



Shariatpur Development Society

**Microenterprises, Entrepreneur and their enterprises under Beef
fattening sub-sector**

“Sustainable Enterprise Project (SEP) project”

Baseline Study

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Study Conducted By

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Acronyms:

SDS- Shariatpur Development Society

SEP- Sustainable Enterprise Project

PKSF- Palli Karma-Sahayak Foundation

ME- Micro- Enterprise

WQ- water quality

HES- Health and Environmental Safety

WHO- World Health Organization

IEDCR- Institute of Epidemiology Disease Control and Research

ToC- Table of Contents

KII- Key Informant Interview

ICT- Information and Communications Technology

CLSP- Community Livestock Service Provider

ToR- Terms of Reference

MoU- Memorandum of Understanding

Executive Summary:

A total of 203 ME and 41 control respondents were interviewed. Among the ME respondents 99% were female whereas in control respondents 31% were female.

62% of ME respondent's main profession were found beef-fattening. In terms of farm ownership 74% of the ME farm was owned by females. Beef fattening contributed 27% income of the total HHs income among the respondents of control group.

Among the ME respondents' highest 79.31% house was found in tin shed, and the lowest 0.49% brick tin shed straw with bamboo.

Around 70% of ME beneficiaries were said that they are satisfied on CLSP offered services where 30% were unsatisfied.

Only 7% of ME respondents mentioned that more than 50% of women work in their MEs and 99% responded they didn't engage child labor in their MEs.

89% of farm didn't have health and safety equipment's (gloves, safety glasses, musk, apron, boots) for use. 99% of ME respondents mentioned they have no first aid box.

98% of MEs didn't receive (trainings) under pollution reduction, resource efficiency and climate change.

98% of the respondent mentioned they didn't produce compost from slurry and only 49% use cow dung for firewood.

74% of ME beneficiary said that no fodder processing facilities are available at the farm where 26% said available

Around 30% ME beneficiaries were sourced of feed from provision of feed in pastures, 23% ME beneficiary sourced from inside of the farm

27% of ME beneficiaries were said that they bought fodder from local market, 17.70% said they used to dry paddy straw and natural grasses

Around 71% of ME beneficiary were said that community level livestock service provider is not available in this area rather than 29% of ME beneficiary said

53% ME respondents were said that government and 47% ME respondents said private sectors are the main service providers to get any relevant services.

99% of ME beneficiaries and 100% control HHs respondents were said that they are not produce vermin-compost.

71% of ME beneficiaries were said that they are not produce fodder and 29% ME said that they produced fodder.

66% of ME beneficiaries were said that they met environmental standard for beef fattening process and 34% ME beneficiaries said that they are meeting the standard.

97% of ME have not legal certification from any authority for beef fattening business.

Around 55% of ME respondents said that they sell products through local market, 40% said that sold from home and 5% said other sources.

63% of ME beneficiaries were responded that they satisfied, 35% said about unsatisfied and around 2% ME said that they are very satisfied of getting fair/market price of selling fattened beef.

99.5% ME beneficiaries HHs said no that they are not using e-platform to sell the fattened beef

52.97% ME beneficiaries responded yes about they received loan in before March 2019 and 47.03% ME beneficiaries said no to get any loan from any sources.

74% of ME beneficiaries were satisfied, 24.44% ME beneficiaries were unsatisfied and 1.11% were very satisfied about interest rate.

76.80% of ME beneficiaries were satisfied and 23.20% of ME beneficiaries were unsatisfied about loan amount

The highest 33% of ME beneficiaries were responded that they used to on foot, 34% used on foot & auto rickshaw, 17% used to Auto rickshaw and 11% said that they used Auto rickshaw, cycle & van to go to market.

48% of ME beneficiaries said yes that it is convenient to go to market alone for women, 20% ME said that not convenient for women to go to market alone and 32% said that women's doesn't go to the market alone.

Over 86% ME beneficiaries said yes that they have a strong family desire to continue farming, 14% ME beneficiaries were responded no to continue farming.

97% and 3% ME beneficiaries were said accordingly NO & YES about having access to insurance.

38% and 62% ME beneficiaries were said accordingly NO & YES about having access to credit service.

Around 95% and 5% ME beneficiaries were said accordingly NO & YES about having access to a wider market information.

66% and 34% ME beneficiaries were said accordingly NO & YES about the mentioned statement and 76% & 24% of control HHs said accordingly No & Yes about access to animal health service.

Around 68% of ME beneficiaries were said no and 32% ME beneficiaries said yes about low demand for production and insufficient market access & information.

52% ME beneficiaries were said yes about high cost & shortage of inputs and 48% said no about the statement.

73% ME beneficiaries were said yes about lack of proper working space and 27% said no about the statement.

86% ME beneficiaries were said yes about lack of skilled & trusted workers and 14% said no about the statement.

67% ME beneficiaries were said yes about lack of management skills and 33% said no about the statement.

Around 58% ME beneficiaries were said yes about lack of communication, transport and high cost of transport and 42% said no about the statement

81% ME beneficiaries were said yes about similar businesses/no creativity and 19% said no about the statement.

58% ME beneficiaries were said yes about 'no access to training & extension service' and 42% said no about the statement.

79% ME beneficiaries were said yes about lack of banking services and 21% said no about the statement.

82% ME beneficiaries were said yes about lack of knowledge on legal issues relating to farming system and 20% said no about the statement.

Around 79% of ME beneficiaries were responded that they have strong demand for meat/breeds and 21% ME beneficiaries said no.

37% of ME beneficiaries were responded that they have local community with business support infrastructure in place and 63% ME beneficiaries said no.

Only 11% of ME beneficiaries were responded that they have good access to premium market and 89% ME beneficiaries said no.

Around 79% of ME beneficiaries were said yes that they had a threats of animal disease and 21% of ME beneficiaries said no threats.

Around 24% of ME beneficiaries were said yes that they had a threats of high death rate and 76% of ME beneficiaries said no threats.

Around 28% of ME beneficiaries were said yes that they had a threats on loss of cattle/theft and 72% of ME beneficiaries said no threats.

Around 79% of ME beneficiaries were said yes that they had a threats to find and keep very difficult of good/dependable farm labor and 21% of ME beneficiaries said no threats.

Around 70% of ME beneficiaries were said yes that they had a threats on availability of good rental crop land is decreasing due to area development pressures and 30% of ME beneficiaries said no threats.

Around 85% of ME beneficiaries were said yes that they had a threats on volatility of market making difficult to maintain a viable cattle farm operation and 15% of ME beneficiaries said no threats.

Around 59% of ME beneficiaries were said yes that they had a threats on climate change, excessive flood, cold and extreme rainfall issues and 41% of ME beneficiaries said no threats.

50% of ME said that their business was down due to covid-19 impact. 35% of ME told that income decreased, 10% of ME said that increased individual loan form the different sources and also increased the hygiene material cost during covid-19 period.

53% ME said that wear face mask to talk with input & output market actors and communicate with actors in person was difficult to presence in the any sort of discussions/meetings.

Value chain actors and networks were taken precautionary measures during COVID-19. 80% of ME said that they have taken percussions by using mask and sanitize hands.

1. Introduction and Project Background:

Sustainable Enterprise Project (SEP) project is jointly financed by Palli Karma-Sahayak Foundation (PKSF) and World Bank. The objective of SEP is to increase the adoption of environmentally sustainable practices by targeted microenterprises. SEP has selected 30 lead districts as the project working area to demonstrate the project impact on different sub-sectors. The project prioritizes a selected number of polluting microenterprise business clusters and supports the expansion of innovative economic activities conducive to a more sustainable environment.

SDS implementing this sub-project in Sreenagar, Shirajdikhan and Lowhajang upazila under Munshigonj districts of Bangladesh. This 03 year's January 2020 to December 2022 sub-project will support to achieve global goals of the main SEP project. The sub-

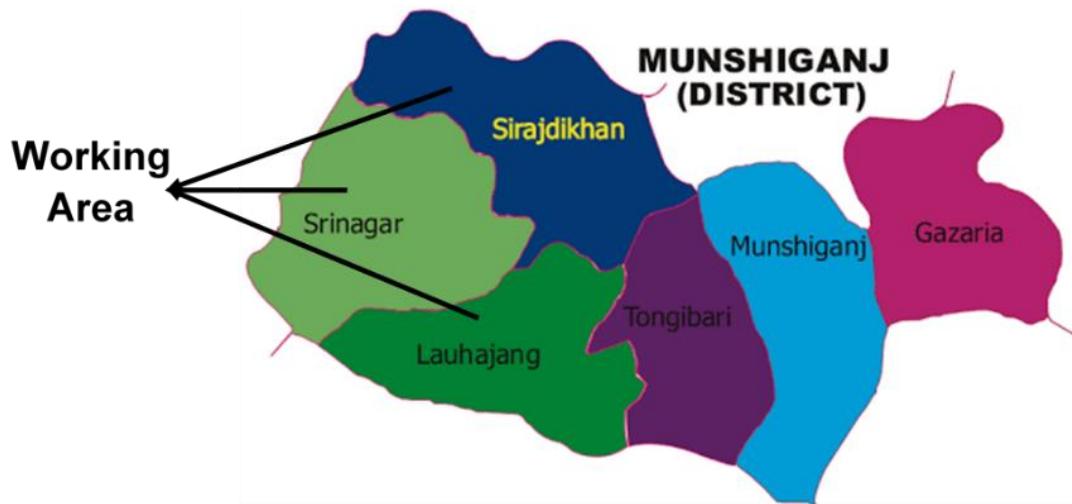
project activities will be implemented in the business clusters of Beef fattening subsector to improve the overall business and environment of the microenterprises. SDS has taken initiative to conduct a baseline survey through an individual consultant to understand the present business, economic and environment status of microenterprises, entrepreneur and their enterprises under Beef fattening sub-sector in the sub-project working area as baseline. A total of 1570 microenterprise will get different technical and financial supports through the sub-project.

Accordingly SDS has taken initiative to conduct a baseline survey through an individual consultant to understand the present business, economic and environment status of microenterprises, entrepreneur and their enterprises under Beef fattening sub-sector in the sub-project working area as baseline. A total of 1570 microenterprise will get different technical and financial supports through the sub-project. The study team has used possible best efforts to complete the assignment successfully with quality and in a timely manner.

63% of ME didn't perform regular veterinary check-ups for the animals on the farm and even 80% never isolate the infected animals during the outbreak of epidemic

2. Project Implementation Locations

The study shall be conducted in 24 Unions under Sreenagar, Sirajdikhan, Lohagonj Upazilas of Munshiganj districts. The unions are located in Sreenagar Upazila: Virtara, Patavog, Shyamsiddi, Vaggokul, Kukutia, Atpa, Tantur Sirajdikhan Upazila: Basail, Lotabdhi, Baluchar, Rogunia, Isapur, Boyragadi, Malkhannagar, Modhopara, Joinsar and Lohagonj Upazila: Medini Mondal, Kumarvog, Konoksar, Tegutia, Vejgago, Boiltoli, Khidirpara, Gaodia, Kolma



3. Purpose of the study:

The study conducted with a view to understand the different conditions of micro entrepreneurs in light of beef fattening, housing, environment market linkage, precaution regarding COVID-19 etc. The following objects considered under the purpose of the study

3.1. Objectives of Baseline Study

The baseline survey will be conducted with a view to obtain a snapshot assessment of the current business, economic, environment and climatic conditions of the micro-entrepreneurs who are likely to participate in the project activities, so that the changes related to the project interventions and their progress can be evaluated after the project period. Moreover, the survey will establish the baseline situation on a significant number of variables relevant to sales, profit, employment, asset creation, environment and health and safety situation etc. by the project participants.

