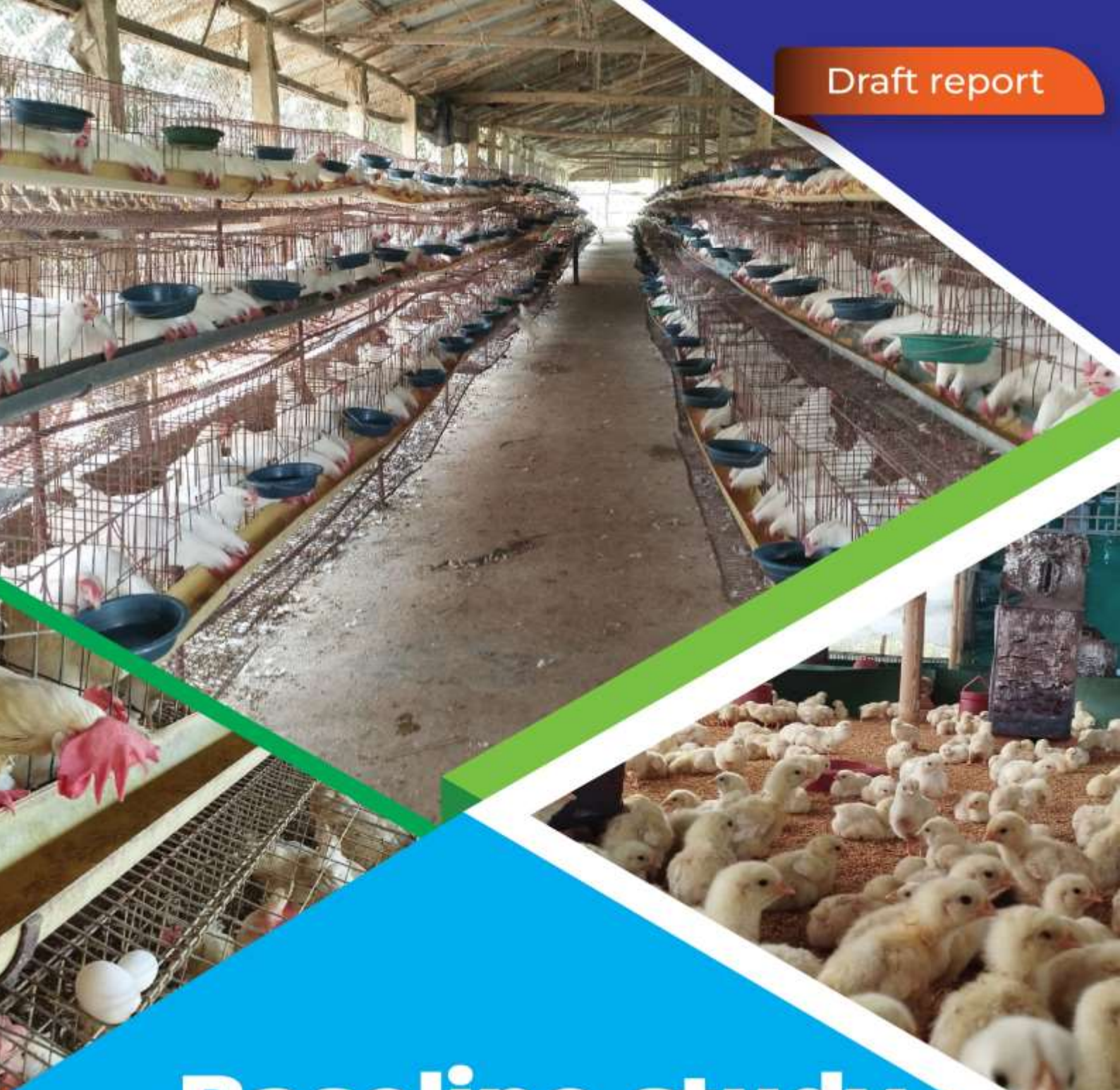


Draft report



# Baseline study

*On Market System development  
Of safe poultry & poultry products.*

# DRAFT REPORT

## Baseline study on Market System development of safe poultry and poultry products

### Submitted to



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### Submitted by

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30 March 2023



## Acknowledgments

I would like to take this opportunity to express my sincere appreciation and gratitude to the COAST Foundation team for their invaluable assistance during the baseline study. The support and collaboration have been contributory in ensuring the baseline data collection. I must acknowledge the significant contribution of the people & stakeholders of Cox's Bazar district in Bangladesh.

I would like to convey our profound respect, a deep sense of gratitude, and grateful appreciation to Mr. Barequl Islam Chowdhury, Deputy Director-Enterprise Development, COAST Foundation, for his continuous engagement, scholastic guidance and suggestions, untiring help, and continuous supervision of the study successful.

I would also express our gratitude and heartfelt appreciation with due solemnity to Mr. Sahzada Hasibur Rahman, Project Manager, Rural Micro-enterprise Transformation Project, COAST Foundation, for his cooperation and generous help, and affectionate feelings throughout the study period.

The baseline study team also expresses their immense indebtedness to Dr. S M Niaz Mahmud, Sector Value Chain Specialist (Livestock), Rural Microenterprise Transformation Project (RMTP), Palli Karma-Sahayak Foundation (PKSF) and his team from PKSF for their outstanding support and significant guidance during the inception meeting.

Additionally, I acknowledge the COAST Foundation field staff for supporting this study. I was particularly impressed with your team's dedication and professionalism. Your ingenuity to go above and beyond the call of duty to ensure the success of this project was remarkable. Your team was always available to answer our questions and provide us with the support we needed to carry out the study efficiently.

Also, it was heartening to see the COAST Foundation team's commitment to sustainability and the environment. Your organization's efforts to promote eco-friendly practices and reduce the impact of human activities on the environment are commendable. Subsequently, we also acknowledge the contribution of the procurement & finance team and supporting staff of COAST Foundation Bangladesh for their prompt communication and support.

Finally, I would like to express my deep appreciation to the COAST Foundation team for their outstanding support and collaboration during the baseline study. Your organization's commitment is truly inspiring, and I look forward to continued collaboration with you in the future. Once again, thank you for your dedication, professionalism, and invaluable contributions to this project.

**Mir Mohammad Ali  
& Baseline Study Team**



# ACRONYMS

BD	Bangladesh
FGD	Focus Group Discussion
IDI	In-Depth Interview
KII	Key Informants Interviews
NGO	Non-governmental Organization
PME	Planning, Monitoring & Evaluation
RD	Regional Director
ToR	Terms of Reference
PKSF	Palli Karma-Sahayak Foundation
IFAD	International Fund for Agricultural Development
ICT	Information and Communications Technology
HH's	House Holds



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The baseline Study of Market System Development of Safe Poultry and Poultry Products project was conducted in two upazila Cox's-bazar sadar and Ramu under Cox's-Bazar district. A total of 370 households, comprising 236 male (64%) and 133 females (36%) were interviewed. Household size averaged 5.78 persons. The sample households were mainly associated with the occupation of Around 60% HH were involved with Poultry farming, engagement in Agriculture (12.4%), Business (5.1%) and Salt production (4.1%) is visible but there are few HH depending on livestock, fishing and aquaculture production. 87% households of the study areas have their own land and the rest (13%) have no land. The majority of the respondent (37.6%) had tin-shed house followed by pucca building 29.7%, semi pucca 13%, thrashed house (1.9%), earth house (17.6%) and others (0.3%). The average number of chicken 532.75 numbers. Duck secured 2nd about average of 1.8 in numbers. The number of fruit tree per HH was 5, wood tree was 9, and medicinal average tree was 0.17 spice were 0.05 and rest were others 2.58. Around 77.3% of households have bellow Tk. 300,000 annual family income, whereas 17.6% have Tk 300,000 to 500,000 annual average income; 3.5% have Tk 500,000 to 10,00000 annual average income and 1.6% have Tk 1000,000 to 1500,000 annual average income.

In both Upazila Most of the HH's rear Local hen (39%) and Ducks (10%). Whereas some of them rears pigeon (4%). Mostly small farmers and micro-entrepreneurs do the poultry rearing. Mainly most of them rear layer which (23%), boiler (21%), followed by sonali only 2%. In indicate that in both Upazilas practice of rearing Local and layer Poultry is the most. scenario in both Upazilas HH poultry rearing is about of 2329 boiler; 2351 layer and 1691 sonali. House hold local rearing is 55, duck 6 and pigeon 14. It shows that though they start rearing poultry with a smaller number of birds they gradually increase the quantity of birds which indicate increase of demand. In Ramu and cox's bazar sadar Upazilas among the surveyed 370 the HH farmers and micro-entrepreneurs, 36.2% of their production is one cycles; and 30.8% of their production is three cycles; 13.5% of their production is three cycles. And four cycles is relatively low about 5.9%; 13.5% of them did not answer about their production cycle. If we look on category wise on average 3405 kg of yearly boiler poultry production is estimated; sonali production is 208 kg; other birds 5 kg. and yearly eggs produce by layer poultry is on average 7083.

In Ramu and cox's bazar sadar Upazilas among the surveyed 370 the HH farmers and micro-entrepreneurs 78.6% of them are not knowledgeable about good practice in poultry rearing and 21.4% of them are knowledgeable about good practice in poultry rearing. the main sources for collecting poultry chicks are hatchery agents and the open market for all three types of chicks. Direct collection from hatcheries is also a significant source for boiler and layer chicks, while hatching at home is a substantial source for Sonali chicks. The percentage of chicks collected from other sources is also provided for each type. collect poultry feed from Open market 33.40%; Dealers 36.70%; Vendors 8.20%; Home made with purchased 20.80%. collect poultry medicine and feed additive from Local vendors 37.30%; Animal medicine shops 53.50%; Company agents 9.20%. Upazilas HH farmers and micro-entrepreneurs sells their live poultry (35.80%) and eggs (34.10%) to the retail market; and sells their live poultry (32.30%) and eggs (31.20%) to the whole sale market and rarely sales their live poultry (13.60%) and eggs (13.30%) by farias. About 35.9% HH farmers and micro-entrepreneurs sells value-added poultry meats and 64.1% do not sells value-added poultry meats. Among the 35.9% HH

farmers and micro-entrepreneur's sales their products to the local markets (63.90%); restaurants (13.70%) and by faria 21.80%. HH farmers and micro-entrepreneurs' 85.4 % does not think that demand of value-added products is increasing; on the other hand, 14.6 % thinks that demand is increasing. Among the 14.6% Upazilas HH farmers and micro-entrepreneurs said the reason for increasing demand because of its profitable (45.50%); Consumers preferences (40%); its ready to cook and eats (7.30%).

