madrasa students and teachers	170.0 million
Imams and Muazzins of the mosques as financial assistance	1.22 billion
Allocated to ‘Palli Sanchay Bank’, ‘Probsahi Kalyan Bank’ and ‘Palli Karma Sahayak Foundation’ to help the youths and expatriates	25.00 billion

3.3 Impact on industry and economy

Like most other nations, the outbreak of COVID-19 pandemic is an unprecedented shock to the Bangladesh economy. During mid-June, IMF, in a country-based report on Bangladesh identified that the impact on Bangladesh economy can be felt in three main areas (Jamal, 2020):

- A fall in remittance;
- A decline in RMG export and
- A drop in domestic economic activities.

Garment exports fell 18.12 percent year-on-year to USD 27.94 billion in FY 2019-20. As it accounts for 84 percent of the country’s total national exports, overall exports also fell 25.99 percent short of its annual target of USD 45.50 billion. However, remittance somehow hit an all-time high of USD 18.2 billion in the recently concluded fiscal year. Experts presume the high amount of remittance is due to the remittance earners are sending majority of their savings as they are either being forced to return or they fear they will soon be losing their jobs. The impact of the COVID crisis falls hard on the informal sector. According to the Bangladesh Bureau of Statistics (BBS), 85.1% of the country’s total workforce are employed in the informal sector that is more than 50 million people. And it is now estimated that the pandemic has left 80% of them unemployed. Therefore, on one hand, domestic consumption has taken a big hit, while on the other, mass unemployment lowering the disposable income of poorer people to near zero, which is then deflating domestic consumption further. A study conducted in May by Bangladesh Institute of Development Studies (BIDS) found a whopping 16.4 million people sliding below the poverty line due to the pandemic. Around 50 percent of them reported a decline in income, while over 20 percent of people who had monthly earnings of below BDT 15,000 before said that they no longer had any earnings (Jamal, 2020). The banking sector will face liquidity pressure as deposit growth and loan recovery also declines. Private sector credit growth might go down during March 2020 to June 2020 (Paul, 2020).

There is a massive impact on the agriculture sector of the country. The country’s fish and dairy producers are already facing difficulties. Crab, shrimp and fish producers faced some export bans and it is the consequence of significant economic loss. Crab export ban in China means a substantial loss for the Bangladeshi crab industry. There is a catastrophic impact on dairy sector of Bangladesh. The market price of milk dropped to 40% lower than that of January during May, 2020. The prices of vegetables and cattle as well as other agro products are falling down. Agricultural

restriction hinders trade and mobility of commodities as well as supply of commodities. The slowdown in fertilizer, fuel and other inputs will have an impact on future production. The restriction on transportation and physical movement significantly affected farming, including food supply and demand. Meanwhile, protectionist policies and shortage of workers has already created problems in the agricultural sector (Roy, 2020).



Chapter 4:
Impact of COVID 19 crisis on the Shrimp-
carp value chain in selected districts of
Bangladesh



Chapter 4: Impact of COVID 19 crisis on the Shrimp-carp value chain in selected districts of Bangladesh

4.1 Overview of the value chain

Brief overview: Shrimp is the second-largest export product in Bangladesh after ready-made garment commodities. In 2018-2019, the country exported 29,543 tons of shrimp worth \$361 million (Tuhin, 2020). Shrimp culture is a traditional practice in the coastal districts of Bangladesh. Khulna, Shatkhira and Bagerhaat districts contributed 75% of the total shrimp industry between 2002 and 2017 (Md. Fazlul Karim, 2019). PKSf is implementing a shrimp-carp value chain sub-project in collaboration with 6 POs under PACE project in 17 upazilas of Khulna, Bagerhat, Jashore, Satkhira and Cumilla districts with a total of 16,800 direct beneficiaries (PKSF, 2019).

Value chain functioning: Farmers cultivate shrimp for 7-9 months in a single cycle from March-April to October-December. For the rest of the three months (December-February), these shrimp farmers grow paddy in the fish farming lands, in addition to producing varieties of vegetables in the land isles year-round.

Shrimp PL, carp fries, feed, medicines, and probiotics are the primary inputs for shrimp-carp mixed culture. PL is supplied to the local markets by wild PL wholesalers, who collect PLs from natural water bodies and by hatcheries. Hatcheries usually run two cycles for PL production; one in March-April and another in May-June. Each cycle requires around 400 broods and produce 5,000,000-6,000,000 PLs. Farmers collect the necessary inputs from the local markets. It requires 100-150 PLs and 2-3 carp fries per decimal land. Farmers harvest and sell full grown shrimps and carps year-round. However, the main harvesting season is in November-December.

The main point of sales of the shrimps and carps is the local wholesale markets. Wholesalers collect fish from the farmers and sell to the regional and local traders in the local market places in exchange of commissions. Usual trade volume for a trader is 1,000-2,500 Kg of shrimp and carps per day. Local and regional traders sell shrimps to the processing plants before it is packaged and marketed to local markets and exported to other countries. Carps are sold to the local, regional and national markets through the local traders. Figure 2 illustrates the shrimp-carp value chain map.

retailers incurred an average loss of BDT 100,000-150,000 during April-June, 2020. The following table illustrates the change in sales volume.

Table 5: Change in sales volume by the input retailers

Item	Average usual sales/month	Average monthly sales during April-June, 2020
Feed	22,396 KG	5,217 KG
Medicine	17 KG	5 KG
Probiotics	14 L	2 L

*average value of 12 respondents

Production is expected to be reduced to one-third compared to the usual this year: Due to unavailability of PLs this year, farmers had to release one-third of the amount compared to the usual. **Typically, farmers release 100-150 PLs and 2-3 carp fries per decimal land. This year farmers were able to release 30-45 PL/decimal and 2-3 carp fries/33 decimals.**

In addition, due to shortage of probiotics, farmers had to use bleaching powder, salt, potash, calcium oxide instead during land preparation. Farmers used to apply probiotics in every 20/25 days to keep the water PH level steady and safe from germs and bacteria. Unavailability of probiotics affected the water purification process and it will hamper production this year.

Shortage in supply of shrimp feed will affect the growth of the shrimps. Shrimp feed supply was reduced and farmers were unable to apply shrimp feed in usual volume. Generally, the farmers use 150-200 grams of feed per decimal land. Due to shortage in supply, farmers had to use rice, rice bran, rice polish, corn etc. during April-June. As a result, they fear the growth of the shrimps will be significantly affected.

Traders had to halt trading during April-May: Shrimp trading generally takes place in October-December. However, traders trade other varieties of fish such as- Tilapia, Rui, Catla etc. round the year. As per Government regulation, trading was halted during April-May, 2020, which resumed in June, and is now operational as usual. Regional traders from other districts were unable to come to the marketplaces to procure fish during the restrictions. Traders traded fish in a small scale to the local traders for some days during this time. **Usual sales volume during April-May is 1,000-1,500 Kg/day and this year the average sales is around 200-500 Kg/day.**

LSPs were unable to deliver services during April-June: As the Government imposed restrictions on movement and transportation for three months, LSPs were unable to provide their usual services, such as- monitoring of the shrimp fields, monitoring the shrimp growth etc. **LSPs incurred loss of an average amount of BDT 30,000-50,000 during these three months.**

4.3 Identified constraints

Imminent loss in capital: Due to shortage in PL supply, farmers had to release one-third of PL than usual this year. As a result, the production will be one-third than the usual. In addition, the shortage in supply of feed and probiotics, will significantly hamper the growth of the shrimps. Farmers usually harvest grade 7-15² shrimps (60-70% of production) that is sold at a rate of BDT 800-1,200/Kg and higher (grade 17-20) grades (30-40% of production) that is sold at a rate of BDT 600-700/Kg. However, farmers fear, the majority of the production will be of higher grades this year and hence, their earning will be significantly reduced. As the primary selling season is yet to come (in October-December), this study could not assess the actual monetary loss to be incurred.

² Grading is based on the weight of shrimps. For example, if 7 shrimps constitutes 0.5 Kg without the head and tail, those will be of grade-7 shrimp. Lower grade shrimps are high of value.