The following are the specific objective of the study

1. Estimate the number of MEs operating in the survey areas, and the types of activities that are performed by these MEs;
2. Evaluate the growth rates of these firms and their potentials, identifying which types had the highest growth and the reasons behind it, to promote the future growth of the sector;
3. Identify the structure of the ME sector, regarding gender, type of ownership, and the employment generated, i.e., how many are owned by women? How many people are employed in each enterprise? Is there any causal relationship across this dimensions?
4. Evaluate the contribution of the ME sector to the household income, the importance of this income in the overall household income generation and its uses;
5. Assess the existing status of relevant adaptive environmentally sustainable indicators like, air, soil, water quality (WQ), health and environmental safety (HES), waste management and climatic problems of the project;
6. Show the impact analysis of COVID-19 for individual value chain actors and suggest there, what possible measures should be taken to overcome economic, social, health (according to WHO/IEDCR guideline) and environmental consequences faced by the individual MEs on their value chain network due to COVID-19.
7. Identify the types of assistance that the MEs have received and their sources, as well as their future need for technical, managerial and financial assistance;
8. Identify the general problems (access to inputs, output and credit markets, etc.) and problems related to the common service facilities in the business clusters including existing socio-economic and environmental condition faced by the ME sector (government regulations, tax burdens, certification, marketing and relevant problems related).
9. To provide benchmark information for measuring project achievements and impact (at the project impact, outcomes and outputs levels based on the project proposal, result framework and/or theory of change;

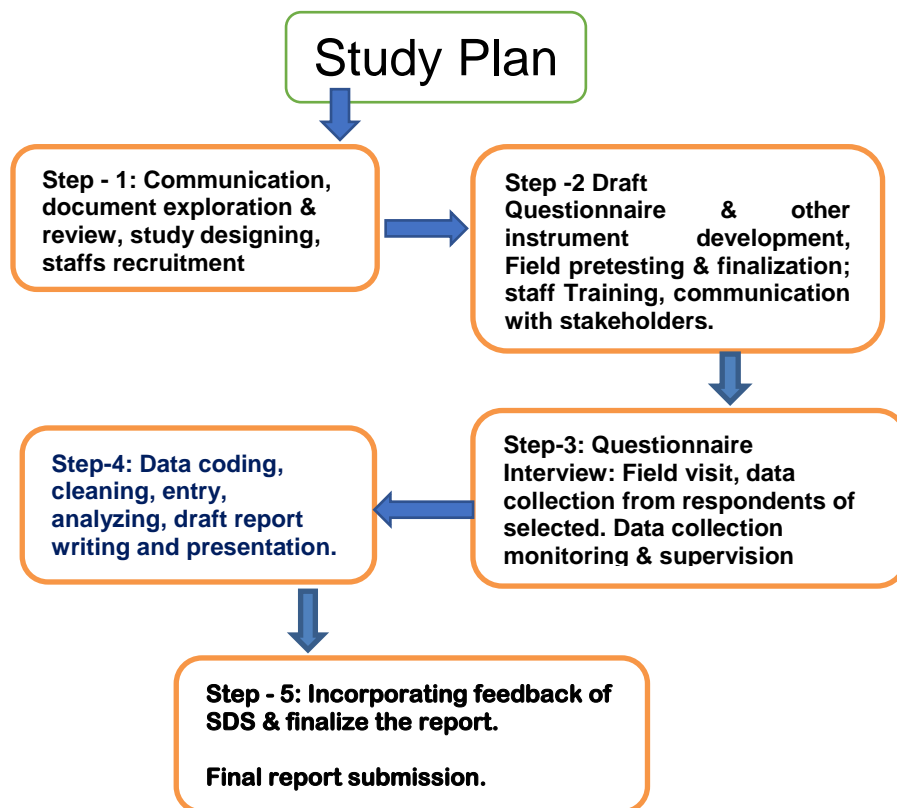
10. To identify benchmarks and indicators those can be used as a point of reference for monitoring and evaluation of the project.

4. Scope of work for the Study:

The study team developed a detailed activity plan for the study according to the ToR. The study entails following scope of assignment:

- Review of the secondary data/relevant literature and project document available;
- Develop methodology including study plan and key questions to be answered;
- Development of data collection tools which contains questions related to the relevant adaptive environmentally sustainable indicators like, air, soil, water quality (WQ), health and environmental safety (HES), waste management and climatic problems of the project and finalize the tools in consultation with SDS and PKSf (incl. region-specific instruments to assess current scenario).
- Pre-testing of the research tools in one or two communities and adaption and re-appropriation of the tools;
- Training of the enumerators / data collectors;
- Fieldwork for data collection;
- Collect, clean data and preparation of transcript;
- Share data analysis plan with SDS and PKSf;
- Data punching in Microsoft Excel and analysis of data using widely recognized statistical software like, Kobo
- Analyze data and present to the project team before preparing the draft report;
- Develop Table of Contents (ToC) for approval and prepare a first draft of the report and presentation of the draft for feedback;
- Incorporate feedbacks and finalize the report.

5. Study Design:



5.1. Detail Work Plan:

Indicative time frame (40 days upon signing of contract)

SL #	Activity	Time duration	Remarks
1	Contract signing	Depends on SDS authority	
2	Inception report submission, feedback and finalization	2 Days	
3	Survey tools development	3 days	Depend on # of questionnaire
4	Tools sharing with SDS for feedback and finalization	2 days	Depend on SDS
5	Orientation for enumerator	1 days	
6	Data collection	10 days	
7	Data cleaning and analysis	7 days	
8	Submission of draft report	7 days	

SL #	Activity	Time duration	Remarks
9	Feedback on draft report from SDS	3 days	
10	Final Submission of report	5 days	

6. Methodology

Based on previous experiences on survey-research especially on Value chain Sub-sector Analysis, according to the ToR, The study team collected data from the selected locations under Sirajdikhan, Louhajang and Sreenagar upazilas in the project area. Through this process the overall objectives of the baseline study and specific objectives fulfilled. The Research for Development picked up the best findings to defend the ToR and the objectives of the baseline survey-research.

The proposed assignment accomplished considering both desk review of existing literature of project and collect primary data from project sites to understand the current situation. At the same time consultation meeting held with project team members to understand specific needs of project management as well as donor to develop survey tools. The project documents reviewed as a source of secondary information and other available secondary data reviewed along with briefing with project personnel. In this survey mixed method used both for qualitative and quantitative method followed includes the following-

- ME Households survey 203
- Control Household survey 41
- Key Informant Interviews 04

6.1 Sample Design:

A simple random sampling approach undertaken for selection of study samples. The number of participants in a study needs to be adequate, in order to be able to determine any important differences (outcome measures) between the study groups.

Sample design and sample size are important issues to be decided in terms of geographical areas and specific objectives of the study. The research team consulted together with SDS team repeatedly to analyze the scenario virtually to come into a precise decision on about sample design and sample size. Regarding sample size the research team consulted with representatives of SDS for defining the number. Therefore, primary concentration have been given to collect the necessary and relevant qualitative and quantitative primary information and data from the targeted samples.

6.2 Sample Size:

A total of 203 ME (treatment group), 41 non-beneficiaries (control group), and 4 KII sample has been covered during this baseline study. Considering the COVID-19 pandemic situation the baseline data will be collected remotely using mobile phone.

6.3 Study Tool Development and Orientation:

Considering the following important points and target respondents, two type questionnaires has been developed. After feedback from concerned person of the organization finalized and taken approval from concerned authority. The data collection team members were oriented on questionnaire and engaged in data collection. To prepare the questionnaire, the following issues considered on the basis of the study aims and objectives.

- Deciding what are the right questions to put in a questionnaire as the need of study objectives.
- Beforehand sufficient thought and inputs were given to develop the questions and that was incorporated in the first draft.
- After draft questionnaire, there was field test in several targeting geographical locations and very important adjustments addressed and finalized.
- It was be shared with the project concern personnel of SDS for comments and feedbacks. Then the valuable comments addressed and it finalized based on that feedback.
- Finally the team submitted the final questionnaire to the SDS authority for final approval.
- The approved final questionnaires executed at field level study using ICT tool.
- Out of this, Key Informant Interview (KII) and in depth interview the same will be shared with SDS authority for taking the final approval that will be used also for taking qualitative data interview.

6.4 Quality Control Mechanism of Data Collection:

Appropriate follow-up mechanisms put in place to ensure that the data is collecting, verified and submitted according to the approved schedule. After data collection all filled-questionnaires and field notes of Key Informant Interviews (KIIs) is registering through ICT platform. The collected data will be exported and processed for analysis into the computers under careful supervision of the Data Management Expert. It will ensure quality data at all levels through following measures:

- Organize training as well as orientation session for data collectors on principles and method of data collection including best possible quality data collection and measures to minimize non-sampling errors.
- Spot-check the field force of Data Collectors and recall if needed and Checked that all filled-questionnaires (100%) by the respective experts.
- In-built mechanisms in the checklist/ schedules to cross-check consistency of the responses.
- Close supervision of the work of the data collectors.
- Random check on the work of the data collectors.
- Edition of filled questionnaires every evening to find out the omissions, non-response, and irrelevant answers.

- Feedback by supervisors, monitoring & follow up as well as Project Manager (PM) and solution to bottlenecks, as and when arisen.

7. Baseline Findings

7.1 Basic Information:

A total of 203 ME and 41 control respondents were interviewed. Among the ME respondents 99% were female whereas in control respondents 31% were female. In terms of respondents' education in ME highest 37% completed pre-primary education and the lowest 1.48% completed the highest education (HSC). Among the control group respondents highest 32% and lowest 7% completed primary and JSC respectively.

Table A1.2: Respondents Education

Education	ME Respondents	Control Respondents
HSC	1.48%	19.51%
Illiterate/No Education	9.85%	-
JSC	15.76%	7.32%
Pre-primary	37.44%	26.83%
Primary	30.05%	31.71%
SSC	5.42%	14.63%
Total	100%	100%

62% of ME respondent's main profession were found beef-fattening. In terms of farm ownership 74% of the ME farm was owned by females wherein the control group only 12% of farm owned by females. Both ME and control engaged an average of 1.85 people and 1.71 people respectively in their farm activity.

7.2 Income:

Table B 2.1: During the baseline, respondents were asked about their household annual income comprising different sources (Vegetables, Aquaculture, Rice, Maize, Potato, Mugh bean, Poultry, Dairy, Beef fattening, business, Remittance, and other sources) to understand beef fattening contribution in their household income. ME respondents were earned an average BDT 909,076 annually whereas beef fattening contributed BDT 243,769 which is 21% of a total annual income of HHs. However, beef fattening contributed 27% income of the total HHs income among the respondents of control group.

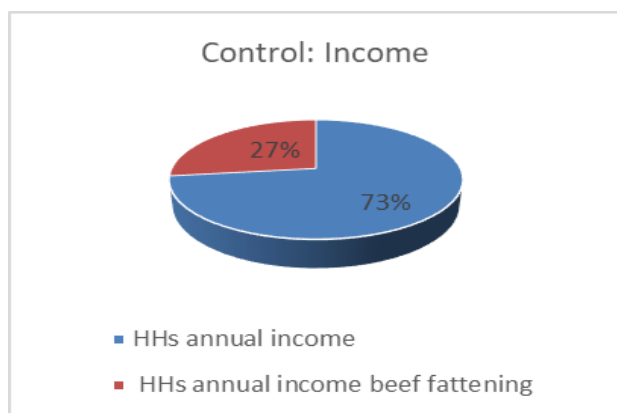
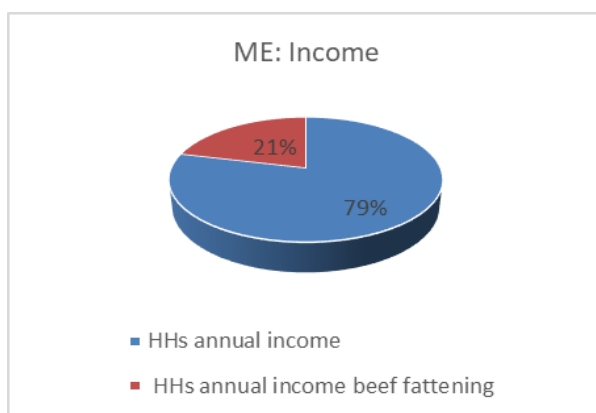


Figure 01.a: ME respondents' income (%)

Figure 01.b : Control respondents' income (%)

7.3 Farm Infrastructure:

Both the ME and control group respondents mentioned the highest responses against the tin shed housing pattern. Among the ME respondents' highest 79.31% house was found in tin shed, and the lowest 0.49% brick tin shed straw with bamboo. On the other hand, the highest 46.34% control group respondent's farmhouse was tin shed whereas lowest 2.44% brick tin shed.

Table B2.2: ME and control farms housing pattern

Housing Pattern	ME	Control
Brick	9.36%	-
Brick Tin shed	3.45%	2.44%
Brick Tin shed straw with bamboo	0.49%	36.59%
Soil made home	1.48%	-
straw with bamboo	4.43%	4.88%
Tin shed	79.31%	46.34%
Tin shed straw with bamboo	1.48%	9.76%
Total	100.00%	100.00%

In terms of floor type, more than 50% floor was found brick and about 30% concrete and 10% kutcha among the ME respondents. However, in the control group respondent 40% floor was found concrete and kutcha and only 10% brick.