The Baseline study on Market System development of safe poultry and poultry products in Bangladesh highlights several challenges in the poultry industry, such as limited access to veterinary services, inadequate biosecurity measures, and low awareness among farmers and consumers about safe poultry production and consumption. Additionally, the study identifies opportunities for market system development, including the potential for increasing demand for safe poultry products and the importance of strengthening the role of private sector actors in improving poultry production and marketing. Overall, the Baseline study on Market System development of safe poultry and poultry products in Bangladesh provides valuable insights into the challenges and opportunities facing the poultry industry in Bangladesh. By implementing the above recommendations, stakeholders can work together to improve the safety and sustainability of the poultry value chain, ultimately benefiting both farmers and consumers.



The most significant and developed area of Bangladesh's livestock industry is poultry, attracting local entrepreneurs and international investors. The demand for poultry products in Bangladesh has risen considerably over time; in 2020, per capita consumption is expected to reach 7 kg of poultry meat and 5.1 kg (104 pieces) of eggs<sup>1</sup>. But the Bangladeshi poultry industry's productivity must rise considerably to keep up with the rising domestic demand. The primary poultry products produced in Bangladesh are chicken, duck, quail, pigeons, and turkey. There are additionally four different varieties of chickens: broiler, layer, Sonali, and local. Light-Castle estimates that broiler breeds comprise more than 58.39 percent of all poultry in Bangladesh. Bangladesh presently has over 53,000 broiler farms. 28% of the poultry in the nation are Sonali chickens.

Additionally, more than 8.23% of all chickens are laying hens. This breed of chicken is raised mainly for its ability to lay eggs. In Bangladesh, there are approximately 18,000-layer farms. Around 1.25 trillion of the 1.5 trillion eggs produced by laying hens, or 80.65% of all the eggs sold economically in the nation, are produced. Sonali hens laid the last three billion eggs. These laying hen businesses sell their eggs to various dealers, who sell them at conventional markets, wholesalers, and online wholesalers<sup>2</sup>. Despite their rapid expansion, the poultry industry faces numerous challenges, including a lack of an effective marketing system, technical expertise, adequate laboratory testing facilities, poor quality control procedures, limited access to credit facilities, fierce foreign competition, and high import taxes on poultry seed. Smaller stakeholders' access to working capital is also a significant barrier to Bangladesh's poultry industries' growth.

The chicken industry is currently facing challenges, like some other sectors. The industry is continually exposed to rising raw material prices, various diseases, governmental policies, farmers' ignorance, a lack of scientific methodology, and aggressive, bordering nations. If it is feasible to identify the fundamental issues that the poultry industry is currently dealing with and that make the sector the most vulnerable<sup>3</sup>. According to research conducted in the Dhaka and Chittagong districts<sup>4</sup>, there were eight different categories of stakeholders who were directly involved in this business, including 10 broiler and 10-layer farmers, 10 chain restaurants, 20 fast food outlets, 15 Chinese restaurants, 20 conventional hotels, 15 wet market buyers, 20 consumers, and 3 industries that processed poultry products. It was discovered that in order to achieve a margin of profit, average value addition for farmers cases 13% and 16.5% for meat/kg and eggs/no, respectively; whole seller/Aratdar added extra value of 5.09% and 0.28%; for retailer 7% and 8% level; for the whole seller to consumer's added extra value close to 7% and 5.5%; and for meat and egg finally processed poultry meat 30% and further processed meat 125% respectively. Before marketing to one stakeholder or another, all production cost factors, and other management activity costs were considered during the value-addition evaluation process for each and every stakeholder. Poultry meat and eggs can be obtained under various numbers and names as value-added items. For hotels and Chinese restaurants, the average is

<sup>1</sup> Hub, O. H. P. (2022). Poultry in Bangladesh. Retrieved 1 april from <https://www.onehealthpoultry.org/where-we-work/bangladesh/poultry-in-bangladesh/>

<sup>2</sup> Karmoker, Y. (2022). Self Sufficiency in Protein: Poultry Industry in Bangladesh. Retrieved 1 april from <https://businessinspection.com.bd/poultry-industry-in-bangladesh/>

<sup>3</sup> Raha, S. (2000). Poultry industry in Bangladesh: present status and future potential. Mymensingh: Agricultural university of Mymensingh.

<sup>4</sup> Khatun, R., Ahmed, S., Hasan, M. A., Islam, M. S., Uddin, A., & Mahmud, M. S. (2016). Value chain analysis of processed poultry products (egg and meat) in some selected areas of Bangladesh. *Am J Rural Dev*, 4(3), 65-70.

5–6 types of meat and 3–4 types of eggs. For the instances of fast-food restaurants, 17–18 no meat products and 8–9 no eggs. 28–30 meat items and 6–8 egg items; for a franchise supermarket, 40–45 meat items and 7–8 egg items. Particularly for meat cases, the overall value added was found to be higher in hotels. Production costs for open markets were only 6.5%, whereas estimates for structured or processed markets tend to be 40.5% due to the management of human resources, transportation, and marketing expenses. The "COAST Foundation" aimed to carry out the "Market System Development of Safe Poultry and Poultry Products" project in the Cox's Bazar Sadar and Ramu Upazilas of the Cox's Bazar district, which is jointly funded by the Palli Karma-Sahayak Foundation (PKSF) and the International Fund for Agricultural Development (IFAD).

The initiative is work to boost marginal and small farmers' incomes, guarantee food security, and enhance family nutrition for poultry-related backward and forward market entrepreneurs. Additionally, the sub-project is focus on value addition at different levels, the growth of financial services for business development, and the bolstering of the institutional framework for the development of safe meat, eggs, and meat products along the value chain. With the help of effective production techniques and strong market connections with marginal and small farms, efforts is be made to scale up and expand businesses.

### **Local Context**

In Cox's Bazaar district, the poultry business is one of the most prosperous. There were 583 poultry farmers in Cox's Bazar as of 2011, according to District Statistics; the majority of these farmers rely primarily on broiler farming for their livelihood. The flock size of the greater number of farms is between 501 and 1000, and on average, farmers raise 5.57 cycles per year.

### **1. Project Overview**

The "COAST Foundation" is implement the project titled "Market System Development of Safe Poultry and Poultry Products," which is co-financed by the Palli Karma-Sahayak Foundation (PKSF) and the International Fund for Agricultural Development (IFAD) in Cox's Bazar Sadar and Ramu Upazilas of the Cox's Bazar district.

The initiative boosts the income, food security, and family nutrition of marginal and small farmers and poultry-related backward and forward market entrepreneurs. The sub-project is also work on value addition at various levels, expanding financial services for business development, and strengthening the institutional framework for developing safe eggs, meat, and value-chain meat products. Efforts is be made to scale up and expand businesses by utilizing efficient production methods and establishing strong market links for marginal and small farmers. If the sub-project is completed,

When implemented, the income of 70% of entrepreneurs is increase by at least 50%, and 30% of project members is be able to supplement their normal diet with nutritious foods. While working on the sub-project, the value chain study of the sub-sector was carried out.

The study discovered several constraints to the development of the livestock sub-sector, including insufficient supply of purebred chicks and quality, feeds, conventional farming management, poor farm biosecurity, a lack of quality livestock services, untrustworthy poultry & egg production, poor processing facilities, a lack of ICT & financial services, improper use of farm waste, and poor market linkages for safe egg and meat production, among other things. Furthermore, selling locally produced animal goods at competitive rates is impossible. The sub-project involves 9.5/19 thousand farmers and 0.5/1 thousand service suppliers in strengthening backward and forward markets. Working to solve the issues stated in the project area is increase sales of safe eggs, meat, and meat products by at least 30% and net profit by at least 20% of the entrepreneurs.

## 2. Objectives of the Study

---

The baseline research provided social, economic, and environmental data at the outset of the project. The research serves as a supplement to the quantitative and qualitative data that is also recommended when launching a new project. This should help identify any key issues and provide some insight into the community's perspectives on the poultry value chains. The baseline results indicate how the project should be conducted and establish project priorities, as well as give information that is to be used to track project success or failure. The study must produce data that is to be utilized to direct and steer project implementation, as well as to assess the current state of project indicators and participants' knowledge and attitudes. The main purpose of this baseline study are as follows:

- ✓ Prepare a value chain existing map and make a profile of the Poultry value chain in the respective district.
- ✓ Conduct an end-to-end assessment of input, service, value chain products, and different buyers (formal and informal) and provide a detailed analysis of the value chain and provide recommendations on how the selected target group can be engaged in the value chain in different roles (supplier of input, producer, processor, transporter, trader, and so on).
- ✓ Assess the selected market system supporting environment (services, policies, and rules regulations, infrastructure), and supporting functions and point out the market constraints.
- ✓ Assess the ongoing business of the different market actors, their present situation, role, and finally, figure out the areas of intervention in the value chain for the actors including youth, persons with disabilities, and older men and women.
- ✓ Describe skill-training needs related to potential roles in the value chain.