Producers will face difficulties in terms of investment in the next shrimp cycle: Even though the shrimp farmers usually cultivate paddy in the shrimp farming lands for three months after harvesting and cultivate vegetable in the land isles, the majority of the income comes from shrimp cultivation. Usually, the earnings from shrimp selling are invested in the next production cycles. As the production will be severely reduced due to shortage in PL, feed and probiotic supply this year, farmers will be in shortage of capital to invest in next year's cycle. During the pandemic, many farmers had to avail loans, an average amount of BDT 50,000 and used up their savings to bear the additional cost of shrimp farming and to bear the household costs. They will have to repay the loans for 1-2 years and will not be able to avail further loans. **Farmers fear they will have to reduce their production in the coming years to recover from the loss incurred this year.**

Village-level retailers are yet to recover the loss incurred: Village-level retailers are not being able to invest in procuring goods from the local markets shops and they are refused of credit facilities by the local retailers from whom they procure the products. They already availed loans and used up their savings during April-June as their income from retailing was stopped. Although the supply and price of the inputs is returned to usual, village-level retailers are yet to be fully operational as before.

4.4 Identified needs of chain actors

Producers require long-term loan support: Shrimp farmers need long-term loan support for the next year's cycle as they will not be able to make a usual profit from this year's production. The most common form of availing loan is through the MFIs that require weekly installments. Due to the requirement of business operating cost (feed, probiotics etc.), farmers are hesitant to avail more such loans. Arranging formal long-term loans will help the farmers to make usual investment in the next year's cycle and they will be able to recover quickly. Depending on the farm size, **farmers require BDT 30,000-100,000 as initial investment cost for shrimp-carp cultivation.** Identification of the worst-affected farmers and arranging loan support is required at the end of harvesting season so the farmers can recover the loss within the next cycle.

Short-term loan facilities for the shrimp hatcheries: Hatcheries are discouraged towards PL production. They had to incur a significant loss this year and shrimp PL production involves several risk factors. In addition, wild PLs are preferable to some farmers due to its cheaper price. In order to encourage the hatcheries to produce PLs, short-term loans (for 2-3 months) can be arranged for them in the next year's cycle.

Credit facilities for village-level retailers: Village-level retailers would benefit from short-term credit facilities. As they sell to the farmers in cash and there is constant local demand of shrimp feed, medicine and probiotics, short-term credit facilities from the large retailers or private company distributors will help them to recover quickly from the loss incurred.

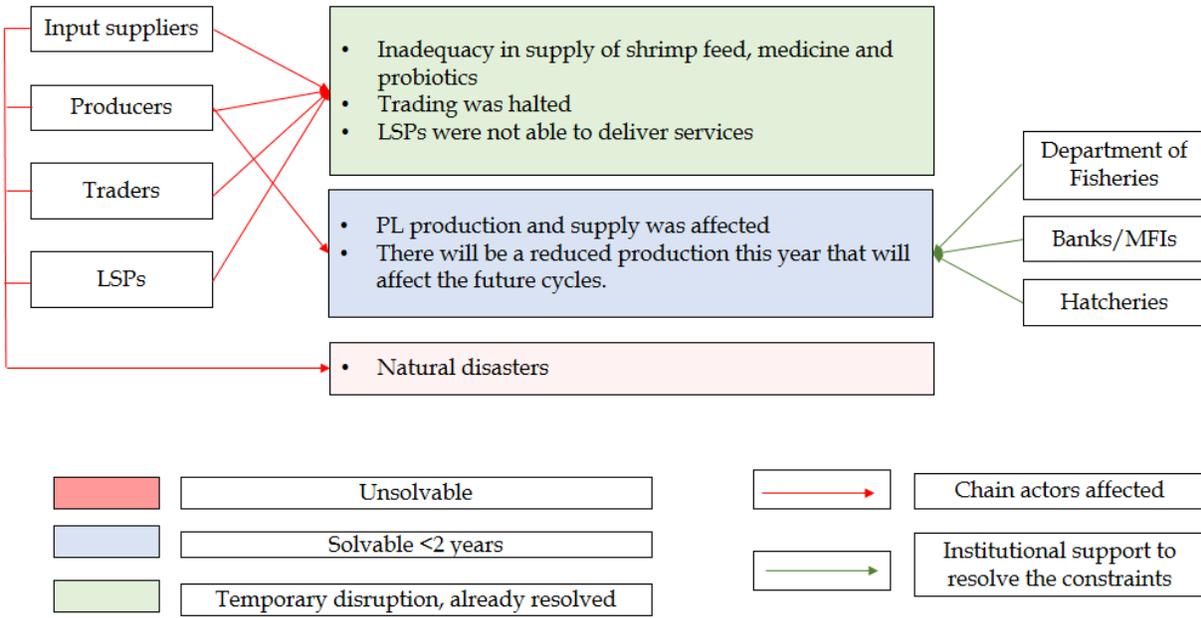


Figure 3: Constraint mapping of the shrimp-carp value chain



Chapter 5:
Impact of COVID 19 crisis on the Native chicken
value chain in selected districts of Bangladesh



Chapter 5: Impact of COVID 19 crisis on the Native chicken value chain in selected districts of Bangladesh

5.1 Overview of the value chain

Brief overview: Native chickens are referred to indigenous breeds of chickens raised in the courtyards of households that are typically raised in small flocks and on scavenging method. Chicken rearing through farming and on the courtyards are common practice in Bangladesh. The country's poultry sector has nearly closed the gap in terms of meeting the domestic demand. Supply of both meat and eggs are growing with the poultry farms growing at 15% a year (Ahmed R. , 2019). In addition to the poultry farming, millions of households are engaged in scavenging chicken rearing across the country. However, native chicken is usually reared in form of subsistence farming and producers have very little commercial expectation from native chicken rearing. In most cases, household women are responsible for native chicken rearing. Women account for 40% of the total workforce in the poultry sector (WPSA, 2019). In 2009, it was reported that 89% of the rural household reared poultry and average number of chickens per household was found to be 9.5. It contributed 20.8% of the country's total egg production and 37.3% of meat (Jahan S, 2017). Native chicken value chain sub-project is being implemented by PKSf in collaboration with two POs in 4 upazilas of Tangail and Bogura districts of Bangladesh under PACE project with a total 8,580 direct beneficiaries (PKSF, 2019).

Value chain functioning: Fertile chicken eggs, pullets, chicks, chicken feed, medicines and vaccines are the primary inputs of the value chain. Model farmers, local input retail shops, private feed and poultry medicine companies are the primary sources of the inputs. Commercial production of native chicken is being promoted by the PACE project in the two districts of Bangladesh. Model farmers produce fertile eggs, chicks and pullets through poultry farming and supply to the smallholder farmers. Smallholder farmers rear chickens for 3-4 months before selling to the local markets or through the project deployed LSPs. In addition to chickens, farmers also sell eggs to the markets. Farmers rear chickens round the year. LSPs, in addition to marketing the chickens and chicken eggs are providing vaccination and veterinary services to the beneficiaries. Model and smallholder farmers run 3-5 cycles of production per year. Model farmers sell 300-500 eggs, 600-800 chicks and 200-400 pullets in a year. Depending on the farm size, smallholder farmers rear 30-1000 chickens in each cycle. Village and upazila level local markets and LSPs are the primary point of sales of chicken and eggs. Native chickens and eggs are supplied to other regions of the country through the local and regional traders. The following figure illustrates the value chain map of native chicken.