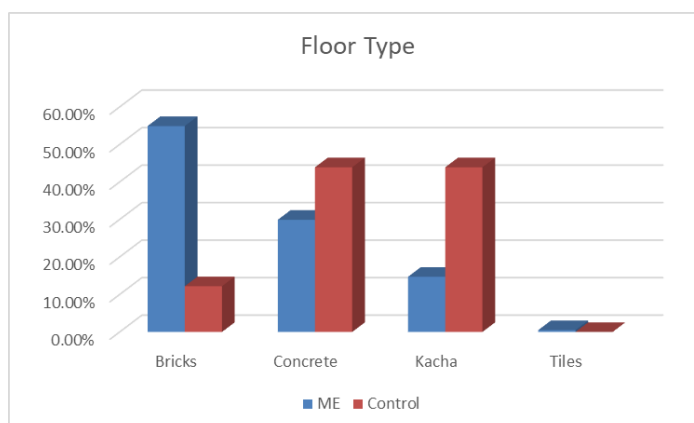


Figure 02: ME & Control farms floor type

From the baseline survey, it was found that 67%, and 23% drainage respectively covered by kutcha and no sewerage option. Whereas, among the control respondents 37%, 15%, and 34% covered by Kutcha, no sewerage, and combination of both concrete and Kutcha

In the case of a ventilation system in the control group, the highest 44% of respondents were mentioned the use of a fan to get wind, 34% used natural and 22% closed

ventilation. However, the highest 62% of respondents were mentioned natural ventilation, 35% used fan to get wind and only 3% closed ventilation.

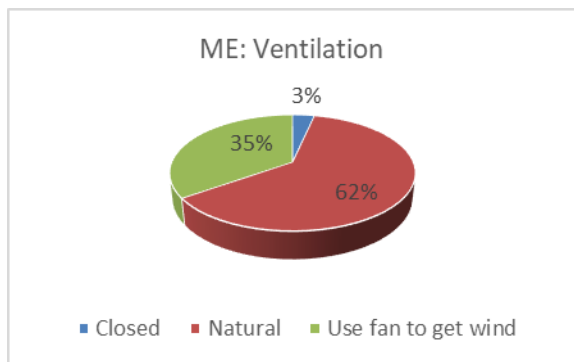


Figure 03. a: ME- farms ventilation

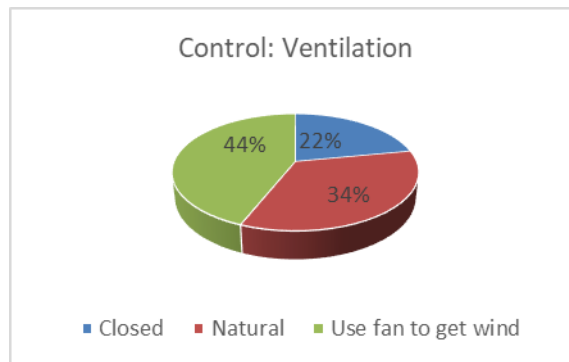


Figure 03.b: Control- farms ventilation

100% control group respondents mentioned they used shallow tube well to ensure the water supply at the farm. The ME respondents mentioned that the highest 52% having a pipe water supply with deep tube well, and the lowest 21% shallow tube well as well as 27% used pond or river, or stream water for their farm.

94% of ME respondents used grid electricity and only 6% non-grid electricity. Whereas, 63% of control respondents used grid electricity and 37% non-grid electricity.

7.4 Infrastructure and Environmental Assessment:

Table B 2.4: The respondents were asked what kind of extreme weather is prominent in the project area. In response to the question, the ME respondents experienced heavy rainfall, excessive flood, and heavy cold. 77% of respondents mentioned ME didn't adequate resilience to withstand extreme weather events. The respondents were also asked about resilience options they are currently practicing. In response to the question, the highest number of respondents mentioned they keep their cattle in high land during the flood, use sack to protect cattle from cold and very few respondents mentioned they didn't know about this.

95% of the ME respondent mentioned stack height meet the compliance requirements of the environment and only 3% of them mentioned have a separate designated enclosure for the DG set.

Only 1.5% ME respondents mentioned they used animal waste for the bio-gas plant, and they followed traditional, improved scientific methods to manage biogas slurry.

94% of ME respondents mentioned their animal shed floor slanted and 9% mentioned they experienced an accident in the MEs in the last 3 years.

Only 7% of ME respondents mentioned that more than 50% of women work in their MEs and 99% responded they didn't engage child labor in their MEs.

89% of farm didn't have health and safety equipment's (gloves, safety glasses, musk, apron, boots) for use. 99% of ME respondents mentioned they have no first aid box. 78% of farm have no fire safety management equipment (sand, water etc.).

36% of ME mentioned they didn't have access to safe drinking water, hygienic toilet, and safe hand washing facility in their MEs. 58% of the farm using energy-saving light and 42% of farm didn't have the opportunity to use daylight by using transparent roof sheets or installation an insulator with roof.

Among the ME respondents 98% have not removed overhead storage of the workers and 97% have no opportunity for a separate resting place for workers.

99% of the ME respondents mentioned farms have no initiatives to reduce water pollution by different activities (making water containing pits, chambers, filtration system, improved drainage system, etc.). They also mentioned 82% of the farm didn't follow safe production process, safe inputs, safe packaging, safe transportation system and quarantine for ill or contaminated products / animals, introduce safe storage for finished goods or inputs (fish or animal feeds). However, 64% of farms didn't use natural or organic inputs (fertilizer/dye) for safe production or packaging. Among the ME respondents, 99% of farm didn't adopt activities (installed pits, installed chimney, etc.) those reduce air pollution/ odor. 91% of farm have no activities (tree plantation, installed barrier besides generator etc.) those reduce noise pollution and 71% of farm have no have activities those support to manage waste (Reduce, Reuse or Recycle).

99% of ME farm have no sign, symbol or posters on awareness (Reduce air pollution, noise pollution, water pollution, fire safety management, no smoking, first aid box, safe drinking water, reduction of water pollution, use of PPE etc.). 98% of MEs didn't receive (trainings) under pollution reduction, resource efficiency and climate change.

Table B 2.4: ME and control farms infrastructure and environmental assessment

Infrastructure and environmental assessment	ME		Control	
	Yes	No	Yes	No
ME have adequate resilience	22.34%	77.66%	4.88%	95.12%
Stack height meet the compliance	5.42%	94.58%	7.32%	92.68%
Separate designated enclosure for the DG set	3.43%	96.57%	7.32%	92.68%
Waste used for bio-gas plant	1.51%	98.49%	-	100%
Slanted animal shed floor	5.88%	94.12%	-	100%
Is there any accident	8.82%	91.18%	4.88%	95.12%
More than 50% women work in the MEs	7.35%	92.65%	36.59%	63.41%
Involved any child labour	0.99%	99.01%	2.44%	97.56%
Health and safety equipment's for use	10.78%	89.22%	-	100%
First aid box available	1.48%	98.52%	4.88%	95.12%
Fire safety management equipment's	21.57%	78.43%	-	100%
Safe drinking water, hygienic facility	64.22%	35.78%	-	100%
Use energy savings light	0.49%	99.51%	-	100%
Removed overhead storage of the workers	1.52%	98.48%	2.44%	97.56%
Arranged separate resting place (M/F)	2.51%	97.49%	1.52%	98.48%
Renewable energy use	5.42%	94.58%	3.00%	97.00%
Water pollution reduction activity	1.48%	98.52%	-	100%
Farm followed safe production process	18.14%	81.86%	-	100%
Use natural or organic inputs	36.27%	63.73%	-	100%

Infrastructure and environmental assessment	ME		Control	
	Yes	No	Yes	No
Adopted activities to reduce pollution	1.47%	98.53%	2.44%	97.56%
Activities to reduce noise pollution	9.31%	90.69%	-	100%
Activities support waste management	29.06%	70.94%	-	100%
Climate change adaptation	8.87%	91.13%	-	100%
Have signage, notice board	1.47%	98.53%	-	100%
Received trainings on pollution reduction, resource efficiency and climate change	1.96%	98.04%	-	100%

The control group respondents were asked the same questions during the baseline survey. Under the infrastructure and environmental assessment: some components including slanted animal shed floor, health and safety equipment's for use, waste used for bio-gas plant, farm have fire safety management equipment's, safe drinking water, hygienic facility, use energy saving light, water pollution reduction activity, farm followed safe production process, use of natural or organic inputs, activities to reduce noise pollution, have signage, notice board, training on pollution reduction, resource efficiency and climate change where control group respondents didn't have any idea or experience (i.e 100% respondents answered No).

Based on the baseline status of ME respondents, the project should focus on enhancing adequate resilience to withstand extreme weather events, can provide technical support to meet the compliance of using DG engine, provide capacity building training for producing biogas, safe management of equipment's, reduce noise pollution, climate change adaptation, waste management, and making animal shed floor slanted, as well as building awareness on a separate resting place for workers, remove overhead storage of the workers, saving daylight and use renewable energy.

7.5 Workplace Safety, Health and Hygiene Assessment

In response to the question, 99% of the ME respondents were mentioned their workers never exposed to natural hazards such as snake bites, insects, or other plants or chemicals that is sensitive to the skin. 78% of respondents mentioned have adequate lighting in the farmhouse. 60% of workers have access to clean water for washing face, hands, and feet. 99% of workers not skilled to use sharp tools and machinery equipment's that used in the farm. 97% cited workers didn't use appropriate PPEs (gumboot, apron, hand gloves, and mask) during work. 48% mentioned floor didn't clean properly to prevent workers and cattle from slipping. 98% of the respondents articulated that they didn't perform regular health checkups for the workers and 89% of mentioned measures not taken yet to protect workers against infection from parasites/viruses from livestock though 49% of mentioned animals were not free of fleas and other parasites. 63% of ME didn't perform regular veterinary check-ups for the animals on the farm and even 80% never isolate the infected animals during the outbreak of epidemic.

Table B 2.5: ME and control farms workplace safety, health, and hygiene assessment

Assessment of workplace safety, health, and hygiene	ME		Control	
	Yes	No	Yes	No
Workers exposed to hazard	1.49%	98.51%		100%
Adequate lighting	78.11%	21.89%	87.50%	12.50%
Access to clean water	59.90%	40.10%	60.00%	40.00%
Use sharp tools	0.52%	99.48%	3.23%	96.77%
Use appropriate PPE	3.11%	96.89%	6.67%	93.33%
Prevent workers and cattle from slipping	52.33%	47.67%	45.16%	54.84%
Sanitary latrine for workers	37.11%	62.89%	45.16%	54.84%
Workers health checkup	2.07%	97.93%	3.23%	96.77%
Protect workers against infection (parasites)	6.70%	93.30%	9.68%	90.32%
Animals kept free of fleas	50.98%	49.02%	65.85%	34.15%
Regular veterinary check-up	37.44%	62.56%	46.34%	53.66%
Isolate the infected animals	20.20%	79.80%	29.27%	70.73%

Under the workplace safety, health, and hygiene assessment some of the areas (workers exposed to hazard, use of sharp tools, use of PPE, workers health checkup, and Protect workers against infection of parasites) where both ME and control farm depicts almost similar status in the baseline.

Based on the baseline status of ME respondents, the project should focus on increasing access to clean water for workers, use appropriate PPE during work, ensure sanitary latrine for workers, protect workers against infection from parasites, animals should keep free of fleas, regular veterinary check-up, and Isolation facility for infected animals during the outbreak of the epidemic.

7.6 Environmental Risks, Exposure to Occupational Hazards and Storage Assessment:

Under the environmental risks, exposure to occupational hazards, and storage assessment the ME respondents were asked about their farm's drinking water availability, water storage facility, animal feed storage facility, preventive measures to prevent exposure, and protective measures to protect feed from rodents. 90% of ME respondents cited they didn't have shelters for the animal, 77% mentioned farms have no adequate water availability for animals. 30%, 1.47% mentioned have no feed storage facility and measures taken to prevent exposure to feed ingredients that can affect worker health respectively.

Table B 2.6: ME and control farms environmental risks, exposure to occupational hazards and storage assessment.