### I. Study Location and Target Groups

The baseline study was conducted in two upazila of Cox's-Bazar Sadar and Ramu under Cox's-Bazar district, among 370 respondents (Figure 1)

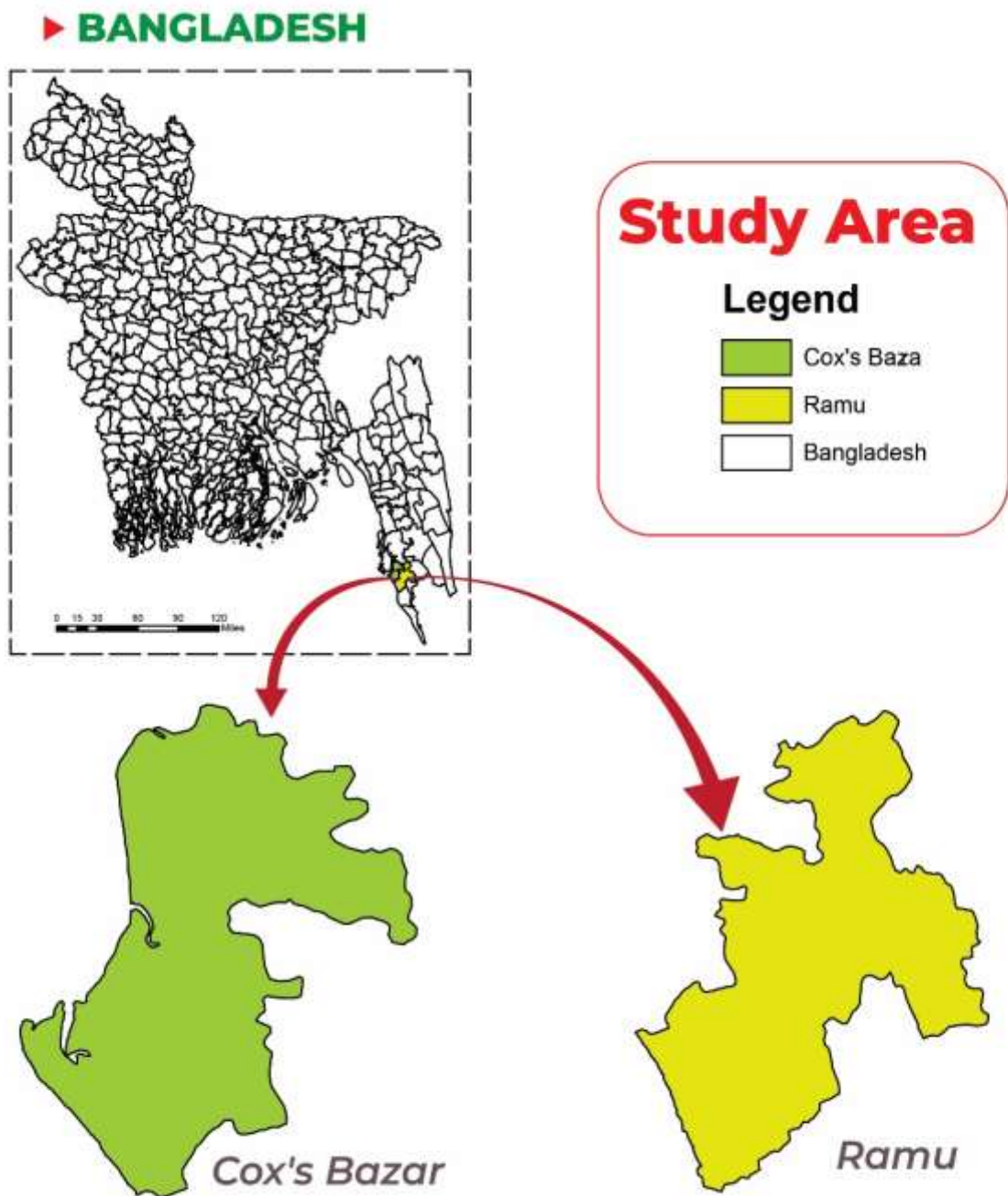
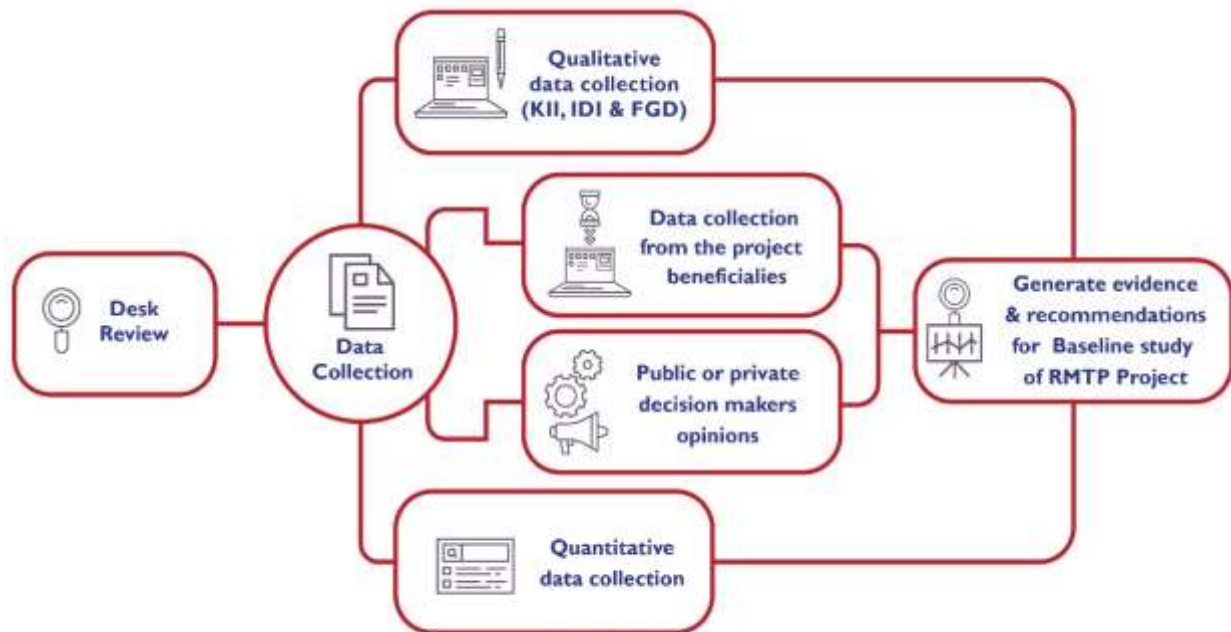


Fig 1: Map of the baseline study area

## 2. Methodology

The team collected qualitative and quantitative data from both primary and secondary sources. As part of the baseline study, primary information was collected from project participants and has been compared in this report with the baseline information to assess the changes that can be attributed to the project.



**Fig 2:** Technical approach of the baseline Survey

### *Focus Group Discussions (FGDs):*

The survey team conducted FGDs from each of the chosen beneficiaries in the selected Cox's-Bazar and Ramu Upazila for this study. To gather more detailed information, a pre-designed and authorized FGD guideline was used.

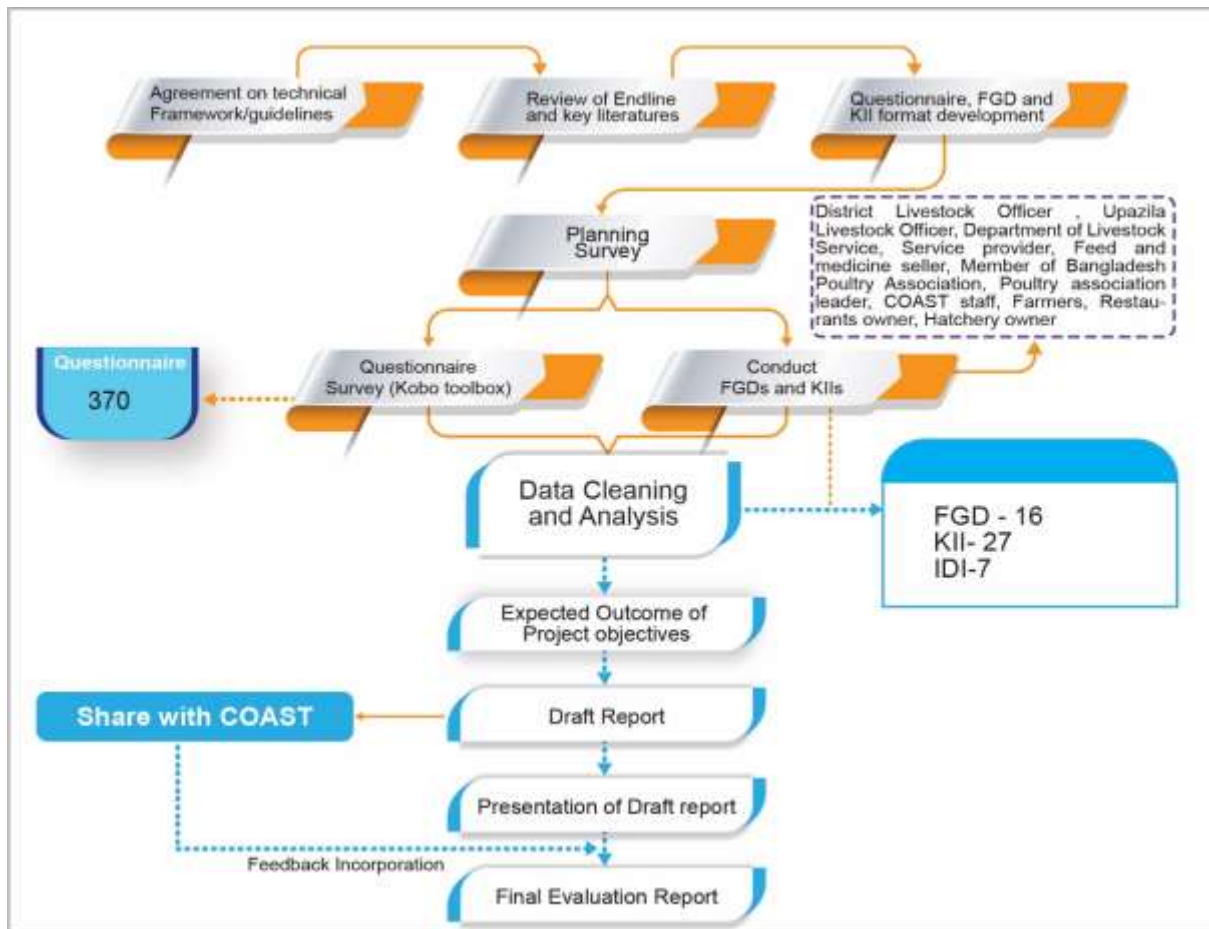
### *Key Informants Interview (KIIs):*

KIIs have been done with people who have in-depth knowledge of the relevant issues and are offering the services in order to obtain more direct and sensitive information. Each chosen stakeholder has participated in at least a few KIIs for the impact research. The staff Upazila were regarded as Key Persons in this regard.