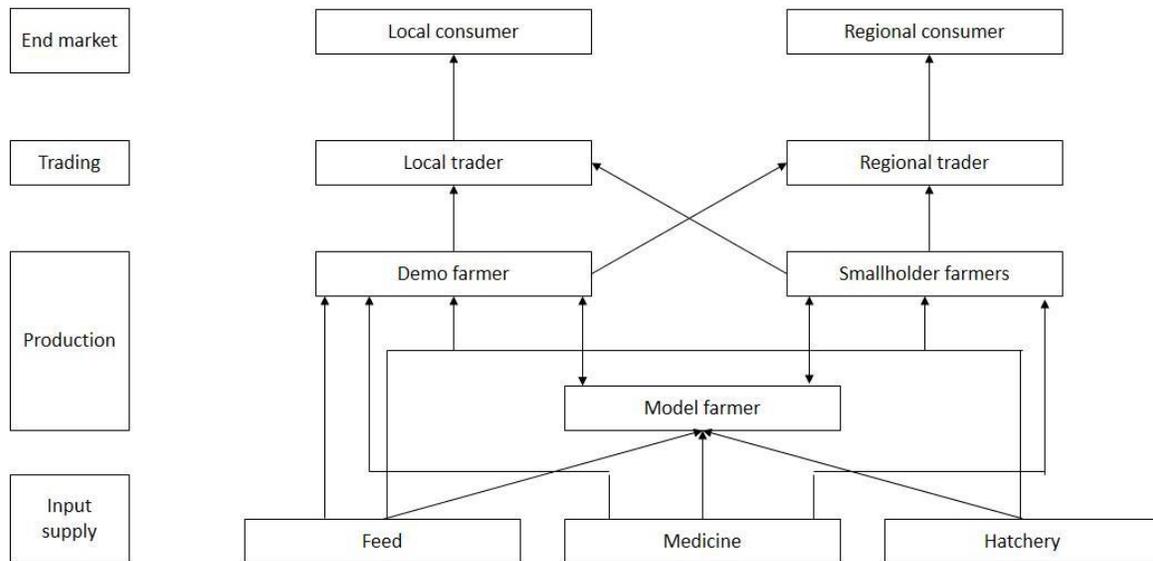


Figure 4: Native chicken value chain map

5.2 Disruptions due to COVID 19

Input sales was affected during April-May, 2020: Due to Government-imposed restrictions on physical movement and transportation, LSPs were not able to procure goods (feed, medicine, vaccine) and supply to the farmers. Farmers themselves were not able to move to the local markets to procure ready-made feed. Input retailers reported there were no shortage in supply. However, their sales were affected due to the reduced number of buyers during April-May, 2020. **Input retailers and LSPs reported a 30-50% drop in ready-made feed sales during the two months. Due to less demand, feed price increased from BDT 1950/50 Kg sack to BDT 2000-2100/50 Kg sack.** In some cases, feed sales were totally halted during the two months. In addition, vaccination campaigns and veterinary services provided by the LSPs were also halted and as a result, medicine and vaccine sales was also dropped. **Input suppliers had incurred an average loss of BDT 200,000-300,000 during April-July, 2020.** However, the sales started to recover since June and **by August, the sales returned to the usual volume** as reported by the input suppliers.

Service delivery by LSPs was halted during April-May, 2020: Project deployed LSPs provide veterinary services to the producer groups. One LSP is engaged for 9-10 groups and each of the groups comprises 25 members. LSPs visit each group once a week and supply ready-made feeds, medicines, and procure chickens and eggs to sell through the group meetings. Due to the Government-imposed restrictions, LSPs halted their service delivery and the group meetings were not held during April and May, 2020. However, service delivery resumed again in June and by August, it returned to usual.

LSPs run vaccination campaign throughout the year, where one beneficiary receives two cycles of vaccination. **During April and May, 2020, the vaccination campaign was halted** as there were restriction on movement. However, the campaign resumed in June and now is operational as usual.

Demand of chicken eggs, pullets and chicks dropped significantly during April-July, 2020: Model farmers grow chicken eggs, pullets and chicks round the year and sell to the smallholder farmers as per the advance orders placed by the farmers. **During the initial stage of the corona crisis, in April and May, 2020, smallholder farmers stopped ordering. Two major reasons behind the sharp drop in advance orders are-** (i) Farmers were afraid that the virus may spread through the chickens and (ii) Farmers were afraid that they will not be able to afford the

rearing cost as their household income was hit. As the major sales products of the model farmers are fertile eggs, pullets and chicks, it is very difficult to rear the chicks and pullets on their own if not sold at the early stage. Thousands of chicks and pullets die as the model farmers could not afford ready-made feed for all. Model farmers incurred significant loss due to this.

Trading was significantly affected during April-June, 2020: The output trading was significantly halted during April and May, 2020. Regional traders from the other parts of the country were not able to physically move for trading. In addition, restriction on transportation caused significant drop in native chicken trade volume. **In 2019, traders traded an average of 259,500 pieces** of native chickens whereas **until August, 2020 they only managed to trade 13,961 pieces.**³ As for the LSPs, the sale was totally halted during April-May, 2020. The following table illustrates the sales volume of eggs and chickens by the LSPs in Bogura district:

Table 6: Egg and chicken sale volume by the LSPs in 2020⁴

Item	Months				
	March, 2020	April, 2020	May, 2020	June, 2020	July, 2020
Chicken egg (pieces)	6,824	0	0	29,222	51,221
Chicken (pieces)	4,700	0	0	4,230	5,267

In addition to the trading volume, market price of chicken also dropped. **Chicken price dropped from BDT 380-400/Kg to BDT 250-300/Kg** due to reduced market demand. Price of egg however remained same.

Natural disasters amidst the corona crisis significantly affected the business: *Cyclone Amphan* hit Bangladesh and India's West Bengal province in May, 2020 and Bangladesh faced one of the worst flooding in recent years in June-July, 2020. These subsequent disasters amidst the corona crisis affected the native chicken value chain significantly. Project working areas of Bogura district was mostly affected by *Amphan* while Tangail was mostly affected by flood. **Many farmers had lost their whole flocks due to the disasters.** They will have to start their business from the ground up. **Farmers of Bogura district experienced loss in infrastructural damage (farm shelter, small chicken shelters) that requires significant investment to rebuild.**

5.3 Identified constraints

Many smallholder farmers had to stop chicken rearing and are yet to recover from the loss incurred: Due to the increased rearing cost and reduced market demand, many smallholder farmers did not invest in procuring chicks, pullets or fertile eggs for further production. They stopped production in the initial stage of the crisis, during April-May, 2020. In addition to the loss of business in chicken rearing, other household income sources were also affected by the corona crisis. As a result, many of the farmers are not being able to invest in native chicken rearing and hence, stopped rearing for now.

Model farmers incurred significant amount of loss: Model farmers, who produce and sell chicks, pullets and fertile eggs in bulk, suffered due to reduced demand from the smallholder farmers. They were unable to accommodate the whole batch of chicks and pullets in their farms. In addition, they were also unable to bear the additional cost of rearing the chicks and pullets. As a result, many fertile eggs were wasted and many chicks and pullets died. **Model farmers incurred loss of an average amount of BDT 50,000 due to the crisis.**

Chicken growth was affected due to reduced usage of ready-made feed: Farmers were unable to afford ready-made feed for their chickens as their other sources of income was affected due to the crisis, in addition to the loss incurred by chicken rearing. As a result, **chickens were fed with rice, rice bran, rice polish, maize etc.** that affected

³ Average trade volume of 6 output traders interviewed.

⁴ Source: GUK

the growth of chicken. These chickens are of comparatively less weight. Compounding this, the market price of chickens fell significantly during April-May, 2020. As a result, profitability from chicken rearing experienced a sharp decline.

Future production will be reduced by a significant margin: Future native chicken production will be significantly reduced primarily because of three reasons-

- i. Many farmers had to stop rearing altogether due to corona crisis and natural disasters.
- ii. Decline in sales by the model farmers exhibits future production loss and
- iii. Reduced market price discourages farmers from investing in native chicken rearing.

5.4 Identified needs

Identification of the worst affected farmers and provide in-kind or arrange long-term loan to support them start their business: Identification of the worst affected farmers who have lost their whole business to corona crisis or to the disasters is required. Supporting them through in-kind support or arranging long-term loan facilities will ensure their sustainable future income pathway. Otherwise there is a good chance that they will fall back to poverty.

Ensure a fixed-rate of product price to encourage farmers into commercial production: Reduced market price of chickens discouraged many farmers from investing in native chicken rearing. Ensuring fixed market places, especially in city areas will be helpful to keep the product price stable. Farmers will be encouraged towards commercial cultivation if strong forward production linkage can be established.

Support the model farmers to ensure supply of pullets, chicks and fertile eggs: Many model farmers have lost their business due to the corona crisis. Identification of the worst affected farmers and supporting them on need-basis will ensure proper supply of pullets, chicks and fertile eggs that is necessary for the smallholder farmers.