Environmental risks, exposure to occupational hazards and storage assessment	ME		Control	
	Yes	No	Yes	No

Environmental risks, exposure to occupational hazards and storage assessment	ME		Control	
	Yes	No	Yes	No
Animal shelter	10.34%	89.66%	2.44%	97.56%
Available drinking water for animal	22.55%	77.45%	17.07%	82.93%
Water storage facility for animal	71.08%	28.92%	2.50%	97.50%
Animal feed stores facility	69.61%	30.39%	9.76%	90.24%
Measure taken to prevent exposure	93.63%	1.47%	2.44%	97.56%
Feed protected from rodents	52.71%	47.29%	-	100%

The ME respondents exhibit similar characteristics of ME respondents during baseline survey which includes the availability of drinking water for animal, and animal shelter.

Based on the baseline status of ME respondents, the project should focus on animal shelter, available drinking water for animals, animal feed stores facility, and feed protected from rodents/other pests.

7.7 Climate Change Assessment:

Under the climate change assessment, the ME respondents were asked about their understanding of climate change, its impact on their business, have they noticed any changes, their observations on frequent drought, and flood, as well as delay and early finish of the rainy season. In response to the question, 40% of the ME respondents were mentioned they didn't understand climate, but 80% of respondents cited climate change impact on their business requirements. 58% mentioned during the last 5 years they have noticed changes in terms of climate change. Among them, 28%, 44%, 28%, and 30% observed more frequent drought, more frequent flood, delay in the start of the rainy season, and early finish respectively.

Table B 2.7: ME and control farms climate change assessment.

Climate change assessment	ME		Control	
	Yes	No	Yes	No
Understand climate change	60.10%	39.90%	31.71%	68.29%
Climate change impact your business	20.10%	79.90%	25.00%	75.00%
Noticed any changes (last 5 years)	58.33%	41.67%	34.21%	65.79%
More frequent drought	28.43%	71.57%	38.46%	61.54%
More frequent flood	44.33%	55.67%	64.10%	35.90%
Delay in the start of the rainy season	27.94%	72.06%	78.95%	21.05%
Rainy season finishes earlier	29.70%	70.30%	82.05%	17.95%

7.8 Rainfall measures

While the ME respondents were asked about rainfall measures 35% responded they observed more rainfall, 33% less rainfall; and 31% no change. In the case of rainfall

distribution highest 44% of respondents mentioned worse, 37% no change, and 19% better distribution.

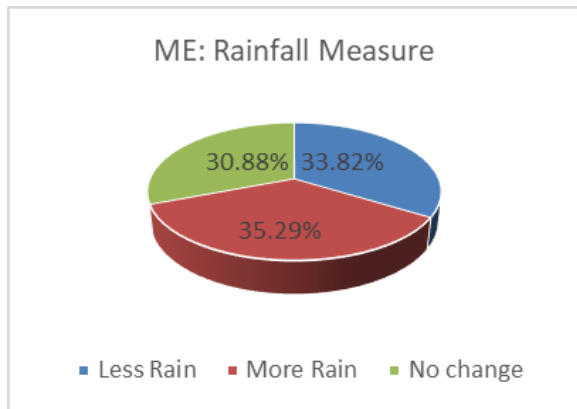


Figure 04.a: ME- rainfall measures

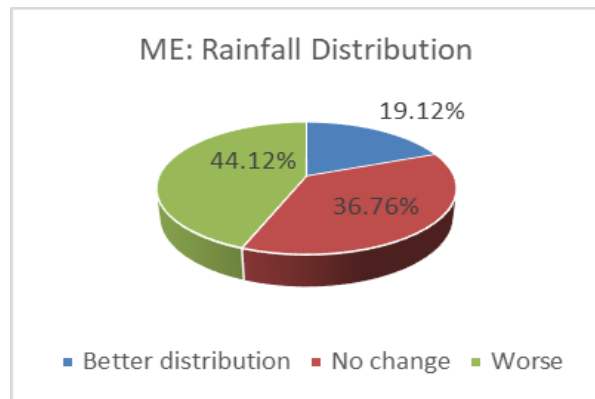


Figure 04.b: ME- rainfall distribution

Beside this, respondents were asked about great heat. Among the respondents highest 59% cited no change, 29% shorter change and 12% observed a longer change.

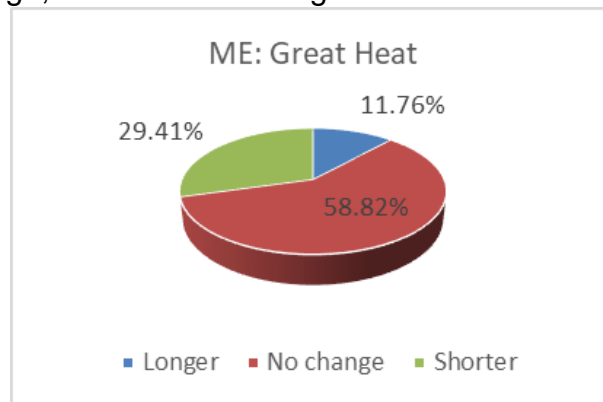


Figure 05: ME- observation about great heat

7.9 Rainfall status in the project area (ME)

ME respondents were asked their assessment regarding annual rainfall and they responded highest 28% do not know, 12% just below average, 4% much above the average, and .49% much below average.

Table B 2.7.11: Rainfall status in the project area (ME).

Amount of Rainfall	Response
Rainfall amount	54.90%
Do not know	27.94%
Just above the average	7.84%

Just below the average	4.41%
Much above the average	4.41%
Much below average	0.49%
Total	1.00%

Finally, in case of adaptation farming strategy due to climate change and responded were answered multiple options. Among the responded options highest 70 responses to changing the feeding practices, 67 responded modifying the diet composition, 46 responses by changing feeding time and or frequency, and 16 animals increase their tolerance to heat and heat stress diseases.

Table B 2.7.13: Adaptation of cattle farming strategy (ME)

Adaptation of cattle farming strategy	Responses
1. Changing the feeding practices	70
2. Modifying the diets composition	67
3. Changing feeding time and/or frequency	46
4. Cattle increase their tolerance to heat stress and diseases	16
Total	199

Based on the baseline status of ME respondents, the project should focus on enhancing understanding of climate change, and address climate change impact on business.

7.10 Sanitation, Waste Generation and Disposal:

Under the sanitation, waste generation, and disposal assessment the ME respondents were asked about animal cleanliness, shelter drainage system, disposal site, control insects & odor, waste management, slurry management, cow dung use, vaccination, and infection prevention. 92% of respondents mentioned they didn't have proper drainage in their farm. 78% and 52% of respondents cited have no disposal site and no initiative for control of odor, insects, and mosquito breeding in their farm. 98% of the respondent mentioned they didn't produce compost from slurry and only 49% use cow dung for firewood. 53% of respondents cited they purchased medicine and vaccines from authentic sources and only 27% kept quarantine when they purchase new animals, as well as 11% mentioned they cleaned vehicles thoroughly and disinfected properly. Finally, 42% of medical wastes were kept in a designated place and disposed of properly.

Table B 2.8: ME and control farms sanitation, waste generation and disposal.

Sanitation, Waste Generation and Disposal	ME		Control	
	Yes	No	Yes	No
Animals kept clean?	97.54%	2.46%	26.83%	73.17%

Sanitation, Waste Generation and Disposal	ME		Control	
	Yes	No	Yes	No
MEs regularly clean the shelters/sheds	89.16%	10.84%	24.39%	75.61%
Proper drainage system	7.92%	92.08%	7.50%	92.50%
Allocated disposal site	22.28%	77.72%	2.44%	97.56%
Control odor, insects, and mosquito breeding	48.02%	51.98%		100%
Onsite waste management	2.99%	97.01%	19.51%	80.49%
Prepare compost from slurry	1.48%	98.52%		100%
Use cow dung for firewood	49.01%	50.99%		100%
Dead animals disposed properly	65.52%	34.48%	4.88%	95.12%
Vaccination managed properly	55.45%	44.55%		100%
Purchase vaccines from authentic sources	52.97%	47.03%		100%
Newly purchased animals keep in a quarantine	26.60%	73.40%	2.50%	97.50%
Vehicles cleaned thoroughly and disinfected	10.84%	89.16%		100%
Medical wastes kept in designated place	42.36%	57.64%		100%

The control group respondents showed similar characteristics under proper drainage system and prepare compost from the slurry.

Based on the baseline status of ME respondents, the project should focus on proper drainage, arrange disposal site, control odor, insects, and mosquito breeding, prepare compost from the slurry, use cow dung for firewood, introduce properly disposed of dead animal, vaccination, purchase medicine from an authentic source, medical wastes management, and to ensure quarantine facility for newly purchased animals.

8. Revenue Generating

8.1 Service Center Assessment:

Livestock service cum information center nearby

The below table shown that around 59% ME beneficiaries are known the livestock service cum information center nearby and 98% of Control HHs respondent's don't know the information.

Table C 3.1.1.1: Livestock service cum information center nearby

Response Level	Respondents type	
	Control HHs	ME beneficiary
No	97.56%	41.41%
Yes	2.44%	58.59%
Grand Total	100.00%	100.00%

Total 198 ME beneficiary respond where 116 ME beneficiary said yes and 82 ME Beneficiary said No. So, the 40 control HHs out of 41 said no about haven't any service & information center nearby on livestock.

Around 90 both beneficiaries said that about distance factors which 7 KM is the maximum and 5 KM also to find the livestock service centers and they are spent around 2 hours maximum and 10 minutes minimum to come the service centers.

8.2 Money spend annually to obtain service from center

76% of ME beneficiary spent money to get the service from center rather the around 24% of control HHs

Table 3.1.1.4: money spend annually to obtain service from center

Type of BF	% of Beneficiary status to obtain service
Control HHs	23.70%
ME beneficiary	76.30%

The beneficiary maximum spent 1001500 and minimum 1000 BDT to receive the service.

Rate of satisfaction (before) level of received services from nearest service center

69% of ME Beneficiaries were satisfied to receive services from the nearest service center rather than 31% were unsatisfied to receive the services and around 98% of control HHs were unsatisfied about the statement.

Table 3.1.1.5: rate of satisfaction (before) level of received services from nearest service center

Level of satisfaction	Type of respondent's	
	Control HHs	ME beneficiary
Satisfied	2.44%	69.31%
Unsatisfied	97.56%	30.69%
Grand Total	100.00%	100.00%

8.3 Number of BF's rate of satisfaction (before) level of received services from nearest service center

Number of 140 ME beneficiary satisfied and 62 ME beneficiary unsatisfied out of 203 respondents to receive services from nearest service center and 40 control HHs were unsatisfied out of 41 control HHs respondents.

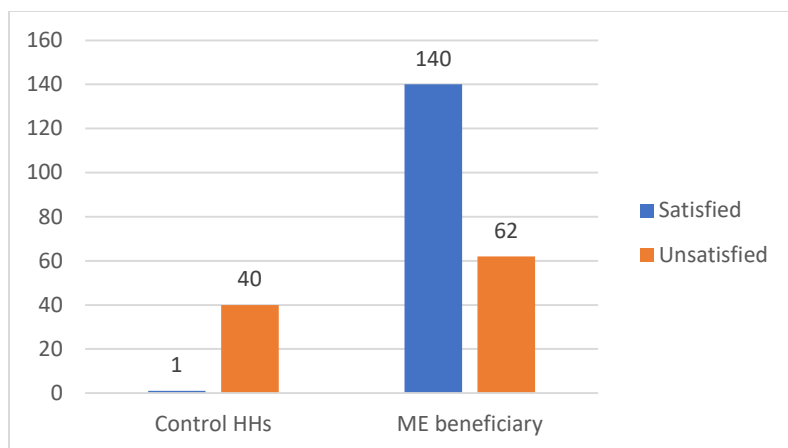


Figure 05: Rate of satisfaction level (before) of received services from nearest service center

8.4 Fodder Processing

Fodder processing facilities available at the farm

Around 74% of ME beneficiary said that no fodder processing facilities are available at the farm where 26% said available and 80% control HHs said not available.