### *In-depth interview (IDIs):*

The evaluation is employing a mixed approach combining both qualitative and quantitative methods for data collection and analysis. In quantitative data is collected from both primary and secondary sources. The cross-sectional (retrospective in nature) method is considered for this study. The team is collected data from beneficiaries in the project area. Data is collected in face-to-face interviews from related farmer and businessman.





**Fig 3: Methodological Approach and data collection**

### Sample design and sample size

To select a statistically significant sample size that represents the 9000 population (within the confines as specified) has been determined with the following equation. For selecting sample size 95% confidence level and 5% Margin of Error was considered. The sample size for this study was calculated by using the following formula:

$$\text{Sample size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left( \frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

Where,

N = population size, e = Margin of error (percentage in decimal form), z = z-score (1.96 for 95% confidence level)

By using the above formula total 370 sample was selected for the Base line study.

**Table 1: Data collection tools and respondent number**

Respondents/ Stakeholders	Data Collection Tool (s)	Sample size
Individual Interview	Questionnaire	370
District Livestock Officer	KII Checklist	01
Upazila Livestock Officer	KII Checklist	02
Department of Livestock Service	IDI Checklist	01
Service provider	FGD Checklist	12
Feed and medicine seller	KII Checklist	12
Member of Bangladesh Poultry Association	IDI Checklist	02
Poultry association leader	IDI Checklist	02
COAST staff	IDI Checklist	02
Farmers	FGD Checklist	04
Restaurants owner	KII Checklist	06
Hatchery owner	KII Checklist	06

**Data collection and quality assurance**



**Fig.4. Data Collection and Quality Assurance**

We ensured the selection/recruitment, quality and training of data collectors. This includes developing training materials/tools for the data collectors to engage in-field assessment. The team also ensuring the quality checking of the data collection process during field assessment (Figure:4). The team cross-checked at least 10% of respondents under both qualitative and quantitative surveys.

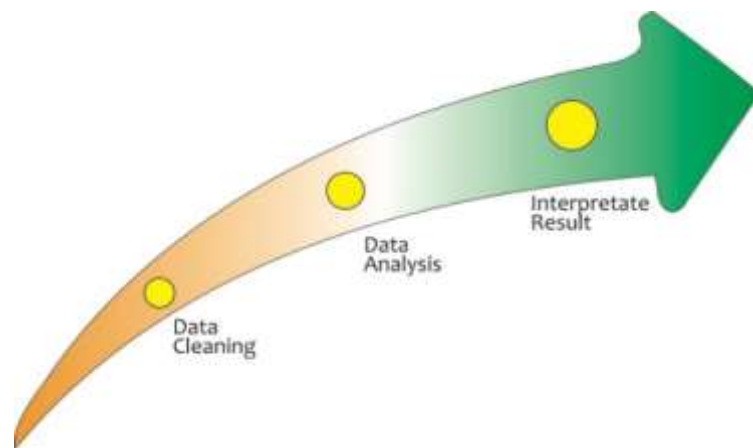
In terms of data collection strategy, the survey and interview are be carried out through a face-to-face interview process for capturing the response, followed by the COVID- 19 WHO guideline.

#### **This study is ensuring quality data at all levels through the following measures:**

- Organize training and orientation sessions for data collectors on principles and methods of data collection, including the best possible quality data collection and measures to minimize non sampling errors.
- Spot-check the field works of Data Collectors and recall if needed and Check that all filled questionnaires (100%) by the respective experts.
- In-built mechanisms in the checklist/schedules to cross-check the 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 Team leader, Study Co-Ordinator and solution to bottlenecks, as and when arise.

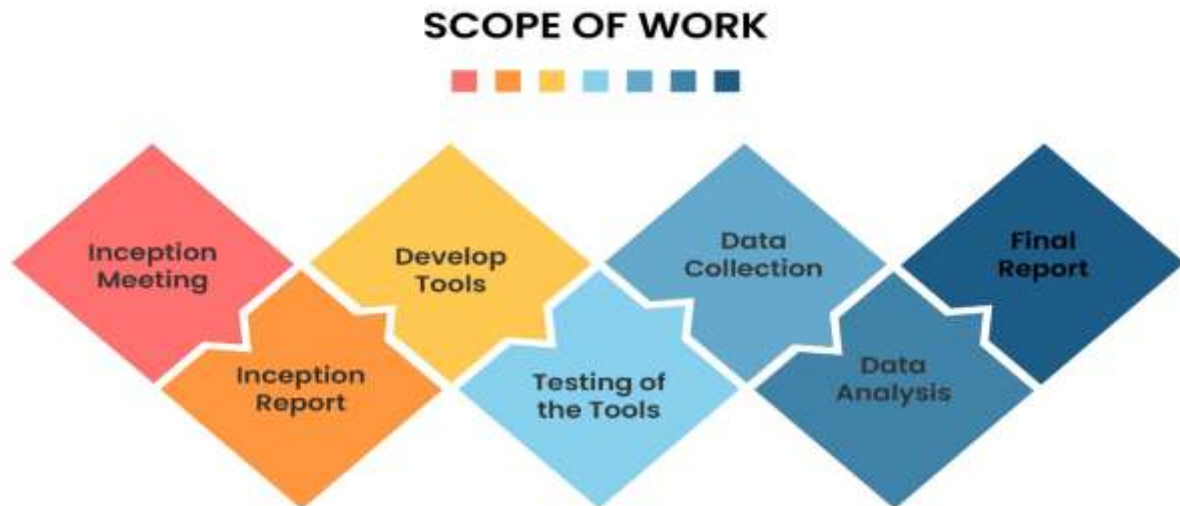
#### **Analysis Plan**

On completing survey data collection, data is automatically synced and aggregated to the server. Data analysts is retrieving the data from the server and convert it in SPSS or Excel format (as per client preference). During Survey, FGD, and KII data collection, the data is documented in expanded field notes and then analyzed by identifying codes to be written in a coding framework that is developed and refined during the analysis process. The objective based results are presented in the final report.



**Fig. 05.** Data visualization process

## Scope of Work



**Fig. 06. Scope of Work**

**Inception meeting:** Meeting with Coast Foundation and RMTP Project of PKSF management to get a clear idea about the project's agreed deadline for key milestones.

**Inception Report:** Shared report with Coast Foundation Bangladesh includes key highlights about the understanding of the program, evaluation design methodology, objectives, methods, sampling methodology and sampling plan, data collection plan, analysis plan, detail work, staffing plan, risk management, and budget.

**Develop tools and field testing:** Questionnaire, FGD, IDI, and KII tools were developed and tested before data collection.

**Recruitment & training:** Supervisor and Data Enumerator recruitment was a proposed process; the Research assistant and associate team conducted a joint study with the senior team. FGDs were conducted with the proposed FGD participants, KII and IDI were performed with the proposed participants as usual.

**Data Collection and Analysis:** Data were collected through questionnaire survey, FGD, IDI, and KII. The team collected the data and conducted the analysis.

**Final report:** The draft report was produced through qualitative and quantitative data. Finally, the final report was made and shared with Coast Foundation.

## 04 Findings and Discussion

### 4.1. Beneficiary Identification

The target group of the projects are of marginal and small farmers and poultry related backward and forward market entrepreneurs from two Upazilas in Cox's Bazar district. About 370 HH were surveyed, information was collected from the main members of the HH. In some cases, the interviewee avoided some questions.

#### 4.1.1. Main profession of the beneficiaries

It appears from the survey that; in both Upazilas engagement as Poultry farmer is more compared to other profession. It indicates that, most of the HH families are marginal landowners or, poultry Entrepreneurs. Around 60% HH were involved with Poultry farming, engagement in Agriculture, Business and Salt production is visible but there are few HH depending on livestock, fishing and aquaculture production.

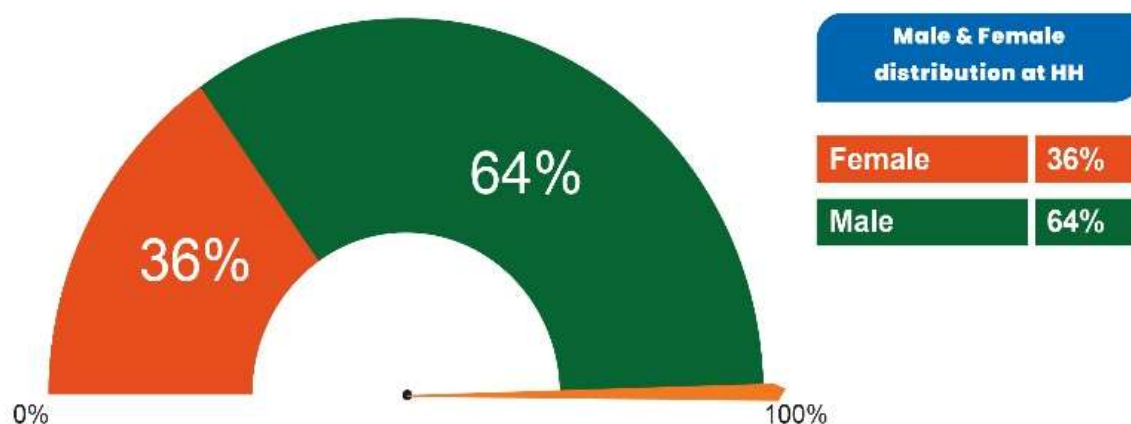
However, there is secondary and part-time earning engagement, which was not considered in the study. Its qualitative survey gives the impression that HH members are engaged in more than one profession i.e., income for HH is generating from different activities.

**Table 2: Sector wise main profession of the beneficiaries**

Professions	Frequency	Percentage
Poultry	224	60.5
Agriculture	46	12.4
Livestock	4	1.1
Aquaculture	2	0.5
Business	19	5.1
Fishing	4	1.1
Salt production	15	4.1
Others	56	15.1
Total	370	100

#### 4.1.2. Gender

A total of 370 households, comprising 236 males (64%) and 133 females (36%) were interviewed from Ramu and Cox's Bazar sadar Upazila of Cox's Bazar district. The distribution of the respondents interviewed during the survey per Upazila is presented in Fig: 7.