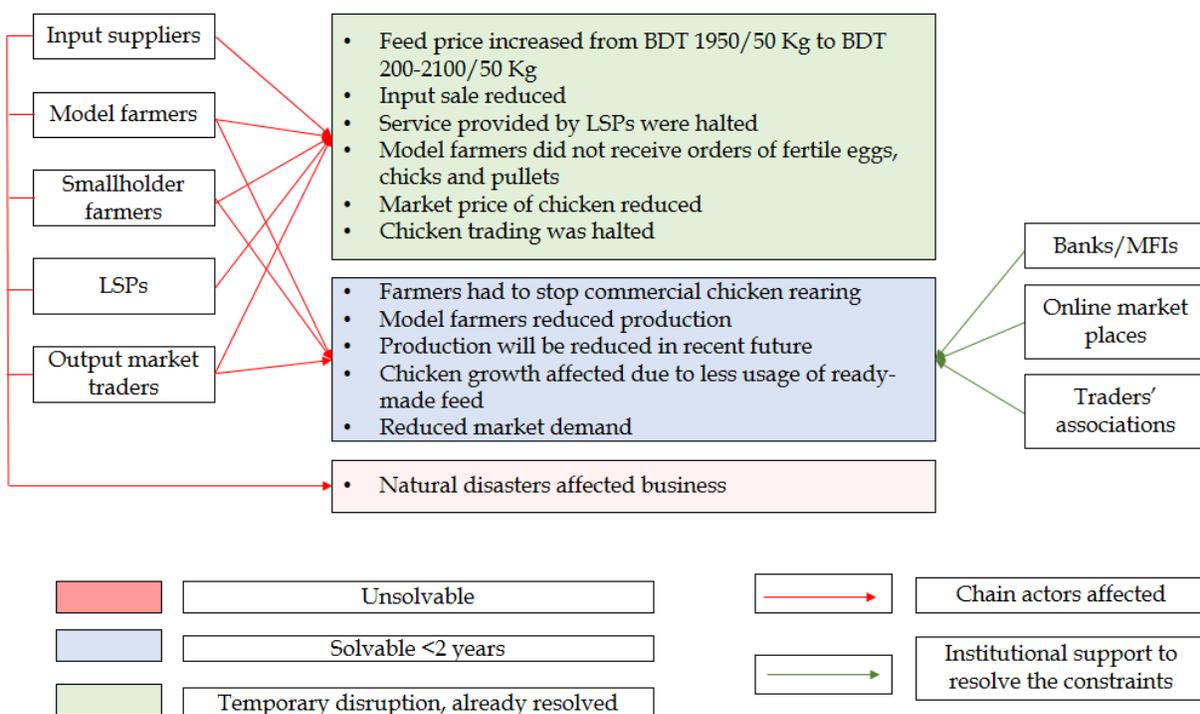
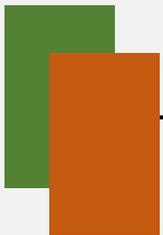


Figure 5: Constraint mapping for the native chicken value chain



Chapter 6:
Impact of COVID 19 crisis on the Safe
vegetable value chain in selected districts of
Bangladesh



Chapter 6: Impact of COVID 19 crisis on the Safe vegetable value chain in selected districts of Bangladesh

6.1 Overview of the value chain

Brief overview: Vegetable cultivation is common all across Bangladesh. Varieties of vegetables are cultivated in the country year-round. Homestead vegetable cultivation is commonly practiced across Bangladesh, mostly in form of subsistence farming. In addition, a large number of farmers are involved in commercial vegetable cultivation across the country. Due to relatively higher yield higher return, vegetable cultivation is booming in Bangladesh. Bangladesh is now world’s third largest vegetable producer. In 2017-2018, Bangladesh produced 15,954,300 tonnes of vegetable from 861,300 hectares of land (Zaman, 2019).

Safe vegetable refers to vegetable cultivation focusing on increased usage of bio-fertilizers and pesticides. It aims at reduced usage of chemical fertilizers and pesticides to make the cultivation process more environment-friendly and to increase health benefits from consumption. PKSF in collaboration with 4 POs is implementing safe vegetable sub-project in 10 upazilas of Dhaka, Bogura, Shariatpur, Faridpur, Chattogram and Manikganj districts with a total of 18,225 direct beneficiaries under PACE project (PKSF, 2019).

Value chain functioning: Seeds, fertilizer, insecticides and pesticides are the primary inputs for vegetable cultivation. There are various private companies such as- Lal Teer, A.R. Malik, ACI etc. distributing vegetable seeds and insecticides/pesticides to the local market retailers across Bangladesh. In addition to the hybrid seed varieties, many farmers preserve seeds for production. Government-enlisted dealers distribute fertilizers among the farmers. Small holder farmers grow vegetables in 10-50 decimals of land whereas commercial farmers cultivate vegetable in 100-500 decimals of land. Farmers usually grow varieties of vegetables round the year in 2-4 cycles. Some of the widely grown vegetable varieties are presented in Table 7. Produced vegetables are being sold through local traders (farias), who collect vegetables from the fields and sell to the local markets. Regional and national-level traders collect vegetables from the local markets and/or from the farmers to trade all across the country. Figure 6 illustrates safe vegetable value chain map.

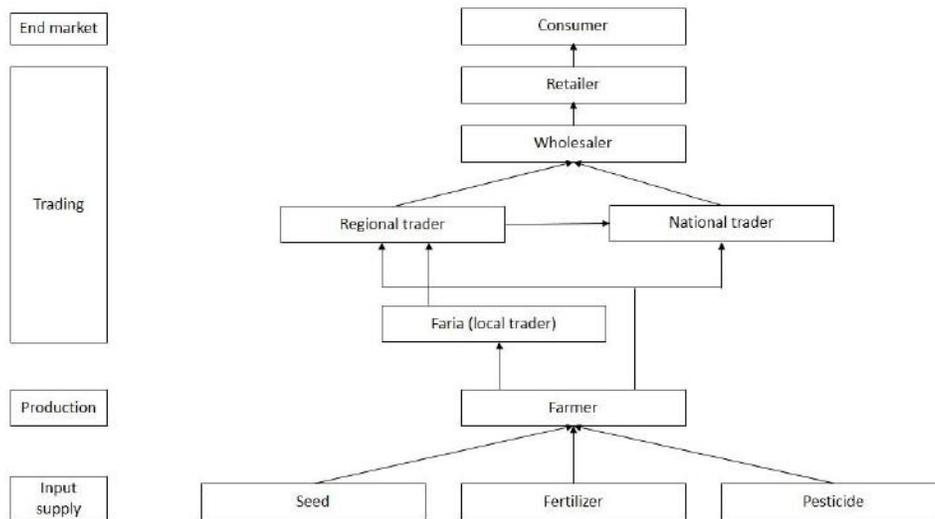


Figure 6: Safe vegetable value chain map

Table 7: Vegetable varieties cultivated in Bangladesh

Sowing season	Harvesting season	Vegetable varieties
February-March	April-May	Bitter gourd, Sponge gourd, pointed gourd, Calabash, Snake gourd, Lady's finger, Eggplant, Cucumber, Tomato, Wax gourd etc.
April-May	June-July	Calabash, Pointed gourd, Sponge gourd, Tomato, Snake gourd, Spinach etc.
June-July	August-September	Wax gourd, Calabash, Snake gourd, Beans, Spinach, Yard long bean, Sponge gourd etc.
September-October	November-February	Cauliflower, Cabbage, Yard long gourd, Tomato, Broccoli, Spinach, Pumpkin, Calabash etc.

6.2 Disruptions due to COVID 19

Input sales was affected during April-May, 2020: Due to Government-imposed restrictions on physical movement, farmers were not able to go to the local markets for purchasing necessary inputs. In addition, there were restrictions on business hours for the input retailers. **Retailers shortened their business hours from 10-12 hours/day to 3-4 hours/day.** Moreover, farmers were afraid of Covid-19 and limited their movement to the marketplaces. As a result, input retailers' sales volume and hence income was affected during April-May, 2020. However, business started to recover from June and by August, it went back to the usual volume. **Input retailers incurred an average loss of BDT 50,000-100,000 during April-May, 2020.** Figure 7 illustrates the change in sales volume during April-May, 2020.