Table 3.1.2.1: Fodder processing facilities available at the farm

Level of response	Type of respondents	
	Control HHs	ME beneficiary
No	80.49%	73.76%
Yes	19.51%	26.24%
Grand Total	100.00%	100.00%

8.5 If no, how do you process your fodder?

Based on the above responses, how they have processed their fodder. 27% of ME beneficiaries were said that they bought fodder from local market, 17.70% said they used to dry paddy straw and natural grasses and 15.32% said that they bought from market when natural/preserved fodder have been finished. Therefore, 34.79% of control HHs don't know the processes and 65.21% control HHs didn't response during the assessment.

Table 3.1.2.2: If no, how do you process your fodder?

Level of response from the respondents	Type of respondents	
	Control HHs	ME beneficiary
Bought from market	0.00%	27.00%
bought from market when natural fodder finished	0.00%	15.32%

Level of response from the respondents	Type of respondents	
	Control HHs	ME beneficiary
Don't Know	34.79%	27.09%
Dry paddy straw & natural	0.00%	17.70%
kept inside the dram and sac	0.00%	3.54%
Husk	0.00%	2.36%
Didn't response	65.21%	6.99%

8.6 Shortcoming of using traditional fodder processing method

The table shows that the traditional fodder processing method which were responded by ME and control HHs. Around 49% ME and 88% control HHs were said that they do not know the traditional fodder processing system.

Table 3.1.2.3: shortcoming of using traditional fodder processing method

Using traditional fodder processing method	Type of respondents	
	Control HHs	ME beneficiary
Fill in the sac or dram	0.00%	10.57%
Cultivate and Natural grasses	0.00%	15.84%
Don't Know	88.00%	48.60%
Kept dry paddy straw turn	0.00%	10.56%
Didn't Response	12.00%	14.43%

Therefore, they have a many sources to process the fodder. Like, natural grasses, purchased from shop, processed fodder through indigenous way. They also cultivate grasses, preserve dry grasses within the sac, collect and preserve dried paddy stack of straw outside of the house and also applied the individual local family practices to process the fodder.

8.7 Safe input use for cattle

Both beneficiaries were used different sort of safe inputs for the cattle. 46% of ME beneficiaries were used vaccine and then 31% used vaccine silage or green grass whereas 50% of control HHs respondents were used silage or green grass for cattle rearing.

Table 3.1.2.4: safe input use for cattle

Safe input use for cattle	Type of respondents	
	Control HHs	ME beneficiary
Safe fodder	7.50%	1.49%
Safe fodder Silage or green grass	12.50%	8.46%
Silage or green grass	50.00%	8.96%
Vaccine	0.00%	46.27%
Vaccine Safe fodder	27.50%	1.49%
Vaccine Safe fodder Silage or green grass	2.50%	2.49%
Vaccine Silage or green grass	0.00%	30.85%

8.8 Source of feed

Beneficiaries are collected feed from many sources for cattle rearing. Around 30% ME beneficiaries were sourced of feed from provision of feed in pastures, 23% ME beneficiary sourced from inside of the farm,

22% ME beneficiary sourced from provision of feed in pastures have grass cultivation practice and the other hand, 49% control HHs were sourced feed from provision of feed in pastures, 27% from provision of feed in pastures have grass cultivation practice and 22% sourced from grass cultivation practice.

Table 3.1.2.5: Source of feed

Source of feed	Type of respondents	
	Control HHs	ME beneficiary
Have grass cultivation practice	21.95%	15.98%
Have grass cultivation practice Inside of the farm	2.44%	1.03%
Inside of the farm	0.00%	23.20%
Provision of feed in pastures	48.78%	30.41%
Provision of feed in pastures Have grass cultivation practice	26.83%	22.16%
Provision of feed in pastures Inside of the farm	0.00%	7.22%
Grand Total	100.00%	100.00%

8.9 Community Livestock Service Provider (CLSP):

Are there any community level livestock service provider available in this area

Around 71% of ME beneficiary were said that community level livestock service provider is not available in this area rather than 29% of ME beneficiary said yes and the other hand, 73% control HHs were said no and 27% said yes about livestock service provider available in this area.

Table 3.1.3.1: Are there any community level livestock service provider available in this area

livestock service provider available	Type of respondents	
	Control HHs	ME beneficiary
No	73.17%	70.92%
Yes	26.83%	29.08%
Grand Total	100.00%	100.00%

Table 3.1.3.2: If yes, types of services they offer

Types of services offered	Type of respondents	
	Control HHs	ME beneficiary
All services including cleaning, shelter, training etc	33.00%	65.00%
Treatment service	45.00%	0.00%

Others	22%	35.00%
Grand Total	100.00%	100.00%

If no, from where do you avail this services

52% of ME beneficiaries were said that they received services from home delivery system, 40% ME beneficiaries were told that about upazila & union Bazar, 2% do not know about it and 3% received services from neighbor village/home and 2% received from government. Therefore, 33% control HHs were said that they don't know about it, 30% control received as a home delivery approach, 25% said from upazila & union Bazar and 9.52% control HHs said that received from other area.

Table 3.1.3.3: If no, from where do you avail this services

Alternative ways	Type of respondents	
	Control HHs	ME beneficiary
Upazila & Union Bazar	25.00%	40.00%
Home service by doctor	30.00%	52.00%
Don't Know	33.48%	2.00%
From neighbors	1.00%	3.00%
Don't need the service	1.00%	1.00%
Govt. service	0.00%	2.00%
Other area	9.52%	0.00%
Grand Total	100.00%	100.00%

8.8.1 Face any challenges to obtain services from CLSP

79% of ME beneficiary said no to face any challenges to obtain services from CLSP and the very close to 50% of control HHs said yes and no about the above mentioned challenges.

Table 3.1.3.4: Face any challenges to obtain services from CLSP

Level of response	Type of respondents	
	Control HHs	ME beneficiary
No	51.22%	79.00%
Yes	48.78%	21.00%
Grand Total	100.00%	100.00%

Table 3.1.3.5 If yes, what are the challenges

Challenges	Type of respondents	
	Control HHs	ME beneficiary
Availability	5.26%	0.00%
High demand	10.52%	0.00%
Low quality of service	15.78%	0.00%
sometimes does not response	10.55%	99.99%

Unskilled	57.89%	0.00%
Grand Total	100.00%	100.00%

Can you please rate your satisfaction on CLSP offered services

Around 70% of ME beneficiaries were said that they are satisfied on CLSP offered services where 30% were unsatisfied and 95% of control HHs were said that they are unsatisfied about CLSP offered services.

Table 3.1.3.6: Can you please rate your satisfaction on CLSP offered services

Rate of satisfaction on CLSP offered services	Type of respondents	
	Control HHs	ME beneficiary
Satisfied	4.88%	70.44%
Unsatisfied	95.12%	29.56%
Grand Total	100.00%	100.00%

Government or private

53% ME respondents were said that government and 47% ME respondents said private and the other hand, 100% control respondents said private sectors are the main service providers to get any relevant services.

Table 3.1.3.7: government or private

Level of tier	Type of respondents	
	Control HHs	ME beneficiary
Government	0.00%	53.20%
Private	100.00%	46.80%
Grand Total	100.00%	100.00%

For, getting the services they spent 100 to 6000 BDT for per visit. Around maximum 21% of ME beneficiary said that they spent 200 BDT and 26% of control HHs said that they spent 200 BDT per visit.

8.9 Fodder and Compost Production:

Do you produce fodder

71% of ME beneficiaries were said that they are not produce fodder and 29% ME said that they produced fodder. Whereas, 68% of control HHs said that they are not produce fodder.

Table 3.1.4.1: Do you produce fodder

Produce fodder	Type of respondents	
	Control HHs	ME beneficiary
No	68.29%	70.65%
Yes	31.71%	29.35%
Grand Total	100.00%	100.00%

If yes, mention the purpose of this fodder production

About the purpose of the fodder production, 100% ME beneficiaries were responded that they only produced for own consumption purpose where 85% control HHs said that they produced for commercial purpose.

Table 3.1.4.2: If yes, mention the purpose of this fodder production

purpose of this fodder production	Type of respondents	
	Control HHs	ME beneficiary
Commercial purpose	84.62%	0.00%
Own consumption only	15.38%	100.00%
Grand Total	100.00%	100.00%

If no, why you don't produce fodder

40% of ME and 55% of control HHs were said that they haven't enough land to produce fodder, 30% of ME and 20% of control HHs said that they haven't enough time for it, 5% ME and 10% control HHs told that they have a lack of cultivation knowledge and so on.

Table 3.1.4.3: If no, why you don't produce fodder

If no, why you don't produced fodder	Type of respondents	
	Control HHs	ME beneficiary
Not enough land	55.00%	40.00%
Not enough time	20.00%	30.00%
Lack of cultivation knowledge	10.00%	5.00%
Lack of technical knowledge	10.00%	15.00%
Lack of skilled manpower	5.00%	10.00%
Grand Total	100.00%	100.00%

8.9.1 Produce vermin-compost

99% of ME beneficiaries and 100% control HHs respondents were said that they are not produce vermin-compost. Therefore, 1% of ME beneficiary said that they produced vermin-compost and learnt from neighbors.

Table 3.1.4.4: Produce vermin-compost

Produce vermin-compost	Type of respondents	
	Control HHs	ME beneficiary
No	100.00%	99.00%
Yes	0.00%	1.00%

Benefits of using vermin-compost in agricultural production

The below table shown that 67% of ME beneficiaries were said that no about benefits of using vermin-compost in agricultural production and 33% ME said yes to know the

benefits. Like, above 90% of said under of 33% ME said that it is better to produce a good quality product and enhanced production and also good for land. Therefore, 100% control HHs said that they do not know the benefits.

Table 3.1.4.6: Benefits of using vermin-compost in agricultural production

Response on benefits of using vermin-compost	Type of respondents	
	Control HHs	ME beneficiary
No	100.00%	67.01%
Yes	0.00%	32.99%
Grand Total	100.00%	100.00%

Do you need any capacity building support to adopt vermin-compost technology

Around 93.5% ME beneficiaries said that they did not need any capacity building support to adopt vermin-compost technology and only 6.5% said yes that they need support.

Table 3.1.4.8: Do you need any capacity building support to adopt vermin-compost technology

Need any capacity building support to adopt vermin-compost technology	Type of respondents	
	Control HHs	ME beneficiary
No	60.98%	93.50%
Yes	39.02%	6.50%
Grand Total	100.00%	100.00%

9. Non-revenue Generating Activities

9.1 Eco Labelling and Access to Premium Markets:

Beef fattening process meet environmental standard

66% of ME beneficiaries were said that they met environmental standard for beef fattening process and 34% ME beneficiaries said that they are meeting the standard. Whereas, 95% of control HHs were said that they are following or meeting environmental standard for beef fattening.

Table D 4.1.1.1: Beef fattening process meet environmental standard

beef fattening process meet environmental standard	Type of respondents	
	Control HHs	ME beneficiary
No	95.12%	33.66%
Yes	4.88%	66.34%
Grand Total	100.00%	100.00%

9.2 Legal certification from any authority (BSTI, department environment) for beef fattening business

97% of each ME and Control HHs were said that they have not legal certification from any authority for beef fattening business.

Table D 4.1.1.2: legal certification from any authority (BSTI, department environment) for beef fattening business

legal certification from any authority	Type of respondents	
	Control HH	ME beneficiary
No	97.56%	97.03%
Yes	2.44%	2.97%
Grand Total	100.00%	100.00%

Therefore, around 55% of ME respondents said that they sell products through local market, 40% said that sold from home and 5% said other sources. Therefore, 65% of control HHs said they sell form home, 30% said that through middle man and 5% said other contact.

Rate your satisfaction in terms of getting fair price of sold fattened beef

About satisfaction in terms of getting fair price, 63% of ME beneficiaries were responded that they satisfied, 35% said about unsatisfied and around 2% ME said that they are very satisfied of getting fair/market price of selling fattened beef. Therefore, 46% of control HHs said that they are satisfied and 54% control HHs said that they are unsatisfied to get fair price of fattened beef.

Table D 4.1.1.4: rate your satisfaction in terms of getting fair price of sold fattened beef

Level of satisfaction	Type of respondents	
	Control HHs	ME beneficiary
Satisfied	46.34%	63.18%
Unsatisfied	53.66%	34.83%
Very satisfied	0.00%	1.99%
Grand Total	100.00%	100.00%

If unsatisfied, the suggestions to be addressed

60% of ME and 55% of control HHs were said that ensure suitable price for the product through value addition, 35% ME & 15% control HHs told proper marketing and linkages establishment will be helped to enhance their satisfaction level.