**Fig. 07: Gender distribution of HH members**



### 4.1.3. Age

The working age group (26-35) is domination in both areas. Figure: 08 shows that most of the sample household heads belong to four age groups: 15-25, 26-35, 36-45, 46-55 and above 55. Only about 10.8% of household heads are below 30 years age and about 5.4% are 55+ years old. This is true for both male and female household heads. The proposed project can engage them in different projects activities for livelihood improvement of the HH. Particularly women's engagement may be emphasized.

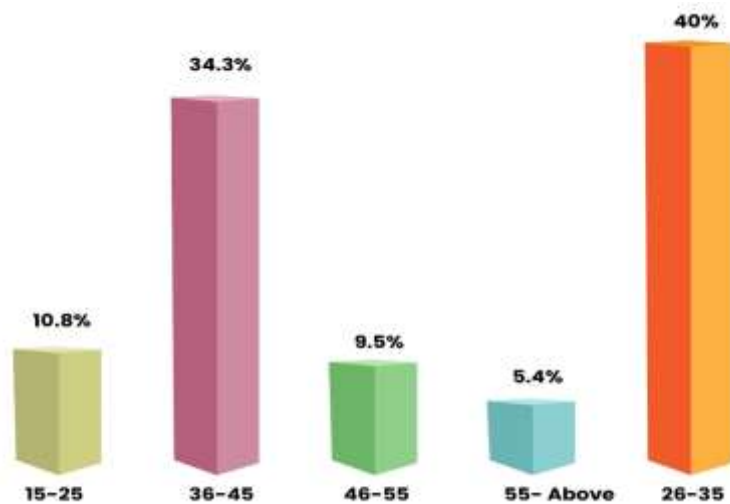


Fig. 08: Age distribution of HH members

### 4.1.4. Religion

Figure 09 shows that 97% of the household heads are Muslim and the remaining 1% Hindu and 2% Buddhist by faith. The sample has good representation of both Muslim and Hindu and indigenous Communities.



Fig. 09: Religion distribution at HH

### 4.1.5. Literacy

The education level of the targeted group is Average. Targeted group beneficiaries may be educated through non-institutional training as proposed in project activities i.e., Establishment of Farmers Farm School by the community initiative. Most of them (28%) were primary level and secondary level. Only 40% Can sign only. Only 3% at university level.

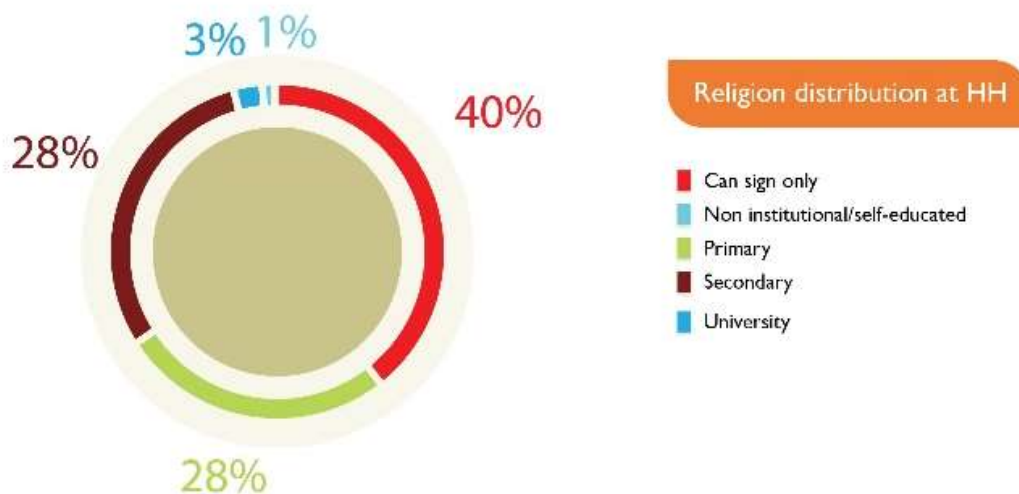


Fig. 10: Literacy status at HH leader

## 4.2. Family profile

### 4.2.1. Number of Family Members

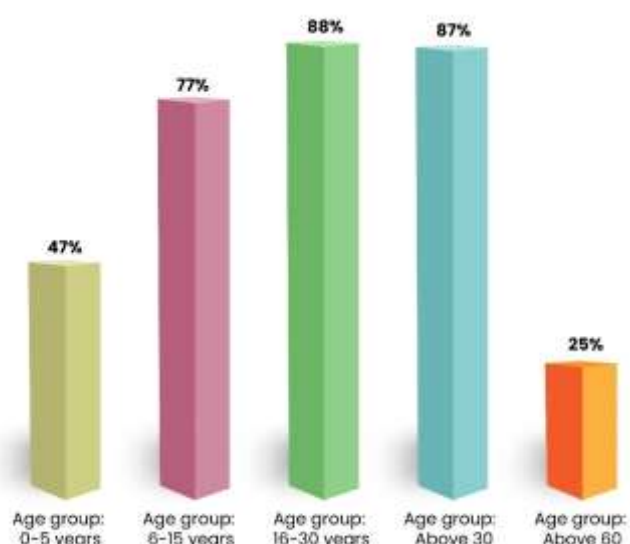
Family size is an important socioeconomic indicator as it affects the income, food consumption and socio-economic wellbeing of the households. Average number of family member is around 5.78, where average number of female member (2.82) is comparatively lower than the average number of male family member (2.94), which indicate giving emphasis to women employment and participation in livelihood improvement for HH along with man. The total 370 sample households indicating an average household size of 5.78 which is far above national average of 4.4. Female were 2.82 per HH and male were 2.94.

**Table 3: Family members at HH**

Family Members	Total
Average Number of Family member	5.78
Average Number of Male Family member	2.94
Average Number of Female Family member	2.82
Average Number of Transgender Family member	0.02

### 4.2.2. Distribution of age group

It seems from the information collected from Cox's Bazar Sadar and Ramu Upazila that, 16-30 years group members are higher in percentage 88%; above 30 years age group members are 87% and on the other hand, 60 and above age group members remain in the lowest percentage where it denotes 25% age group at HH members. So, 16-30 and above 30 years group members are more beneficiary than other age group, in projects interventions this group may be targeted as income gene



**Fig. 1 I: Age Distribution of HH Members**

## 4.3. Family income and Expenditure

### 4.3.1. Earning family members

It appears from the survey that in most of the HH, male member is earning average of 1.46 and female members earning HH is only 0.1. However, from the age distribution table it appears that only male HH member have ability to work (may be in own employment or other HH income generating activities).

**Table 4: Contribution of HH members to family income**

Total number of earning person	Total
Earning family member	1.68
Earning family member: - Male	1.46
Earning family member: - Female	0.10

### 4.3.2. Annual family income

Around 77.3% of households have below Tk. 300,000 annual family income, whereas 17.6% have Tk 300,000 to 500,000 annual average income; 3.5% have Tk 500,000 to 10,00000 annual average income and 1.6% have Tk 1000,000 to 1500,000 annual average income. On the other hand, Bangladesh's gross national income (GNI) per capita is Tk. 271,165/Anum, it indicated around 78% of the beneficiary have average income compared to national. Project intervention may partly improve the family income status.

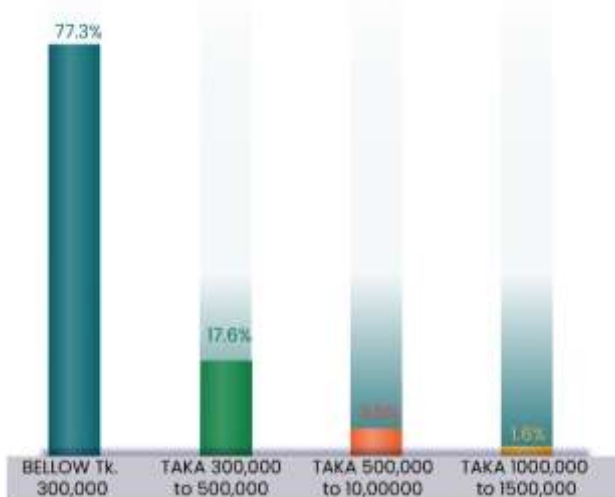


Fig. 12: Annual Family Income

### 4.3.3. Annual Family Income Profession Wise

In average annual HH's family income is BDT 324678. From poultry HH's Income is BDT 200760; Salt production is BDT 151000; The HH's income from business is 124,667, whereas repeatedly Annual income from agriculture, livestock, aquaculture, fishing is BDT 88905, BDT 64155, BDT 45000, BDT 87429. It indicates that in both Upazilas the main source of income majority is Poultry and Salt production.

Table 5: Annual HH income profession wise

Profession wise Annual Family income	Taka (BDT)
Poultry	200,760
Agriculture	88,905
Livestock	64,155
Aquaculture	45,000
Business	124,667
Fishing	87,429
Salt production	151,000

### 4.3.4. Annual Family Expenditure

Figure 13 indicates the living standard is poor and very hardly savings for future. The study data reveals farm and non-farm income and food and non-food expense of the respected households of the sub district. In this study respondent mostly expenditure for food. Housing rent cost was lowest among all these categories.

It seems from the information collected from Ramu and Cox's Bazar Sadar Upazilas that, yearly total family expenditure for livings of HH is average BDT 171487.



Fig. 13: Annual Family Expenditure Of HH

Where yearly food expenditure is about BDT 134703. Total BDT 19195 expenditure is generated from yearly medicine and treatment expenditure; and total 21368 expenditure for education which is the 2nd major yearly expenditure. Yearly social expenditure is 4704 and other expenditure is 3511 which are counted as the lowest expenditure. Annual family expenditure bar chart denotes that, food expenditure is the highest.

#### 4.4. Property and assets

##### 4.4.1 Property

The household survey data reveals that 87% households of the study areas have their own land and the rest (13%) have no land. This table summarizes that most of the people of Ramu and Cox's Bazar sadar live within their own house.