Figure 7: Change in sales volume of the input retailers

Vegetable price dropped significantly during April-May, 2020: Due to Government-imposed restrictions on physical movement and transportation, traders from around the country could not conduct their usual trade during April-May, 2020. In addition, the transportation cost also increased due to limited business activities. As a result, the demand of vegetables reduced by a significant margin resulting in a significant price drop. The following figure illustrates the change in vegetable price during April-May, 2020. However, the prices started to rise from June and were back to the usual by July.

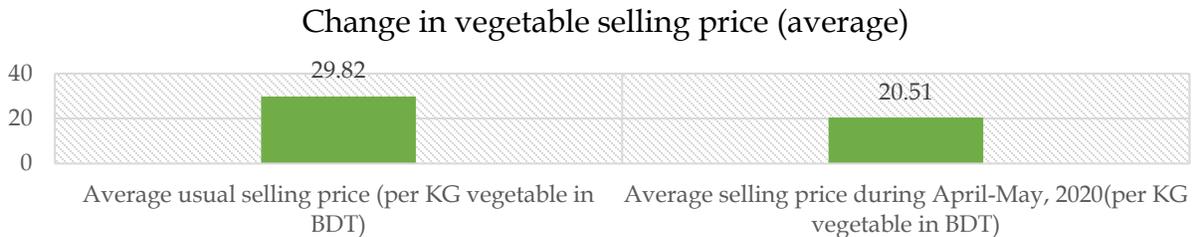


Figure 8: Change in vegetable selling price during April-May, 2020

Farmers had to dump vegetables due to absence of traders in the local markets: Many farmers were not able to sell their vegetables due to absence of traders, especially from Dhaka, Chattogram, Sylhet, in the marketplaces. Due to their absence, the usual trade volume was affected by a significant margin. Reduced demand resulted in significant drop in price. **Vegetable price was dropped to as low as BDT 1-5/Kg** during April. Many farmers had to dump their vegetables in the marketplace as the earning from selling vegetables at the reduced price did not even cover the transportation cost. However, the situation continued for around 15-20 days before the price started to rise up again as regional traders from the adjacent districts started to source products from Bogura. The scenario is different in Dhaka and Manikganj districts as traders from Dhaka district went to these areas instead to source vegetables. Increased demand resulted in a slight rise in vegetable prices.

Trading was significantly affected during April-May, 2020: Due to absence of national traders in the marketplaces of Bogura, Faridpur and Shariatpur districts the demand of vegetable reduced significantly during April-May, 2020. In addition, reduced demand resulted in increased transportation cost as the traders had to continue transportation with lesser volume. **Usual trade volume was 1,200-1,500 Kgs of vegetables/day that was reduced to 500-700 Kgs/day** during April-May, 2020. Local traders who trade with the national level traders, had to **incur loss of an average amount of BDT 100,000-600,000 during April-May, 2020**. The affect in trading can be illustrated by the changes in production and sales volume by the farmers (Figure 9).

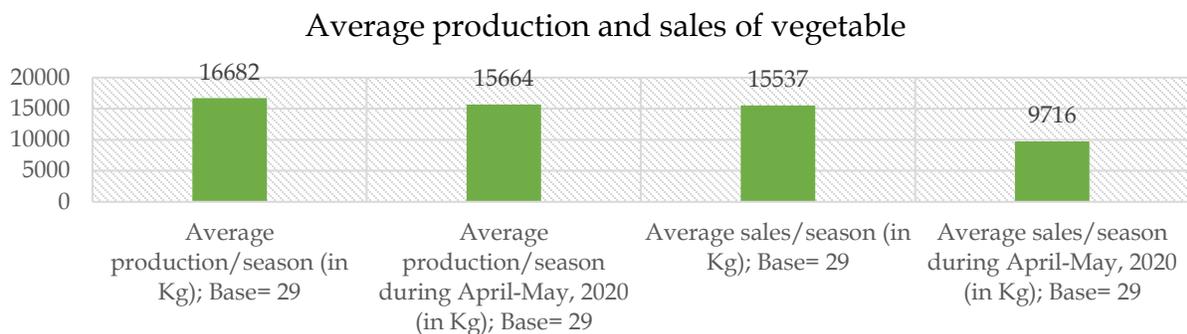


Figure 9: Average production and sales volume by the farmers (usual vs during corona)

Natural disaster amidst the corona crisis affected production and trading: Heavy rain and flood during May-July, 2020 amidst the corona crisis affected the vegetable production and trading. Farmers of Bogura district were affected by waterlogging due to heavy rain and farmers of Shariatpur, Faridpur and Manikganj district were affected by flooding. There will be a significant production loss in the next harvesting season during September-October.

6.3 Identified constraints

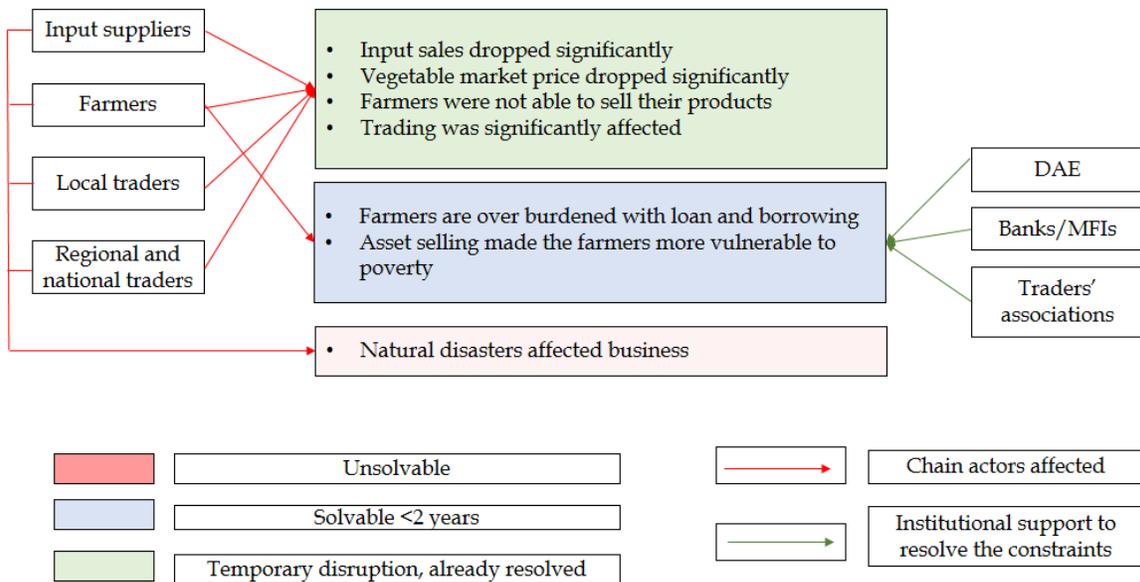
There is increased loan burden among farmers and traders: Due to disruption in production and trading during April-May, 2020, farmers and traders had to liquidate their savings, sell assets and avail loans to arrange the business running costs. As a result, most of them have an increased loan burden. Traders trade a sizable volume of vegetable per day (1,200-1,500 Kgs/day) that requires a good amount of business running cost. However, their daily profit is also of high margin. As a result, they are capable of quick recovery. As the trading volume and price was back to usual in July-August, traders started to recover from the loss incurred. However, farmers are yet to recover from the loss as the next harvesting season is yet to come (in September-October) and many of them had to face production loss due to flooding. Although, the farmers had managed to invest for the next cycle either by selling assets, use up savings or by availing loans, **disruption in production or trading in the coming seasons will draw them back to poverty**.

6.4 Identified needs

Long-term loan support to the farmers: Farmers who had to incur significant loss due to corona crisis and to natural disasters, need to be identified and supported through long-term (at least of six months) loan support. There are many farmers who had used up their savings or sold assets to survive during April-June, 2020 and are in no position to avail MFI loans to be repaid every week. The long-term loan support will help them to invest in the next cycles of vegetable production so they can recover quickly.

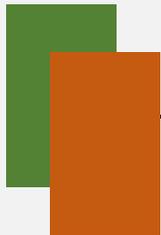
Product price stabilization for the upcoming seasons: Maintaining vegetable price stability during the next harvesting seasons (September-October and January-February) would be essential. If there is a similar disruption in vegetable market price, many vegetable farmers will fall behind to poverty as it will be difficult for them to invest in further cycles.