Table D 4.1.1.5: If unsatisfied, the suggestions to be addressed

Unsatisfied- suggestions to address	Type of respondents	
	Control HHs	ME beneficiary
Ensure suitable price for the product/ Fair price	55.00%	60.00%
Proper marketing and linkages development	15.00%	35.00%

Don't know	30.00%	5.00%
Grand Total	100.00%	100.00%

Use of e-platform to sell the fattened beef

99.5% ME beneficiaries and 100% of control HHs said no that they are not using e-platform to sell the fattened beef.

Table D 4.1.1.6: Use of e-platform to sell the fattened beef

E-platform to sell fattened beef	Type of respondents	
	Control HHs	ME beneficiary
No	100.00%	99.50%
Yes	0.00%	0.50%
Grand Total	100.00%	100.00%

Use any bio pesticides

95.52% ME beneficiaries responded & 80.9% control HHs said no that they do not use any bio pesticides for small or bulk scale of production purposes and only 4.48% ME beneficiary & 19.51% control HHs were said that they used.

Table D 4.1.1.8: use any bio pesticides

Level of response of use any bio pesticides	Type of respondents	
	Control HHs	ME beneficiary
No	80.49%	95.52%
Yes	19.51%	4.48%
Grand Total	100.00%	100.00%

9.1 Access to Finance:

Receive any loan in before March 2019

52.97% ME beneficiaries and 12.20% of control HHs were responded yes about they received loan in before March 2019 and 47.03% ME beneficiaries & 87.80% control HHs said no to get any loan from any sources.

Table E 5.1.1: receive any loan in before March 2019

Receive any loan in before March 2019?	Type of respondents	
	Control HHs	ME beneficiary
No	87.80%	47.03%
Yes	12.20%	52.97%
Grand Total	100.00%	100.00%

If yes, the purpose of loan? (Multiple responses)

The table shows the details about the purposes of loan. So, the maximum 43% of ME used loan of buying cattle for beef fattening & buying agricultural inputs. Therefore, 20% of control HHs used their loan some many purposes.

Table E 5.1.2: If yes, the purpose of loan? (Multiple responses)

Purpose of loan (Multiple responses)	Type of respondents	
	Control HHs	ME beneficiary
Buying agricultural inputs	0.00%	0.93%
Buying agricultural inputs Re-paying loan Children education	20.00%	0.00%
Buying agricultural inputs Re-paying loan Children education Medical treatment	20.00%	0.00%
Buying cattle for beef fattening	0.00%	41.12%
Buying cattle for beef fattening Buying agricultural inputs	0.00%	1.87%
Buying cattle for beef fattening Buying inputs for beef fattening	0.00%	42.99%
Buying cattle for beef fattening Buying inputs for beef fattening Medical treatment	0.00%	0.93%
Buying cattle for beef fattening Others (Specify)	0.00%	3.74%
Buying inputs for beef fattening	0.00%	4.67%
Buying inputs for beef fattening Buying agricultural inputs	0.00%	1.87%
Buying inputs for beef fattening Buying agricultural inputs Children education Medical treatment	20.00%	0.00%
Land buying/lease Buying inputs for beef fattening Purchasing assets Re-paying loan Medical treatment	20.00%	0.00%
Others (Specify)	20.00%	1.87%
Grand Total	100.00%	100.00%

So, on an average, they have taken as loan in before 2020. The mean value is 54678 BDT, Median value is 50000 BDT and Standard Deviation is 76645 and they did not share their plan during the survey period

Interest Rate (Satisfaction from their Service)

74% of ME beneficiaries were satisfied, 24.44% ME beneficiaries were unsatisfied and 1.11% were very satisfied about interest rate. Therefore, 100% control HHs were unsatisfied about interest rate.

Table E 5.2.1.1: Interest Rate (Satisfaction from their Service)

Interest Rate (Satisfaction from their Service)	Type of respondents	
	Control HHs	ME beneficiary

Satisfied	0.00%	74.44%
Unsatisfied	100.00%	24.44%
very satisfied	0.00%	1.11%
Grand Total	100.00%	100.00%

Loan amount (Satisfaction from their Service)

76.80% of ME beneficiaries were satisfied and 23.20% of ME beneficiaries were unsatisfied about loan amount and 100% of control HHs were unsatisfied about loan amount.

Table E 5.2.1.2: Loan amount (Satisfaction from their Service)

Loan amount (Satisfaction from their Service)	Type of respondents	
	Control HHs	ME beneficiary
Satisfied	0.00%	76.80%
Unsatisfied	100.00%	23.20%
Grand Total	100.00%	100.00%

Frequency of getting loan (Satisfaction from their Service)

79% of ME beneficiaries were said that they are satisfied on frequency of getting loan and 21% of ME beneficiaries were unsatisfied about the frequency to get loan and 95% of control HHs were unsatisfied about the processes to get the loan.

Table E 5.2.1.3: Frequency of getting loan (Satisfaction from their Service)

Frequency of getting loan	Type of respondents	
	Control HHs	ME beneficiary
Satisfied	5.00%	79.01%
Unsatisfied	95.00%	20.99%
Grand Total	100.00%	100.00%

Repayment Method (Satisfaction from their Service)

Around 82% of ME beneficiaries were satisfied, 18% was unsatisfied and very close to 1% ME beneficiaries were very satisfied about the repayment method. Therefore, 75% of control HHs were satisfied, 20% was unsatisfied and 5% was very satisfied about repayment method among the control HHs.

Table E 5.2.1.4: Repayment Method (Satisfaction from their Service)

Repayment Method	Type of respondents	
	Control HHs	ME beneficiary
Satisfied	75.00%	81.67%
Unsatisfied	20.00%	17.78%
very satisfied	5.00%	0.56%
Grand Total	100.00%	100.00%

If unsatisfied, what are the suggestions to address those.

The respondents raised many issues/suggestions for improving the satisfaction level by providing quality services to get loan amount from the institutions/Banks.

Table E 5.2.1.5: If unsatisfied, what are the suggestions to address those

If unsatisfied, suggestions to address	Type of respondents	
	Control HHs	ME beneficiary
Making easy process to get and payment the loan scheme (big amount, quality service, customize scheme etc)	00.00%	77.77%
Make relaxation among service provider & receiver	50.00%	00.00%
No suggestion provided	50.00%	22.22%
Grand Total	100.00%	100.00%

9.3 Market Access:

In general, time require to go to the market from house?

20% of ME beneficiaries were said that they required 20 minutes to go to the market. 19% ME said that need 60 minutes. 25% of control HHs said that they need 120 minutes to go to the market. So, range of time is 10 minutes to 130 minutes.

In general, how do you go to the market? Specify the mode of transport to market. (Multiple responses may come)

The highest 33% of ME beneficiaries were responded that they used to on foot, 34% used on foot & auto rickshaw, 17% used to Auto rickshaw and 11% said that they used Auto rickshaw, cycle & van to go to market. Therefore, 47.5% of control HHs said that they used to by bus Auto rickshaw, Rickshaw, Cycle, Van, 20% used to on foot, Rickshaw, Cycle, Van and 25% used to rickshaw, cycle & van.

Table F 6.1.2: In general, how do you go to the market? Specify the mode of transport to market.

Mode of transport to go market. (Multiple responses may come)	Type of respondents	
	Control HHs	ME beneficiary
Auto rickshaw	0.00%	16.83%
Auto rickshaw Rickshaw, Cycle, Van	0.00%	10.89%
BY bus Auto rickshaw Rickshaw, Cycle, Van	47.50%	0.50%
On foot	7.50%	33.66%
On foot Auto rickshaw	0.00%	33.17%
On foot Auto rickshaw Rickshaw, Cycle, Van	0.00%	0.99%
On foot BY bus	0.00%	0.50%
On foot Rickshaw, Cycle, Van	20.00%	3.47%
Rickshaw, Cycle, Van	25.00%	0.00%
Grand Total	100.00%	100.00%

Convenient to go to market alone for women

48% of ME beneficiaries said yes that it is convenient to go to market alone for women, 20% ME said that not convenient for women to go to market alone and 32% said that women's doesn't go to the market alone. Therefore, 51% control HHs said women's doesn't go to the market, 33% said yes and 15% control respondents said no.

Table F 6.1.3: convenient to go to market alone for women

For a women is it convenient to go to market alone?	Type of respondents	
	Control HHs	ME beneficiary
Does not go to the market	52.50%	31.68%
No	15.00%	20.30%
Yes	32.50%	48.02%
Grand Total	100.00%	100.00%

If no, the problems do they face to go to the market alone

Around 98% ME beneficiaries responded that lack of security is one of the reason they are faced to go to the market alone and 2% said that eve teasing & lack of security. The other hand, 100% of control HHs said that lack of security is the main reason which they are always faced to go to market place. And both beneficiaries said that the only mentioned problems they are faced when they come to market.

Table F 6.1.4: If no, the problems do they face to go to the market alone

Problems faced to go to the market alone	Type of respondents	
	Control HHs	ME beneficiary
Eve teasing Lack of security	0.00%	2.44%
Lack of security	100.00%	97.56%
Grand Total	100.00%	100.00%

Table: F 6.1.6 main marketing channels

Marketing channels	Type of respondents	
	Control HHs	ME beneficiary
Neighbors	0.00%	1.00%
Neighbors Own shop	0.00%	13.43%
Neighbors Own shop Retail shop(s) in the same area	0.00%	0.50%
Neighbors Own shop Wholesaler(s) in the same area	0.00%	8.46%
Neighbors Own shop Wholesaler(s) in the same area Retail shop(s) in the same area	0.00%	4.48%
Neighbors Retail shop(s) in the same area	2.50%	9.45%
Neighbors Retail shop(s) in the same area Other	0.00%	2.49%
Neighbors Retail shop(s) in the same area Sale agencies	25.00%	0.00%
Neighbors Retail shop(s) in the same area Sale agencies Traders from other regions	2.50%	0.00%
Neighbors Retail shop(s) in the same area Sale	2.50%	0.00%

Marketing channels	Type of respondents	
	Control HHs	ME beneficiary
agencies Traders from other regions Other		
Neighbors Retail shop(s) in the same area Traders from other regions	2.50%	0.00%
Neighbors Sale agencies	0.00%	0.50%
Neighbors Wholesaler(s) in the same area	0.00%	18.91%
Neighbors Wholesaler(s) in the same area Other	0.00%	1.99%
Neighbors Wholesaler(s) in the same area Retail shop(s) in the same area	0.00%	2.99%
Other	0.00%	2.99%
Own shop	0.00%	0.50%
Own shop Retail shop(s) in the same area	0.00%	1.49%
Own shop Sale agencies	0.00%	1.00%
Own shop Wholesaler(s) in the same area Retail shop(s) in the same area	0.00%	1.00%
Retail shop(s) in the same area	45.00%	3.98%
Retail shop(s) in the same area Other	0.00%	2.49%
Retail shop(s) in the same area Sale agencies	5.00%	1.49%
Retail shop(s) in the same area Sale agencies Traders from other regions	5.00%	0.00%
Retail shop(s) in the same area Traders from other regions	0.00%	1.00%
Retail shop(s) in the same area Traders from other regions Other	0.00%	0.50%
Traders from other regions	0.00%	0.50%
Wholesaler(s) in the same area	2.50%	1.99%
Wholesaler(s) in the same area Retail shop(s) in the same area	0.00%	15.42%
Wholesaler(s) in the same area Retail shop(s) in the same area Sale agencies	5.00%	0.00%
Wholesaler(s) in the same area Retail shop(s) in the same area Traders from other regions	2.50%	1.00%
Wholesaler(s) in the same area Traders from other regions	0.00%	0.50%
Grand Total	100.00%	100.00%

9.4 SWOT Analysis:

Strength:

Strong family desire to continue farming

Over 86% ME beneficiaries said yes that they have a strong family desire to continue farming, 14% ME beneficiaries were responded no to continue farming. 56% of control HHs said no and haven't strong family desire to continue farming and 44% control HHs said yes to continue farming.

Table G 7.1.1.1: Strong family desire to continue farming

Strong family desire to continue farming	Type of respondents	
	Control HHs	ME beneficiary
No	56.10%	13.99%
Yes	43.90%	86.01%
Grand Total	100.00%	100.00%

Willingness to learn and change farm practices

85% of ME beneficiaries were said that they have a willingness to learn and change farm practices, 15% ME beneficiaries said no & haven't willingness to learn & change practices. Around 54% control HHs said yes to learn & change farm practices and 46% control said no to change it.