Fig. 14: Status of property own by the HH

##### 4.4.2. Category of Residence

House act as the indicator of social status of a people. For justify social status of people of the study area, attempts were considered to find out the condition of living house of the people of study area. The majority of respondent (37.6%) had tinshed house followed by pucca building 29.7%, semi pucca 13%, thrashed house (1.9%), earth house (17.6%) and others (0.3%).

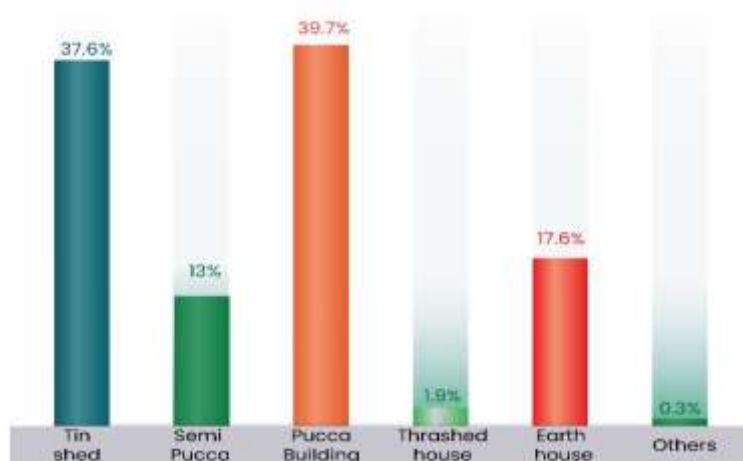


Fig. 15. HH's Status of housing and its category

##### 4.4.3. Livestock and Poultry

Livestock are the domesticated animals raised in an agricultural setting to provide labor and produced diversified products for consumption. Table shows that, this study found chicken contains most in numbers about average of 532.75 numbers. Duck secured 2<sup>nd</sup> about average of 1.8 in numbers. Buffalo is the least raised livestock. Many HH's said that the price for rearing the Buffalo is increasing day by day and space consuming, so, they attracted to Poultry rearing.

Table 6: Cattle Status of The HH Level

Types of Livestock	Average
<b>Cattle (Total number)</b>	<b>0.96</b>
Cattle (Cow number)	0.62
Cattle (Bull number)	0.16
Cattle (Bullock number)	0.02
Cattle (Calf number)	0.08
Buffalo (Male number)	0.02
Buffalo (Female number)	0.02
Pig (Female number)	0.02
Goat (number)	0.56
Ram/sheep (number)	0.15
Chicken (number)	532.75
Duck (number)	1.12

#### 4.4.4. Plant diversity

The household survey data reveals that the average number of fruit tree, wood tree and medicinal plant has decreased in the study areas while wood tree has increased. The number of fruit tree per HH was 5, wood tree was 9, and medicinal average tree was 0.17 spice were 0.05 and rest were others 2.58.

**Table 7: Average status of tree/ plant of HH**

Trees	Average
<b>Fruit (number)</b>	5
Wood (number)	9
Herbal (number)	0.17
Spice (number)	0.05
Other (number)	2.58

#### 4.4.5. Transport facility

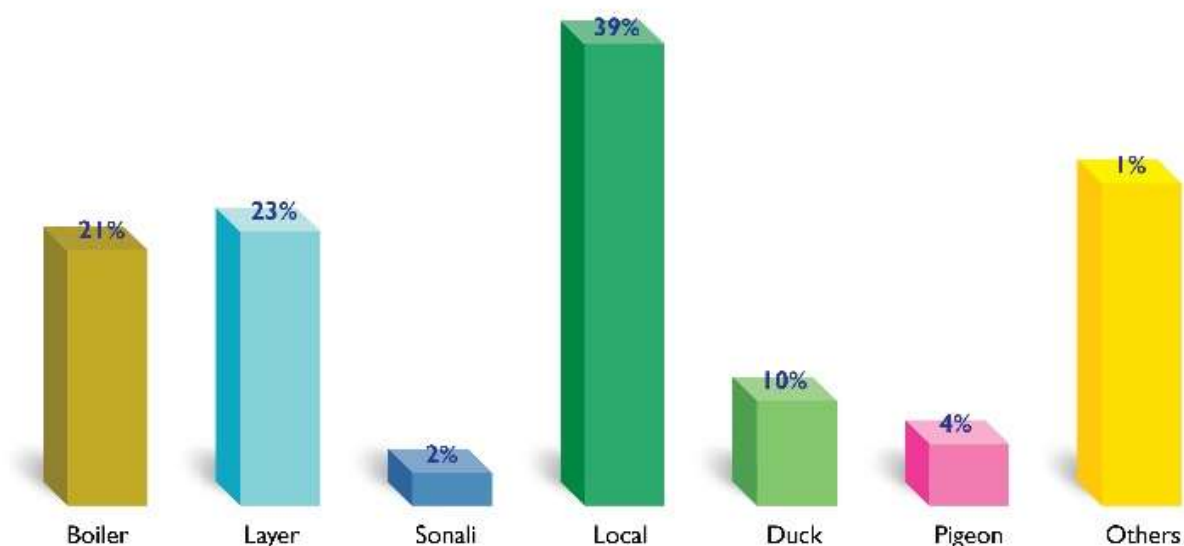
The basic transportation medium at the study area was Bicycle (0.15) and motorbikes (0.09). Auto (0.07) was providing passenger service, but number is low in the Table as very few sample households own these. The HH farmers and micro-entrepreneurs mostly used their own transport facility.

**Table 8: Average status of HH's transport**

Transport type	Average
<b>Bicycle</b>	0.15
Tricycle	0.02
Boat	0.03
Motor Bike	0.09
Auto	0.07
Other	0

#### 4.5. Present Status Poultry Rearing and Farming (small farmers and micro-entrepreneurs)

In both Upazila most of the HH's rear Local hen (39%) and Ducks (10%). Whereas some of them rears pigeon (4%). Mostly small farmers and micro-entrepreneurs do the poultry rearing. Mainly most of them rear layer which (23%), boiler (21%), followed by sonali only 2%. In indicate that in both Upazilas practice of rearing Local and layer Poultry is the most.



**Fig. 16: Status Poultry Rearing and Farming**



#### 4.6. HH's Poultry rearing status when started:

The HH members when they first started rearing the poultry about on average started with 1560 of boilers; 1547 of layers, 1410 of Sonali. At first most of them start with 14 number of local along with 2 ducks and 3 pigeons.

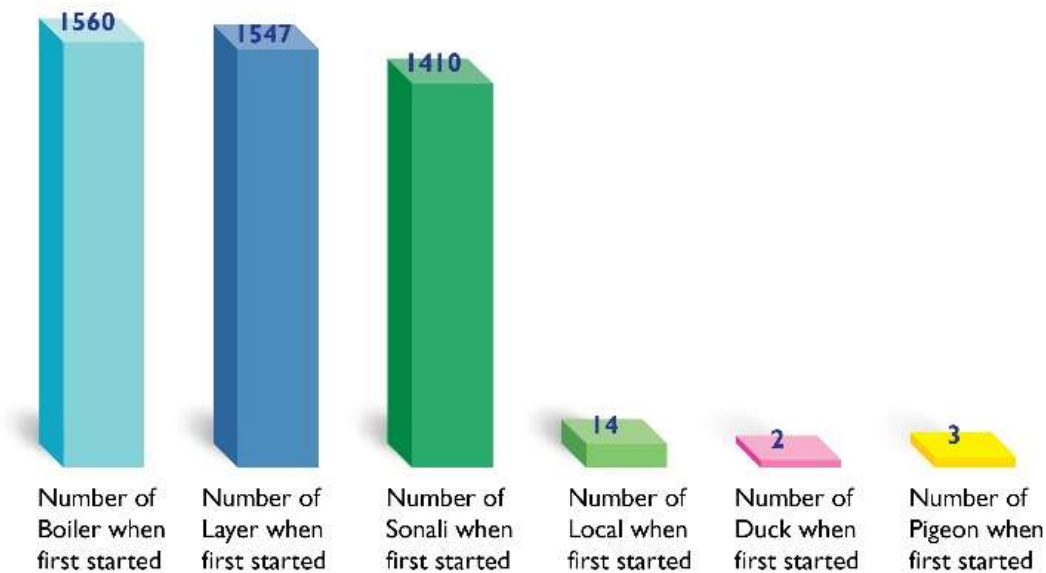


Fig. 17: HH's Poultry Rearing Status When Started

#### 4.7. HH's Poultry rearing current status:

The present scenario in both Upazilas HH poultry rearing is about of 2329 boiler; 2351 layer and 1691 sonali. House hold local rearing is 55, duck 6 and pigeon 14. It shows that though they start rearing poultry with a smaller number of birds they gradually increase the quantity of birds which indicate increase of demand.

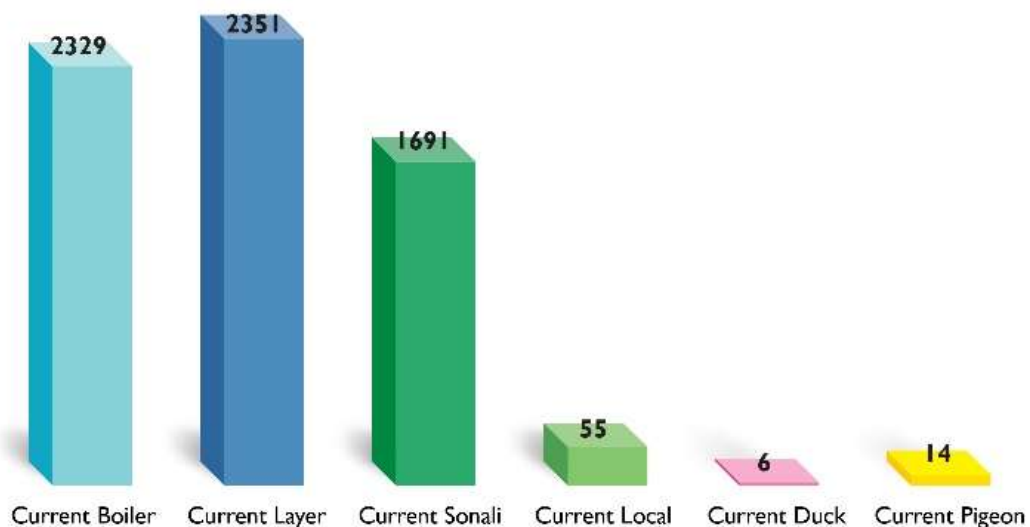


Fig. 18: HH's Poultry Rearing Current Status

#### 4.8. Continuing poultry rearing in future

In Ramu and Cox's Bazar Sadar Upazilas among the surveyed 370 HH farmers and micro-entrepreneurs, 73% said they are continuing to rear poultry in the future, and 27% said they are not continuing to rear poultry in the future. Among the 73% farmers, 21.70% said it is profitable; 21% said it is easy to rear in small areas; and 22.10% said because of market demands.