Figure 10: Constraint mapping for the safe vegetable value chain





Chapter 7:
Impact of COVID 19 crisis on the Livestock
value chain in selected districts of Bangladesh



Chapter 7: Impact of COVID 19 crisis on the Livestock value chain in selected districts of Bangladesh

7.1 Overview of the value chain

Brief overview: Livestock is an integral component of agriculture and make significant contribution to the growth and development of the agricultural sectors of Bangladesh. Cattle, goat, sheep, buffalo, and poultry primarily constitute the livestock resources of the country. Contribution of livestock sector in overall GDP was 1.66% for 2015-2016 and the share of livestock in total agricultural GDP was 14.21% (Ahmed S. , 2017).

Goat rearing is very prominent across Bangladesh. Goat milk, meat and skin have been contributing in the national economy and have been playing a vital part towards ensuring food security. In Bangladesh, about 25.7 million goat heads are distributed throughout (A Kumar, 2018). Goat represents about 27%, 23% and 28% of meat, milk and skin respectively to the total production from livestock sector (Hossain MM, 2017). However, buffalo production is not as widespread as goat in Bangladesh. The total buffalo population are 1.457 million heads that are managed in household subsistence farming and extensive *bathan*⁵ farming in saline coastal region. Buffalo milk and meat contributed only 4% and 0.94% of the country's total production (M.A. Hamid, 2016). PKSF, in collaboration with 7 POs, is implementing buffalo and goat value-chain sub-projects in 11 upazilas of Bhola, Noakhali, Patuakhali, Chattogram and Moulavibazar districts and in 6 upazilas of Meherpur and Chattogram districts respectively under PACE project. Total number of direct beneficiaries in buffalo and goat value chain sub-projects are 18,776 and 14,500 respectively (PKSF, 2019).

Value chain functioning: Feed, medicines and vaccines are the primary inputs for buffalo and goat value chains. Private medicine companies such as- Incepta, Acme, Renata etc. are distributing medicines to the local market retail shops. Buffalos are fed mostly through grazing in the char areas and goats are fed with Napier grass, rice bran, rice polish, rice etc. Buffalo and goat are being reared year-round. Buffalos are mostly reared for milk production and goats for meat production in Bangladesh. Buffalo milk is produced for 6 months (February-July) while the other six months are breeding seasons. Local sweet and curd shops are the primary point of sales for buffalo milk. Goat is being reared and sold year-round through the local village-level traders (Farias). Farmers typically rear 8-25 goats and sell 5-15 goats per year. Traders from all around the country collect goats from the villagers and/or the village-level traders from the local markets. ULO, local LSPs and input retailers are the primary support services for these value chains. Figure 11 illustrates the livestock value chain map.

⁵ *Bathan* is a form of agrarian business pursued by professional *rakhals* or cattle minders who keep his and other people's cattle under his care for grazing on community land.

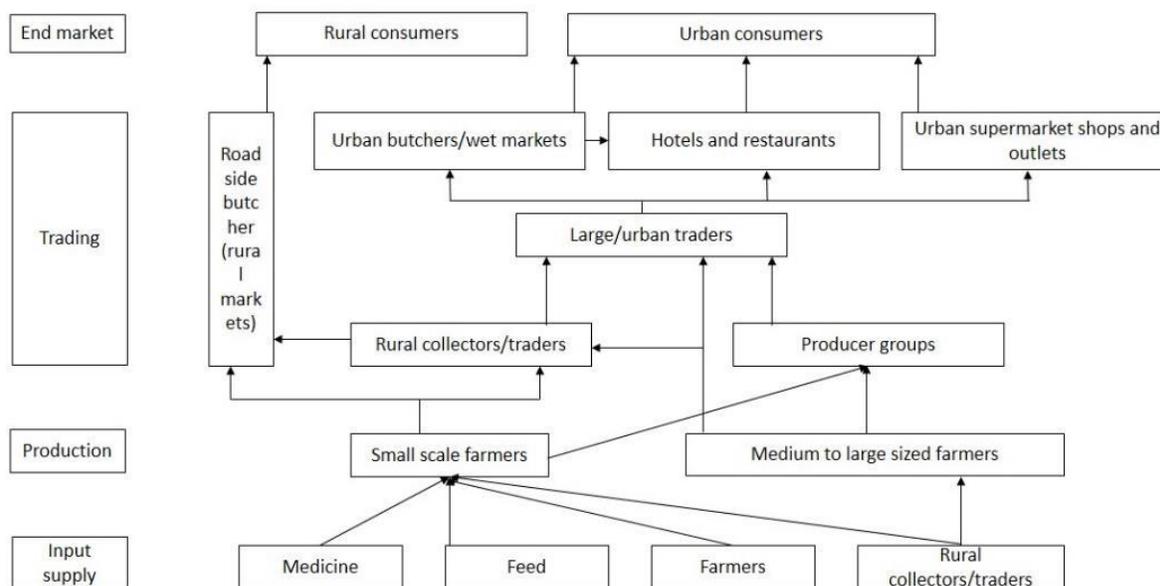


Figure 11: Livestock value chain map

7.2 Disruptions due to COVID 19

Farmers had to dump milks due to less market demand: Buffalo milk is typically produced for six months, usually from February-July. The other six months are buffalo breeding season and hence, milk production during August-January is comparatively low. Traders were not able to collect milk primarily because of reduced demand from the sweet and curd shops. In addition, there was restriction on physical movement of the traders. As a result, traders were absent in the local markets. Due to absence of preservation facilities in the coastal areas, farmers had to dump the produced milk. Buffalos were fed with additional milks and household consumption of milk also increased. The rest was dumped in the char lands. On an average, **farmers had to dump 800-2000 liters of milk during April-May, 2020.**

Table 8 illustrates the change in milk selling volume by the traders. **The sale is yet not returned back to the usual volume.**

Table 8: Changes in milk selling volume by the traders

Milk selling by the traders in 2020							
Months	January	February	March	April	May	June	July
Usual sales (Liter)	600-700	600-1500	0-450	0-400	0-350	0-300	150-300

Decline in price: Due to the disruption in sweet and curd sales, demand of milk dropped significantly and as a result, price of milk dropped by 40-50%. Whereas, **farmers usually sell milk at a rate of BDT 80-100/Liter, during April-June, 2020, milk was sold at a rate of BDT 40-60/Liter.** The price increased slightly (BDT 60-70/Liter) by July and are yet to return back to the usual price. Sweet and curd price had increased due to unavailability of milks and disruption in sales volume. While **sweet price changed from BDT 180-200/Kg to BDT 230-280/Kg, curd price changed from BDT 100/Kg to BDT 150/Kg.** The prices are yet to return back to the usual.

Sweet makers of the coastal region incurred a significant loss and are yet to recover: Although, the shops reopened in June, demand of sweets and curd dropped significantly. As a result, the sales volume of sweet and curd dropped sharply and are yet to get back to the usual volume. Table 10 illustrates the change in sales volume by the sweet shops.

Table 9: Change in sales volume by the sweet shops

Sweet selling by the sweet shops in 2020							
Months	January	February	March	April	May	June	July
Usual sales (Kg)	3,000-6,000	3,000-6,000	3,000-5,000	30-50	30-50	30-50	50-100

Natural disaster amidst the corona crisis slightly increased the rearing cost and affected trading: Buffalos are usually fed by grazing in the char lands. Due to flooding and heavy rain during May-June, 2020, low-lying char lands were submerged. Farmers had to feed the buffalos with rice, vegetable, oil cake, rice bran etc. instead. Farmers had to procure the feed from the local markets that slightly increased rearing cost. In addition, traders were not able to move to the marketplaces for trading due to flooding. However, demand of milk remained low even after the flooding.

Prices of Napier grass and other goat feed increased for a short period of time during April-May, 2020: Price of Napier grass for goat feed increased for a short period of time during April-May, 2020. Price increased due to a slightly increased demand and less supply of grass in the local markets. Goat farmers from Maherpur district usually produce Napier grass to feed their goats. In case of any additional need, they procure grass from the local markets. Those who do not cultivate on their own, depends on procuring grass. During the initial stage of the corona crisis in Bangladesh (April-May, 2020), there were lesser number of grass sellers and buyers in the local markets. As a result, price had increased by a slight margin. Price of other goat feeds such as rice bran and maize also increased during April-May, 2020. Changes in price of goat feed is presented in Table 10. However, by July, price has returned to the usual.