Table G 7.1.1.2: Willingness to learn and change farm practices

Willingness to learn and change farm practices	Type of respondents	
	Control HHs	ME beneficiary
No	46.34%	15.42%
Yes	53.66%	84.58%
Grand Total	100.00%	100.00%

Proven track record of consistently raising quality herd replacements in numbers

Around 62% and 38% ME beneficiaries were said accordingly NO & YES about the mentioned statement and 61% & 39% of control HHs said accordingly No & Yes.

Table: of G 7.1.1.3: proven track record of consistently raising quality herd replacements in numbers

Proven track record of consistently raising quality herd replacements	Type of respondents	
	Control HHs	ME beneficiary
No	60.98%	61.58%
Yes	39.02%	38.42%
Grand Total	100.00%	100.00%

Sufficient to increase overall herd size

58% and 38% ME beneficiaries were said accordingly NO & YES about the mentioned statement and 63% & 37% of control HHs said accordingly No & Yes.

Table: G 7.1.1.4: Sufficient to increase overall herd size

Sufficient to increase overall herd size	Type of respondents	
	Control HHs	ME beneficiary
No	63.41%	58.42%
Yes	36.59%	41.58%
Grand Total	100.00%	100.00%

Receiving adaptation support

Around 71% and 29% ME beneficiaries were said accordingly NO & YES about the mentioned statement and 92% & 8% of control HHs said accordingly No & Yes about to receiving adaptation support.

Table: G 7.1.1.5: Receiving adaptation support

Receiving adaptation support	Type of respondents	
	Control HHs	ME beneficiary
No	90.24%	71.43%
Yes	9.76%	28.57%
Grand Total	100.00%	100.00%

Table: G 7.1.1.6: Having access to insurance

97% and 3% ME beneficiaries were said accordingly NO & YES about the mentioned statement and 98% & 2% of control HHs said accordingly No & Yes about having access to insurance.

Table: G 7.1.1.6: Having access to insurance

Having access to insurance	Type of respondents	
	Control HHs	ME beneficiary
No	97.56%	96.53%
Yes	2.44%	3.47%
Grand Total	100.00%	100.00%

Having access to credit service

38% and 62% ME beneficiaries were said accordingly NO & YES about the mentioned statement and 97% & 3% of control HHs said accordingly No & Yes about having access to credit service.

Table: G 7.1.1.7: Having access to credit service

Having access to credit service?	Type of respondents
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	Control HHs	ME beneficiary
No	97.50%	37.93%
Yes	2.50%	62.07%
Grand Total	100.00%	100.00%

Having access to trainings and extension service

92% and 8% of ME beneficiaries were said accordingly NO & YES about the mentioned statement and 100% of control HHs said accordingly No about having access to training and extension service.

Table: G 7.1.1.8: Having access to trainings and extension service

Having access to trainings and extension service	Type of respondents	
	Control HHs	ME beneficiary
No	100.00%	91.63%
Yes	0.00%	8.37%
Grand Total	100.00%	100.00%

Having access to a wider market information

Around 95% and 5% ME beneficiaries were said accordingly NO & YES about the mentioned statement and 100% of control HHs said accordingly No about having access to a wider market information.

Table: G 7.1.1.9: Having access to a wider market information

Having access to a wider market information?	Type of respondents	
	Control HHs	ME beneficiary
No	100.00%	94.55%
Yes	0.00%	5.45%
Grand Total	100.00%	100.00%

Access to animal health service

66% and 34% ME beneficiaries were said accordingly NO & YES about the mentioned statement and 76% & 24% of control HHs said accordingly No & Yes about access to animal health service.

Table: G 7.1.1.10: Access to animal health service

Access to animal health service	Type of respondents	
	Control HHs	ME beneficiary

No	75.61%	65.84%
Yes	24.39%	34.16%
Grand Total	100.00%	100.00%

Weakness:

Low demand for products, insufficient market access and information

Around 68% of ME beneficiaries were said no and 32% ME beneficiaries said yes about low demand for production and insufficient market access & information. Whereas, around 59% & 41% of control HHs said No & Yes accordingly.

Table: G 7.1.2.1: Low demand for products, insufficient market access and information

Low demand for products, insufficient market access and information	Type of respondents	
	Control HHs	ME beneficiary
No	58.54%	67.98%
Yes	41.46%	32.02%
Grand Total	100.00%	100.00%

High cost of inputs and shortage of inputs

52% ME beneficiaries were said yes about high cost & shortage of inputs and 48% said no about the statement. 44% control HHs were said yes about high cost & shortage of inputs and 56% said no about the statement.

Table: G 7.1.2.2: High cost of inputs and shortage of inputs

High cost of inputs and shortage of inputs	Type of respondents	
	Control HHs	ME beneficiary
No	56.10%	48.02%
Yes	43.90%	51.98%
Grand Total	100.00%	100.00%

Lack of proper working space

73% ME beneficiaries were said yes about lack of proper working space and 27% said no about the statement. 66% control HHs were said yes about lack of proper working space and 34% said no about the statement.

Table G 7.1.2.3: Lack of proper working space

Lack of proper working space	Type of respondents	
	Control HHs	ME beneficiary
No	34.15%	26.60%
Yes	65.85%	73.40%
Grand Total	100.00%	100.00%

Lack of skilled and trusted workers

86% ME beneficiaries were said yes about lack of skilled & trusted workers and 14% said no about the statement. 66% control HHs were said yes about lack of skilled & trusted workers and 34% said no about the statement.

Table: G 7.1.2.4: Table: G 7.1.2.4: Lack of skilled and trusted workers

Lack of skilled and trusted workers	Type of respondents	
	Control HHs	ME beneficiary
No	34.15%	14.36%
Yes	65.85%	85.64%
Grand Total	100.00%	100.00%

Lack of management skills

67% ME beneficiaries were said yes about lack of management skills and 33% said no about the statement. 68% control HHs were said yes about lack of management skills and 32% said no about the statement.

Table: G 7.1.2.5: Lack of management skills

Lack of management skills	Type of respondents	
	Control HHs	ME beneficiary
No	31.71%	33.17%
Yes	68.29%	66.83%
Grand Total	100.00%	100.00%

Lack of communication, transport and high cost of transportation

Around 58% ME beneficiaries were said yes about lack of communication, transport and high cost of transport and 42% said no about the statement. 68% control HHs were said yes about lack of communication, transport and high cost of transport and 32% said no about the statement.

Table: G 7.1.2.6: Lack of communication, transport and high cost of transportation

Lack of communication, transport and high cost of transportation	Type of respondents	
	Control HHs	ME beneficiary
No	31.71%	42.36%
Yes	68.29%	57.64%
Grand Total	100.00%	100.00%

Restrictive laws, Business licensing and permits

27% ME beneficiaries were said yes about restrictive laws, business licensing and permits and 73% said no about the statement. 51% control HHs were said yes about restrictive laws, business licensing and permits and 49% said no about the statement.

Table: G 7.1.2.7: Restrictive laws, Business licensing and permits

Restrictive laws, Business licensing and	Type of respondents
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permits	Control HHs	ME beneficiary
No	48.78%	72.77%
Yes	51.22%	27.23%
Grand Total	100.00%	100.00%

Similar businesses/ no creativity

81% ME beneficiaries were said yes about similar businesses/no creativity and 19% said no about the statement. 39% control HHs were said yes similar businesses/no creativity and 61% said no about the statement.

Table: G 7.1.2.8: Similar businesses/ no creativity

Similar businesses/ no creativity	Type of respondents	
	Control HHs	ME beneficiary
No	60.98%	18.72%
Yes	39.02%	81.28%
Grand Total	100.00%	100.00%

No access to credit service

32% ME beneficiaries were said yes about 'no access to credit service' and 68% said no about the statement. 54% control HHs were said yes about 'no access to credit service' and 46% said no about the statement.

Table: G 7.1.2.9: No access to credit service

No access to credit service	Type of respondents	
	Control HHs	ME beneficiary
No	46.34%	68.32%
Yes	53.66%	31.68%
Grand Total	100.00%	100.00%

No access to animal health service

43% ME beneficiaries were said yes about 'no access to animal health service' and 57% said no about the statement. 63% control HHs were said yes about 'no access to animal health service' and 37% said no about the statement.

Table: G 7.1.2.10: No access to animal health service

Count of G 7.1.2.10 No access to animal health service	Column Labels	
Row Labels	Control HHs	ME beneficiary
No	36.59%	57.43%
Yes	63.41%	42.57%
Grand Total	100.00%	100.00%

No access to training and extension service

58% ME beneficiaries were said yes about 'no access to training & extension service' and 42% said no about the statement. 54% control HHs were said yes about 'no access to training & extension service' and 46% said no about the statement.

Table: G 7.1.2.11: No access to training and extension service

No access to training and extension service	Type of respondents	
	Control HHs	ME beneficiary
No	46.34%	41.87%
Yes	53.66%	58.13%
Grand Total	100.00%	100.00%

Lack of banking services

79% ME beneficiaries were said yes about lack of banking services and 21% said no about the statement. Around 61% control HHs were said yes about lack of banking services and 39% said no about the statement.

Table: G 7.1.2.12: Lack of banking services

Lack of banking services	Type of respondents	
	Control HHs	ME beneficiary
No	39.02%	20.69%
Yes	60.98%	79.31%
Grand Total	100.00%	100.00%

Lack of knowledge on legal issues relating to farming system

82% ME beneficiaries were said yes about lack of knowledge on legal issues relating to farming system and 20% said no about the statement. Around 59% control HHs were said yes about Lack of knowledge on legal issues relating to farming system and 41% said no about the statement.

Table: G 7.1.2.13: Lack of knowledge on legal issues relating to farming system

Lack of knowledge on legal issues relating to farming system	Type of respondents	
	Control HHs	ME beneficiary
No	41.46%	19.80%
Yes	58.54%	80.20%
Grand Total	100.00%	100.00%

Opportunity:

Strong demand for meat/ breeds

Around 79% of ME beneficiaries were responded that they have strong demand for meat/breeds and 21% ME beneficiaries said no. therefore, 59% of control HHs were said that they strong demand for meat/breeds and 41% were said no about the opportunities.

Table: G 7.1.3.1: Strong demand for meat/ breeds

Strong demand for meat/ breeds	Type of respondents	
	Control HHs	ME beneficiary
No	41.46%	21.18%
Yes	58.54%	78.82%
Grand Total	100.00%	100.00%

Local community with business support infrastructure in place

37% of ME beneficiaries were responded that they have local community with business support infrastructure in place and 63% ME beneficiaries said no. therefore, 39% of control HHs were said that they have local community with business support infrastructure in place and 61% were said no about the opportunities.

Table: G 7.1.3.2: Local community with business support infrastructure in place

Local community with business support infrastructure in place	Type of respondents	
	Control HHs	ME beneficiary
No	60.98%	62.56%
Yes	39.02%	37.44%
Grand Total	100.00%	100.00%

Good access to premium market

Only 11% of ME beneficiaries were responded that they have good access to premium market and 89% ME beneficiaries said no. therefore, 17% of control HHs were said that they have good access to premium market and 83% were said no about the opportunities.

Table: G 7.1.3.3: Good access to premium market

Good access to premium market	Type of respondents	
	Control HHs	ME beneficiary
No	82.93%	88.61%
Yes	17.07%	11.39%
Grand Total	100.00%	100.00%

Threats:

Animal disease

Around 79% of ME beneficiaries were said yes that they had a threats of animal disease and 21% of ME beneficiaries said no threats. Therefore, around 98% of control HHs were said yes that they had a threats of animal disease and 2% of control HHs said no threats.

Table: G 7.1.4.1: Animal disease

Animal disease?	Type of respondents	
	Control HHs	ME beneficiary
No	2.50%	21.29%
Yes	97.50%	78.71%
Grand Total	100.00%	100.00%

High death rate

Around 24% of ME beneficiaries were said yes that they had a threats of high death rate and 76% of ME beneficiaries said no threats. Therefore, around 98% of control HHs were said yes that they had a threats of high death rate issue and 2% of control HHs said no threats.