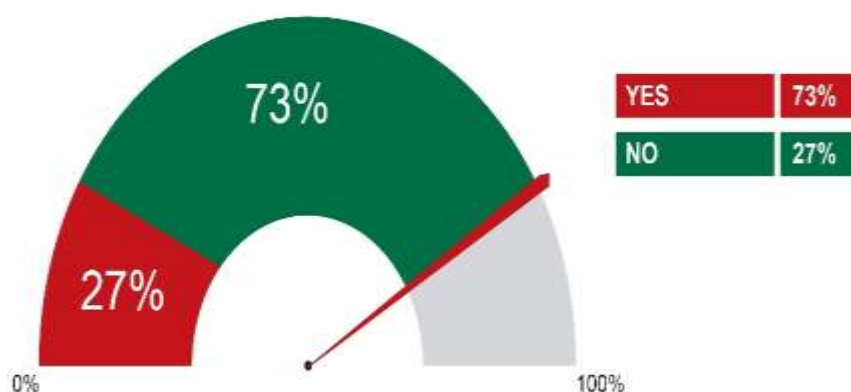


Fig. 19: HH's Poultry Rearing Future Status

Table 9: Reasons to continuing poultry rearing

Reasons	Percentage
Easy rearing in small area	21.00%
Profitable	21.70%
Grow in short time	17.00%
Less hassle	10.30%
Market demand	22.10%
Market demand	7.70%
Specify more	0.10%

Table 10: Reasons for Not Continue Poultry Rearing

Reasons	Percentage
Difficult rearing, land not available	52.70%
Not profitable	32.10%
Slow grow	1.80%
To much hassle	7.10%
Feed not readily available	5.40%
Specify more	0.90%

Among the 27% of HH farmers and micro-entrepreneurs, 52.50% said difficult to rear because of land availability; 32.10% of them said rearing the poultry are not profitable enough; 7.10% said it's too much hassle and 5.40% said feed not available (Table 10).

#### 4.9. Yearly Production:

In Ramu and Cox's Bazar Sadar Upazilas among the surveyed 370 HH farmers and micro-entrepreneurs, 36.2% of their production is one cycle; and 30.8% of their production is three cycles; 13.5% of their production is three cycles. And four cycles is relatively low about 5.9%; 13.5% of them did not answer about their production cycle (Fig. 20).



Fig. 20: HH's yearly poultry production

If we look on category wise on average 3405 kg of yearly boiler poultry production is estimated; sonali production is 208 kg; other birds 5 kg. and yearly eggs produce by layer poultry is on average 7083 (Table 11).

**Table 11: Category wise yearly production**

Category Wise Yearly Production	Average
<b>Yearly poultry boiler production</b>	3405
Yearly poultry Sonali production	208
Yearly poultry other birds production	05
Yearly poultry eggs production	7083

About 34.10% of HH farmers and micro-entrepreneurs think that rearing local is more profitable; then boiler is 27.60%; followed by layer 22.10% and the lowest is sonali 2.70% (Table 12).

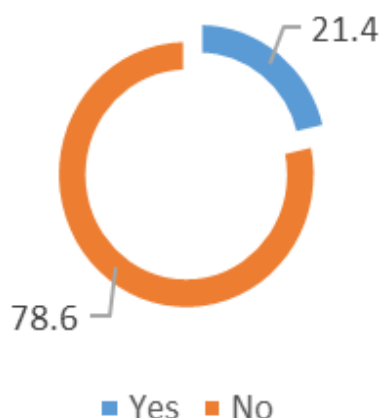
**Table 12: Category-Wise Profitable Poultry Production**

Category	Percentage
<b>Boiler</b>	27.60%
Layer	22.10%
Sonali	2.70%
Local	34.10%
Duck	9.70%
Pigeon	3.40%
Others	0.40%

#### 4.10. Good Practice in Poultry Rearing

In Ramu and Cox's bazar sadar Upazilas among the surveyed 370 the HH farmers and micro-entrepreneurs 78.6% of them are not knowledgeable about good practice in poultry rearing and 21.4% of them are knowledgeable about good practice in poultry rearing (figure 21).

Among the 21.4% of HH farmers and micro-entrepreneurs' litter and feed management is practiced by about 21.20%; water management 20.50%; Biosecurity is 15.20% and brooding management is 13.10% (Table 13).



**Fig. 21: Good Practices in Poultry Rearing**

**Table 13: Good Practices in Poultry Rearing**

Good Practice	Percentage
Biosecurity	15.20%
Downtime between flocks	2.70%
Pre-placement preparation	4.70%
Coccidiosis prevention	1.30%
Brooding management	13.10%
Litter management	21.20%
Water management	20.50%
Feed management	21.20%

#### 4.1.1. Poultry market chains

HH farmers and micro-entrepreneurs' collect boiler chicks Directly from hatchery 11.60%; Hatchery agents 28.30%; Open market 23.20%; Imported 0.70%; Hatching at home 8.80%; DLS farms 0.00%; Private nurseries 0.20%; NGO nurseries 1.40% and from another source 25.80%. HH farmers and micro-entrepreneurs' collect Layer chicks Directly from hatchery 12.00%; Hatchery agents 29.20%; Open market 23.10%; Imported 0.20%; Hatching at home 9.20%; DLS farms 0.50%; Private nurseries 0.20%; NGO nurseries 0.70%; Other source 24.80%. HH farmers and micro-entrepreneurs' collect Sonali chicks Directly from hatchery 7.80%; Hatchery agents 26.60%; Open market 23.10%; Imported 0.70%; Hatching at home 13.50%; DLS farms 0.20%; Private nurseries 0.20%; NGO nurseries 0% and from another source 21.10%. It indicates that In Ramu and Cox's bazar sadar Upazilas the main sources for poultry chicks are hatchery agents and the open market.