Table 10: Changes in goat feed price

Feed item	Usual price	Changed price
Rice bran	BDT 15/kg	BDT 30/kg
Napier grass	BDT 20-30/bunch	BDT 40-50/bunch
Maize	BDT 500/40 kg	BDT 800/40 kg

Goat trading was affected during April-May, 2020: Due to fear of corona and Government-imposed restrictions on physical movement and transportation, goat trading was significantly affected during April-May, 2020. Regional and national-level traders were not able to go to the local markets to collect goats. As a result, business of village-level, local, regional and national-level traders affected significantly. However, farmers were not impacted much due to the disruption in trading. Farmers usually sell goats on need-basis, 4-5 times a year. In addition, goat selling usually increases during the time of Eid-ul-Adha (observed in August in 2020) and by July, the goat trading returned back to the usual volume. Village-level traders restricted their trading to local programs such as- wedding, aqiqah⁶ etc. The temporary disruption can be understood through change in sales volume of the traders (Table 11).

Table 11: Change in goat trade volume

Trader category	Usual monthly trade volume	Monthly trade volume during April-May, 2020
Large traders	800- 1000 pieces	20-50 pieces
Village-level traders	10-20 pieces	5-7 pieces

⁶ Aqiqah is the Islamic tradition of the sacrifice of an animal on the occasion of a child's birth.

Medicine and vaccine sales was significantly affected during April-May, 2020: Due to Government-imposed restrictions on physical movement and trading, business hours of livestock medicine and vaccine supply shops was reduced. Suppliers kept their shops open for 3-4 hours a day whereas usual business hours are 8-12 hours a day. As a result, **medicine and vaccine sales was dropped by 40-50% during April-May, 2020.** However, the sales volume returned back to usual by August, 2020.

7.3 Identified constraints

Buffalo farmers may fall back to poverty if price stability is not ensured for the next 5-6 months: Due to disruption in milk selling this year, farmers had to borrow money, avail loans or sell assets to recover from the loss incurred. In addition, buffalo farmers have been sustaining through income from other sources- such as- paddy cultivation, fishing etc. However, more loss in future production may pull the farmers back to poverty.

Sweet and curd business is yet to recover: Sweet and curd shops from the coastal area are the primary buyers of buffalo milk. Disruption in their business activities have resulted in significant monetary loss for the sweet shop owners. Their business is yet to return to usual volume. Shop owners already borrowed money, availed loans or sold assets to recover from the loss incurred. Although the business is slowly recovering since July-August, sales volume is yet to return back to usual. It will be difficult for the business to sustain if sales volume is not returned to usual in the coming 2-3 months.

7.4 Identified needs

Product price stabilization for the upcoming seasons: Milk price stabilization in the local markets is necessary as farmers and sweet shop owners already incurred a significant loss this year. As a result, farmers and sweet shop owners are now more vulnerable to poverty. Similar disruption in the coming months will pull them back to poverty.

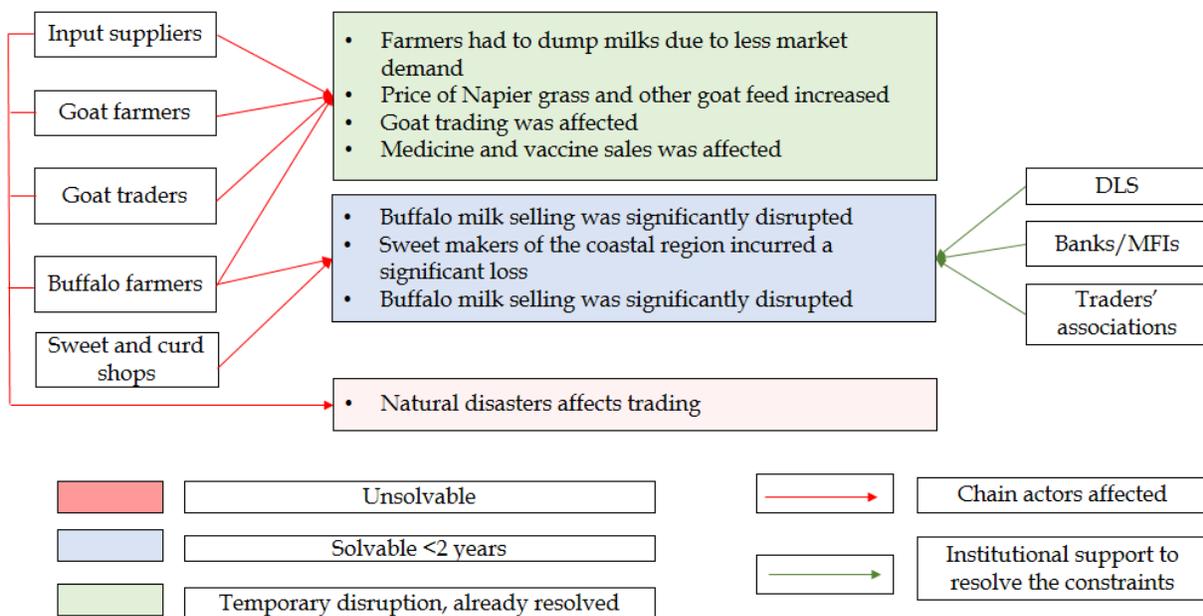
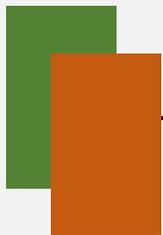


Figure 12: Constraint mapping of livestock value chain



Chapter 8:
Recommendations and conclusion



Chapter 8: Recommendations and conclusion

8.1 Recommendations

The COVID pandemic has impacted the value chain actors and activities to various degrees. Engagement with multiple IGAs, household savings and widespread microcredit facilities have helped the chain actors to survive the initial shock. However, any imminent disruption in the value chain operations will bring more catastrophic impacts on livelihoods. As many countries around the world have started to experience second wave of COVID-19, Bangladesh should be prepared for similar events. In the events of further lockdown imposition, chain actors will not be able to respond as majority of them have used up their savings and have loan burden. Similar lockdown mandates in future can consequently disrupt product price stability that will bring disastrous events in food production in Bangladesh. While safeguarding the public health, the Government should take necessary measures to maintain price stability and support the value chains to safeguard the chain actors. The following are some recommendations based on key findings of the study.

Identification of the worst-hit value-chain stakeholders: Due to disruption in business activities during April-May, 2020, almost all the actors across the 4 value chains have been affected. Due to the recommencement of domestic economic activities since June, chain actors have started to recover from the loss incurred in the two months. However, natural disasters like cyclone *Amphan* and flood amidst the corona crisis have forced many farmers and traders to put a halt on their business activities. Due to damage in infrastructures and used-up savings during April-May, many of them are not being able to resume their business activities. As for this, it is important to identify the worst-hit chain actors who is not being capable to resume their business operations.

Support the worst-hit stakeholders through arranging long-term loans: Banking facilities in Bangladesh is very extensive. Banks and MFIs are present in every upazila of the country. However, availing loans from the MFIs is comparatively more popular in the rural areas of the country. This is due to the convenience of availing loans from the MFIs as compared to the formal loans provided by banks. Majority of the respondents of this study already had loans to repay. Moreover, availing loans have increased during the crisis. However, due to weekly repayment provision, farmers are now reluctant to avail more loans from MFIs and increase their loan burden. Very few of the farmers are availing loans from the banks or formal financial institutions due to its formal procedures and mortgage provisions. It takes 3-9 months for the producers of the selected value chains to complete one cycle of production. In this backdrop, it would be highly beneficial for the farmers if formal long-term loans can be arranged for them for an uninterrupted production in the coming months. Upazila Agriculture Office (ULO), Upazila Livestock Office (ULO), Upazila Fisheries Office (UFO) are the primary government institutions for agriculture, livestock and fisheries respectively in Bangladesh. Bangladesh Krishi Bank is one of the pioneering banking institution to provide formal loans to the farmers and traders. These institutions are key actors to arrange long-term loans for the chain actors.