Table: G 7.1.4.2: High death rate

High death rate	Type of respondents	
	Control HHs	ME beneficiary
No	2.44%	76.35%
Yes	97.56%	23.65%
Grand Total	100.00%	100.00%

Table: G 7.1.4.3 Loss of cattle/ Theft

Around 28% of ME beneficiaries were said yes that they had a threats on loss of cattle/theft and 72% of ME beneficiaries said no threats. Therefore, around 88% of control HHs were said yes that they had a threats on loss of cattle/theft and 12% of control HHs said no threats.

Table: G 7.1.4.3: Loss of cattle/ Theft

Loss of cattle/ Theft	Type of respondents	
	Control HHs	ME beneficiary
No	12.20%	71.92%
Yes	87.80%	28.08%
Grand Total	100.00%	100.00%

Good/dependable farm labor is difficult to find and keep

Around 79% of ME beneficiaries were said yes that they had a threats to find and keep very difficult of good/dependable farm labor and 21% of ME beneficiaries said no threats. Therefore, around 45% of control HHs were said yes to find and keep very difficult of good/dependable farm labor and 55% of control HHs said no threats.

Table: G 7.1.4.4: Good/dependable farm labor is difficult to find and keep

Good/dependable farm labor is difficult to find and keep	Type of respondents	
	Control HHs	ME beneficiary
No	55.00%	21.50%
Yes	45.00%	78.50%
Grand Total	100.00%	100.00%

Taxes being higher than income

Around 14% of ME beneficiaries were said yes that they had a threats on taxes being higher than income and 86% of ME beneficiaries said no threats. Therefore, around 100% of control HHs were said no threats.

Table: G 7.1.4.5: Taxes being higher than income

Taxes being higher than income	Type of respondents	
	Control HHs	ME beneficiary
No	100.00%	86.21%
Yes	0.00%	13.79%
Grand Total	100.00%	100.00%

Availability of good rental crop land is decreasing due to area development pressures

Around 70% of ME beneficiaries were said yes that they had a threats on availability of good rental crop land is decreasing due to area development pressures and 30% of ME beneficiaries said no threats. Therefore, around 43% of control HHs were said yes on threats and 57% control HHs said no threats.

Table: G 7.1.4.6: Availability of good rental crop land is decreasing due to area development pressures

Availability of good rental crop land is decreasing due to area development pressures	Type of respondents	
	Control HHs	ME beneficiary
No	57.50%	29.65%
Yes	42.50%	70.35%
Grand Total	100.00%	100.00%

Volatility of market making difficult to maintain a viable cattle farm operation

Around 85% of ME beneficiaries were said yes that they had a threats on volatility of market making difficult to maintain a viable cattle farm operation and 15% of ME beneficiaries said no threats. Therefore, around 42% of control HHs were said yes on threats and 57% control HHs said no threats.

Table: G 7.1.4.7: Volatility of market making difficult to maintain a viable cattle farm operation

Volatility of market making difficult to maintain a viable cattle farm operation	Type of respondents	
	Control HHs	ME beneficiary
No	57.50%	15.27%
Yes	42.50%	84.73%
Grand Total	100.00%	100.00%

Climate change/ Excessive flood/ cold/ extreme rainfall

Around 59% of ME beneficiaries were said yes that they had a threats on climate change, excessive flood, cold and extreme rainfall issues and 41% of ME beneficiaries said no threats. Therefore, around 49% of control HHs were said yes about threats on climate change, excessive flood, cold and extreme rainfall issues and 51% control HHs said no threats.

Table: G 7.1.4.8: Climate change/ Excessive flood/ cold/ extreme rainfall

Climate change/ Excessive flood/ cold/ extreme rainfall	Type of respondents	
	Control HHs	ME beneficiary
No	51.22%	40.89%
Yes	48.78%	59.11%
Grand Total	100.00%	100.00%

9.5 At a Glance SWOT analysis:

<p>Strength:</p> <ul style="list-style-type: none"> Over 86% ME beneficiaries said yes that they have a strong family desire to continue farming, 14% ME beneficiaries were responded no to continue farming. 85% of ME beneficiaries were said that they have a willingness to learn and change farm practices, 15% ME beneficiaries said no & haven't willingness to learn & change practices. Around 62% and 38% ME beneficiaries were said accordingly NO & YES about the proven track record of consistently raising quality herd replacements in numbers 	<p>Weakness:</p> <ul style="list-style-type: none"> Around 68% of ME beneficiaries were said no and 32% ME beneficiaries said yes about low demand for production and insufficient market access & information. 52% ME beneficiaries were said yes about high cost & shortage of inputs and 48% said no about High cost of inputs and shortage of inputs 73% ME beneficiaries were said yes about lack of proper working space and 27% said no about Lack of proper working space 86% ME beneficiaries were said yes about lack of skilled & trusted workers and 14% said no about the statement 67% ME beneficiaries were said yes about lack of
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<ul style="list-style-type: none"> • Around 71% and 29% ME beneficiaries were said accordingly NO & YES about Receiving adaptation support. • 97% and 3% ME beneficiaries were said accordingly NO & YES about having access to insurance. • 38% and 62% ME beneficiaries were said accordingly NO & YES about Having access to credit service • 92% and 8% of ME beneficiaries were said accordingly NO & YES about Having access to trainings and extension service • Around 95% and 5% ME beneficiaries were said accordingly NO & YES about Having access to a wider market information • 66% and 34% ME beneficiaries were said accordingly NO & YES about Access to animal health service 	<ul style="list-style-type: none"> • management skills and 33% said no about the statement. • Around 58% ME beneficiaries were said yes about lack of communication, transport and high cost of transport and 42% said no about the statement. • 27% ME beneficiaries were said yes about restrictive laws, business licensing and permits and 73% said no about the statement. • 81% ME beneficiaries were said yes about similar businesses/no creativity and 19% said no about the statement. • 32% ME beneficiaries were said yes about 'no access to credit service' and 68% said no about the statement. • 43% ME beneficiaries were said yes about 'no access to animal health service' and 57% said no about the statement. • 58% ME beneficiaries were said yes about 'no access to training & extension service' and 42% said no about the statement. • 79% ME beneficiaries were said yes about lack of banking services and 21% said no about the statement. • 82% ME beneficiaries were said yes about lack of knowledge on legal issues relating to farming system and 20% said no about the statement.
<p>Opportunity:</p> <ul style="list-style-type: none"> • Around 79% of ME beneficiaries were responded that they have strong demand for meat/breeds and 21% ME beneficiaries said no. • 37% of ME beneficiaries were responded that they have local community with business support infrastructure in place and 63% ME beneficiaries said no • Only 11% of ME beneficiaries were responded that they have good access to premium market and 89% ME beneficiaries said no. 	<p>Threat:</p> <ul style="list-style-type: none"> • Around 79% of ME beneficiaries were said yes that they had a threats of animal disease and 21% of ME beneficiaries said no threats. • Around 24% of ME beneficiaries were said yes that they had a threats of high death rate and 76% of ME beneficiaries said no threats. • Around 28% of ME beneficiaries were said yes that they had a threats on loss of cattle/theft and 72% of ME beneficiaries said no threats. • Around 79% of ME beneficiaries were said yes that they had a threats to find and keep very difficult of good/dependable farm labor and 21% of ME beneficiaries said no threats. • Around 14% of ME beneficiaries were said yes that they had a threats on taxes being higher than income and 86% of ME beneficiaries said no threats. • Around 70% of ME beneficiaries were said yes that they had a threats on availability of good rental crop land is decreasing due to area development pressures and 30% of ME beneficiaries said no threats. • Around 85% of ME beneficiaries were said yes that they had a threats on volatility of market making difficult to maintain a viable cattle farm operation and 15% of ME beneficiaries said no threats. • Around 59% of ME beneficiaries were said yes that they had a threats on climate change, excessive flood, cold and extreme rainfall issues and 41% of ME beneficiaries

	said no threats.
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9.6 Impact and Challenges of COVID-19

Table: H 8.1 Impact of COVID-19 to value chain actors and their networks

During the pandemic period, both respondents said that they faced many challenges and problems about how to survive for upcoming days and they all are concerned about the impact. So, the details are stated below;

Impact of COVID-19 to value chain actors and their networks	Type of respondents	
	Control HHs	ME beneficiary
Decreased income level	40.00%	23.00%
Jobless during the COVID period	1.00%	5.00%
Price hike of the products	50.00%	40.00%
Produced small scale product price down	4.00%	15.00%
Communication gap	5.00%	10.00%
Other problems	5.00%	7.00%
Grand Total	100.00%	100.00%

Table: I 9.1 Does the value chain actors and networks faced any economic challenges due to COVID-19 pandemic

50% of ME and 30% of control HHs said that their business was down due to covid-19 impact. 35% of ME and 40% of control HHs told that income decreased, 10% of ME and 15% of control HHs said that increased individual loan form the different sources and also increased the hygiene material cost during covid-19 period.

Value chain actors and networks faced any economic challenges due to COVID-19 pandemic	Type of respondents	
	Control HHs	ME beneficiary
Businesses down	30.00%	50.00%
Decrease income	40.00%	35.00%
No extension of job contract/instant release from the job	5.00%	00.00%
Increased individual loan from institute and Bank	15.00%	10.00%
Difficult to sale small scale products to the buyers	4.00%	2.00%
Increased hygiene material cost	4.00%	2.00%
Other economic lose	2.00%	1.00%
Grand Total	100.00%	100.00%

Table: J 10.1 value chain actors and networks faced any social barrier in implementation of ME business

ME business actors were faced many social barriers to implement the business. Like, 53% ME and 80% control HHs were said that wear face mask to talk with input & output market actors and communicate with actors in person was difficult to presence in the any sort of discussions/meetings

Value chain actors and networks faced any social barrier in implementation of ME business	Type of respondents	
	Control HHs	ME beneficiary
Wear face mask	80.00%	53.09%
Travel to communicate with other actor for business issues	20.00%	47.00%
Grand Total	100.00%	100.00%

Table: K 11.1 value chain actors and networks under taken any precautionary measures to address to COVID -19

Value chain actors and networks were taken precautionary measures during COVID-19. 80% of ME and 85% of control HHs were said that they have taken percussions by using mask and sanitize hands. The both respondents were taken initiatives to share the COVID related messages by involving religious leaders and also maintained the social and physical distancing.

value chain actors and networks under taken any precautionary measures to address to COVID -19	Type of respondents	
	Control HHs	ME beneficiary
Use Mask for every one	85.00%	80.00%
Announce the CODID related messages to the community by religious leaders	5.00%	15.00%
Maintain social and physical distance to go out side	10.00%	5.00%
Grand Total	100.00%	100.00%

10 Recommendations and Conclusions

The study team made following recommendations for achieving better results accomplishment at the end of project operation;

- Project may take initiative for increasing more female ownership of farm for availing outside opportunities through women entrepreneurship development.
- Facilitate and motivate ME for constructing environment friendly housing for farming
- May take steps to ensure health and safety equipment and first aid box at farm level

- Project may emphasis on technical (Environment friendly production/ farming, processing, farm management, marketing, COVID awareness etc.) and business (Business development, value chain development, Linkage-networking with service providers etc.) capacity building through training need assessment, facilitate appropriate training, learning visit on spot coaching etc. for ME.
- To maintain friendly environment, Project may involve ME for composting, vermin-composting, grass production, fodder processing etc. in an appropriate manner.
- Project may take steps to develop Community Livestock Service Provider (CLSP) to make available inputs & service for such farming, at the same time establish an effective linkage with Livestock department and relevant Govt. departments channeling support and assistances e.g. technical, legal, business environment etc. in a sustainable manner.
- Private sector engagement is essential for production, processing and marketing (including e-marketing system), so project may initiate for that. Develop linkage with relevant market actors for access to market information, connection with wider market and inputs availability at ME's door step.
- Project may create scope of access to Finance for developing affordable loan product and introducing insurance system to help ME in expanding farm through developing partnership through mapping service provider, matching workshop & MoU development etc.
- Project may facilitate for development of Association like platform for exchange idea, information, problem solution wider linkage and negotiation etc.
- The project should focus on proper drainage, arrange disposal site, control odor, insects, and mosquito breeding, introduce properly disposed of dead animal, vaccination, purchase medicine from an authentic source, medical wastes management, and to ensure quarantine facility for newly purchased animals.

Beyond the above recommendation project team can explore or introduce new window for addressing new challenges or opportunities for the MEs.

11 Annexes

- 11.1 Final Baseline Study Tool**
- 11.2 Final Baseline database**
- 11.3 KOBO Link**
- 11.4 ToR**
- 11.5 Project Proposal**