Support the hatcheries for uninterrupted supply of shrimp PLs in the coastal districts: Less availability of PLs during April-May, during the initial stage of the shrimp production cycle forced the farmers to reduce production scale this year. As a result, production is feared to be lower than the previous years. Hatcheries were unable to run PL production cycle due to unavailability of broods. Brood farming can be introduced in the hatcheries to reduce the dependency on wild broods. In order to ensure uninterrupted supply of PLs in the coming seasons, hatcheries need to be supported, either through loans or through facilitating brood farm establishment, so they can recover from the loss incurred this season and continue PL production in full-scale in the coming years.

Maintain product price stabilization: Farmers across all the four value chains had suffered due to reduced market price of the products. The problem was acute in case of vegetable and buffalo value chains. As a result, farmers and traders had to incur a significant amount of monetary loss. Although, they managed to invest for the next cycle of production (except for the shrimp farmers) either by selling assets or by borrowing money or availing loans, price

stabilization is necessary, especially in the coming season, to ensure farmers do not fall back and are forced to reduce their business activities. Policy making institutions such as- Department of Livestock, Department of Agriculture, Department of Fisheries and Ministry of Local Government, Rural development and cooperatives (LGRD) can play a crucial role to maintain price stability to safeguard the smallholder farmers.

Establishing preservation facilities for vegetable and buffalo milk: Absence of preservation facilities resulted in wastage of vegetable and milk this year. Establishment of milk preservation facilities in the coastal districts and vegetable preservation facilities in the northern Bangladesh will support the chain actors to face the similar challenges that has occurred this year due to the corona crisis, in future. Linkage among local government administration (District Council, Upazila and Union Parishads), private agro-based companies (Pran Agro, Pran dairy etc.), farmer groups and traders’ associations will be crucial for establishing preservation facilities.

Establishing effective linkage between village-level input retailers and private companies: Business operation of village-level input traders, those who procure inputs (feed, medicine etc.) from upazila or district markets and sell to the villagers, was disrupted as they were not able to physically move to the shops to procure inputs. In addition, they mostly procure inputs on credit. Upazila or district-level traders were unable to render credit service during the crisis as their business was also hit. As a result, village-level input suppliers were significantly affected and so did the input supply. To avoid such challenges in future it is necessary to establish linkage between the village-level traders and private input supply companies (Lal Teer, Acme, Renata etc.). Private company distributors usually supply to the inputs to the upazila or district market shops. Village-level input retailers will be benefitted if products are supplied directly to their shops.

Facilitating online-based trading and product sales: Product trading was highly affected due to the Government-imposed restriction on transportation. Traders from all the four value chains expressed that their business was hit as traders from across the country could not reach the local markets for trading. Facilitating online-based trading and product selling will ensure product price stabilization and trading will be convenient in times of such future crisis.

Promote awareness to ensure safety measures to tackle the spread of corona during business activities: It is important to maintain the health safety measures as per the Government regulation during production and trading activities. The safety measures include maintaining safe distance, wearing masks, maintaining hygiene etc. Promoting awareness among the value-chain actors across the value-chain activities is crucial to safeguard public health at large.

Table 12: Short and long-term impacts and recommendations for the 4 value chains

Impacts and recommendations	Value-chains			
	Shrimp-carp	Native chicken	Safe vegetable	Livestock
Immediate/short-term impact	<ul style="list-style-type: none"> Reduced production of PL Unavailability of shrimp PL, brood, probiotics and shrimp feed Input and output trading was halted Service delivery hampered 	<ul style="list-style-type: none"> Reduced investment on pullets and chicks by the farmers Input and output trading was halted Service delivery hampered Model farmers incurred significant loss 	<ul style="list-style-type: none"> Price fluctuation Product wastage Input and output trading was halted 	<ul style="list-style-type: none"> Wastage of milk Buffalo milk price significantly dropped Sweet makers incurred a significant loss Goat trading affected Goat feed price increased

Impacts and recommendations	Value-chains			
	Shrimp-carp	Native chicken	Safe vegetable	Livestock
Long-term impact/ Possible future implications	<ul style="list-style-type: none"> Reduced production Reduced growth of shrimps Input trading affected Disruption in product trading activity 	<ul style="list-style-type: none"> Production will be reduced Chicken growth will be hampered Many smallholder farmers had to stop chicken rearing 	<ul style="list-style-type: none"> Farmers might shift to safer product cultivation, such as- paddy Vegetable production might get reduced 	<ul style="list-style-type: none"> Number of sweet and curd shops may reduce Buffalo farmers may shift to other businesses
Recommendations	<ul style="list-style-type: none"> <u>Arrangement of long-term loan support*</u> <u>Support the hatcheries to encourage brood farming*</u> Maintain product price stabilization 	<ul style="list-style-type: none"> <u>Arrangement of long-term loan support*</u> <u>Facilitating online-based trading and product selling*</u> Maintain product price stabilization 	<ul style="list-style-type: none"> Establishing preservation facilities <u>Arrangement of long-term loan support*</u> <u>Facilitating online-based trading and product selling*</u> Maintain product price stabilization 	<ul style="list-style-type: none"> Establishing preservation facilities <u>Arrangement of long-term loan support*</u> Maintain product price stabilization

* Within PACE/IFAD mandate. PACE has already started online-based trading in collaboration with existing online trading platforms that needs to be scaled-up. In addition, procuring PLs from hatcheries are well within the project mandate and has been practiced before. PKSF will support the MEs and Stakeholders with existing loan products which have a maximum tenure of two years for ME loan. In addition, identification of the worst-hit value-chain stakeholders and promoting awareness to ensure safety measures to tackle the spread of corona during business activities has already been initiated by the PACE project.

Key institutions for collaboration	<ul style="list-style-type: none"> Department of fisheries District, Upazila and Union administration Banks and MFIs Traders' associations 	<ul style="list-style-type: none"> Department of Livestock Services (DLS) District, Upazila and Union administration Banks and MFIs Online product selling platforms (Chaaldaal, Agora, meena bazar etc.) 	<ul style="list-style-type: none"> Department of Agricultural Extension (DAE) and Upazila Agriculture Office (UAO) District, Upazila and Union administration Private agro-based companies Banks/MFIs 	<ul style="list-style-type: none"> Department of Livestock Services (DLS) District, Upazila and Union administration Banks and MFIs Private agro-based companies
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8.2 Conclusion

As of September 27, 2020, Bangladesh ranked 15th in the world in terms of confirmed COVID cases (Worldometer, 2020). High population density and less awareness among the inhabitants increase the risk of spreading of the virus. In addition to the impact on public health, COVID crisis has affected the domestic economic activities at scale. Agriculture industry is also being hit by the crisis. Agriculture is an integral part of Bangladesh's economy, contributing around 17% of the national GDP and providing employment to 45% of the labor force (Rahman, 2017). Impact on the agricultural sector, hence, have great impact on national economy and domestic economic activities. The unprecedented crisis occurred due to the spread of the coronavirus have tremendously affected the agricultural sector of Bangladesh. However, due to timely initiatives by the Government and effective response from the key stakeholders, the impact of the COVID crisis on the agricultural sector was, to some extent, being able to be mitigated. However, short-term impacts have disrupted agricultural activities and trading in almost all the agricultural value-chain activities in varying degrees. Some agricultural value-chains activities were somewhat recovered within a short period of time (goat, vegetable value-chain) while some are feared to have been impacted in long-term (buffalo, shrimp-carp, native chicken). Natural disasters amidst the corona crisis had compounded the difficulties producers and traders were facing. Being engaged in multiple economic activities, household savings and availability of loans have somewhat supported the chain actors to tackle the initial surge of the crisis. However, many farmers have lost the business running capacity within a very short period of time due to economic disruptions and increased loan burden. It is important to support the key actors in need to ensure smooth operations in the coming seasons so the affected actors can recover from the loss incurred due to the crisis. As Bangladesh is still susceptible to further waves of COVID, it is important to take necessary measures to safeguard the agricultural activities and the population affiliated with it. Further disruption in value-chain activities will have a much dreadful impact as majority of the chain-actors are already in a vulnerable position. Millions of people are feared to return back to poverty if proper measures are not taken to tackle the further economic disruptions. In this backdrop, it is highly important to take necessary measures for smooth future operations of the value-chain activities across Bangladesh.

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