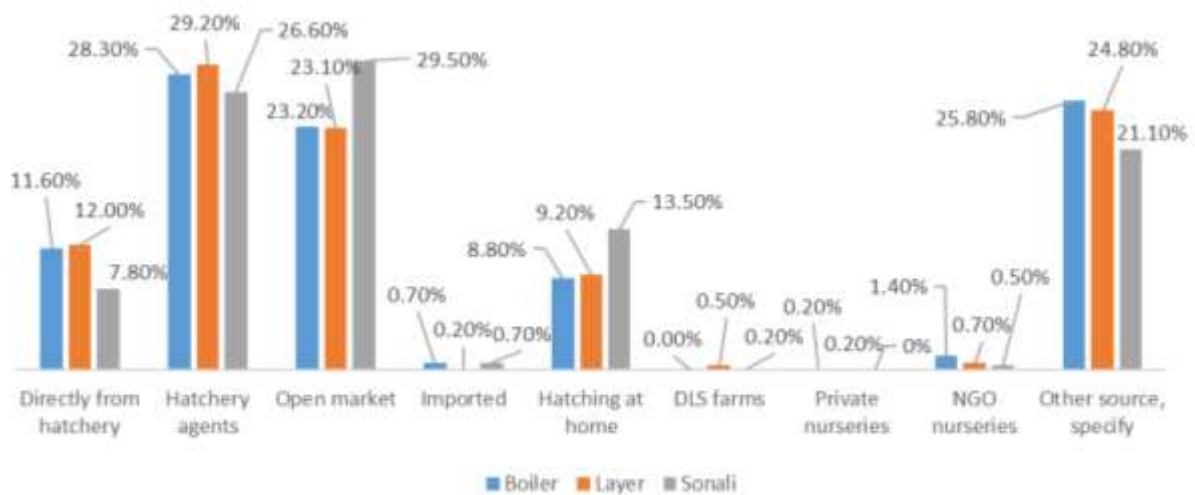


Fig. 22: Sourcing Poultry Market Chains

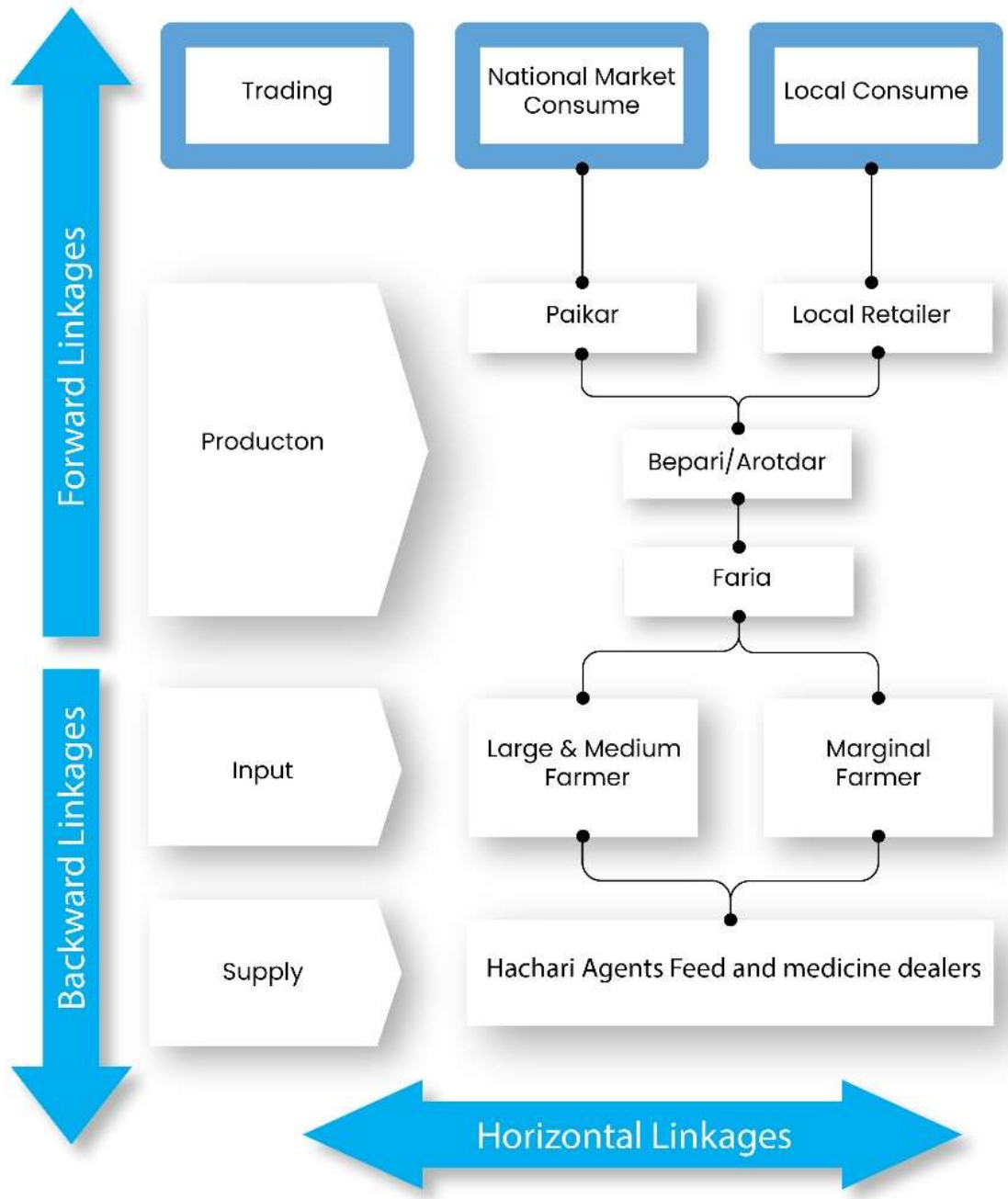
#### Poultry Value Chain Map

The poultry value chain map in Bangladesh illustrates the various stages and actors involved in the production, processing, and distribution of poultry products in the country.

At the primary production stage, there are small and large-scale poultry farms, which rear broiler and layer birds for meat and eggs, respectively. These farms are supported by input providers such as hatcheries, feed mills, and veterinary services.

The next stage in the value chain is processing, where the slaughtered birds are transformed into various products such as fresh and frozen meat, eggs, and value-added products such as sausages and nuggets. There are several processing units in Bangladesh, ranging from small-scale family businesses to large industrial units.

The third stage in the value chain is distribution and marketing, where the poultry products are transported from the processing units to markets and retailers. This stage includes various factors such as wholesalers, retailers, and traders.



**Fig:** Value Chain Map

The final stage in the poultry value chain is consumption, where the poultry products are consumed by households, restaurants, and other food service providers.



#### 4.12. Poultry Feed Sourcing

HH farmers and micro-entrepreneurs' collect poultry feed from Open market 33.40%; Dealers 36.70%; Vendors 8.20%; Home made with purchased 20.80%. we can understand from the (fig 23) In Ramu and cox's bazar sadar Upazilas the main sources for poultry feed are Dealers and open market sources.



Fig. 23: Poultry Feed Market Chains Sourcing

#### 4.13. Medicine and Feed Additive Source

HH farmers and micro-entrepreneurs' collect poultry medicine and feed additive from Local vendor 37.30%; Animal medicine shops 53.50%; Company agents 9.20%. it indicates that In Ramu and cox's bazar sadar Upazilas the main sources for poultry medicine and feed additive are Animal medicine shops and Local vendors.

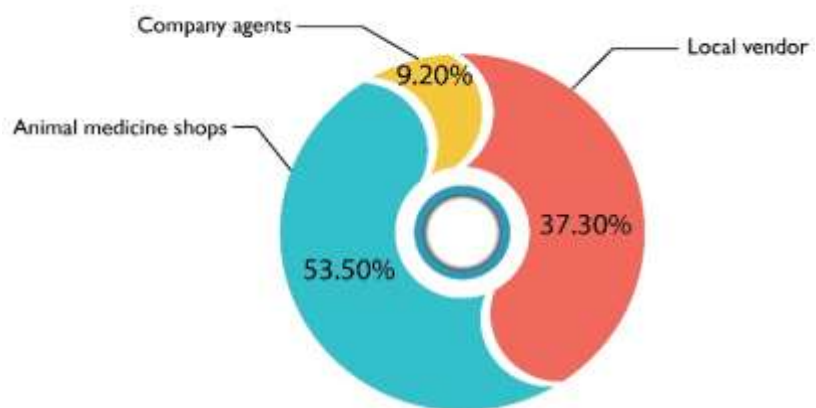


Fig. 24: Sourcing Poultry Medicine and Feed Additive Market Chains

#### 4.14. Vaccine Source

In Ramu and cox's bazar sadar Upazilas the main sources for poultry vaccine are Local vaccinators (63.90%); self-vaccinate (16.20%) and DLS vaccinators 13.50%.

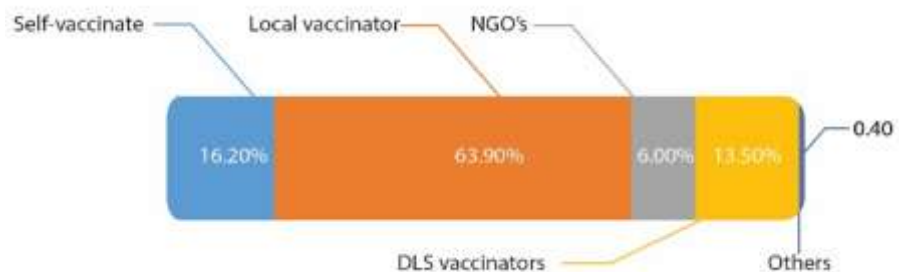
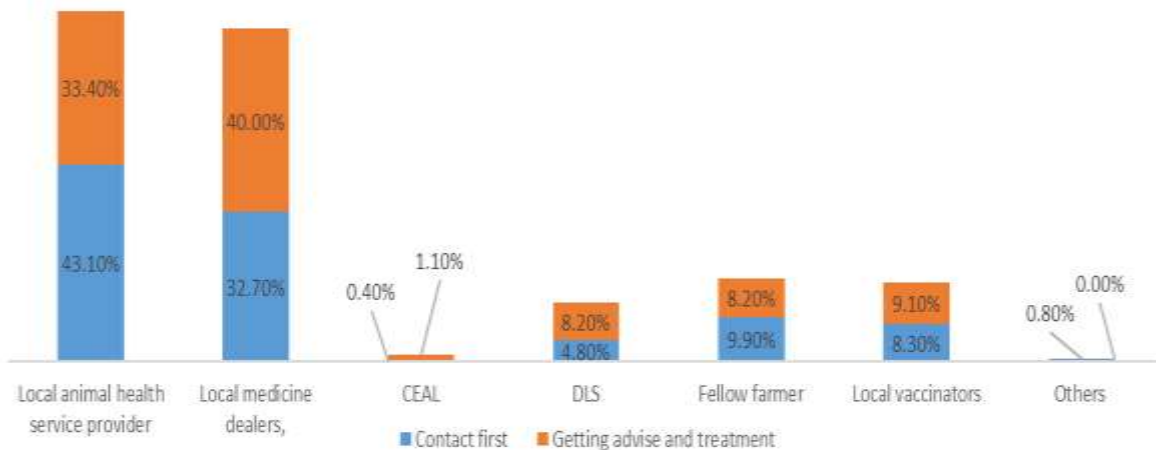


Fig. 25: Sourcing Vaccine Market Chains

#### 4.15. Treatment Source:

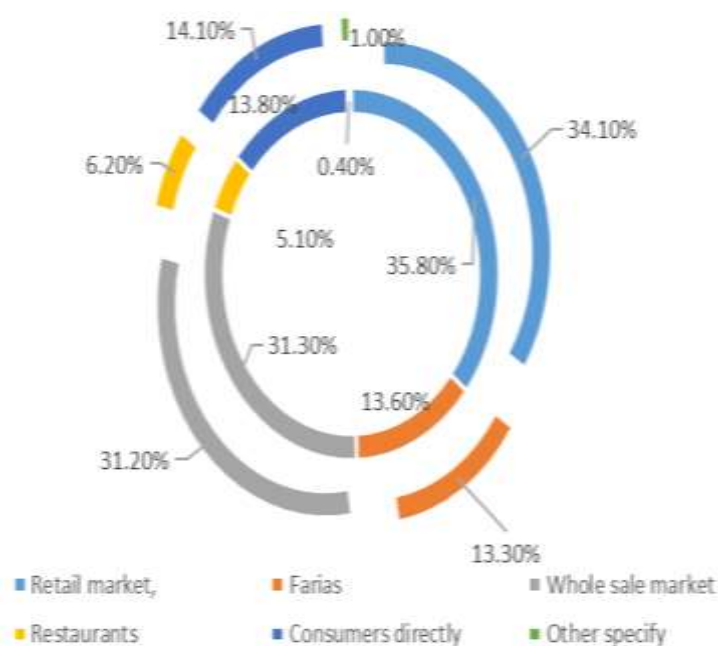
In Ramu and Cox's Bazar Sadar Upazilas HH farmers and micro-entrepreneurs' contact first when birds are affected by diseases to the local animal health service provider (43.10%) and getting treatment from local medicine dealers (40%). The role of vice versa is also observed in this case HH farmers and micro-entrepreneurs' contact first when birds are affected by diseases to the local medicine dealers (32.70%) and getting treatment from local animal health service provider (33.40%).



**Fig. 26:** Sourcing Treatment Market Chains

#### 4.16 Live Poultry and Eggs Market Chains

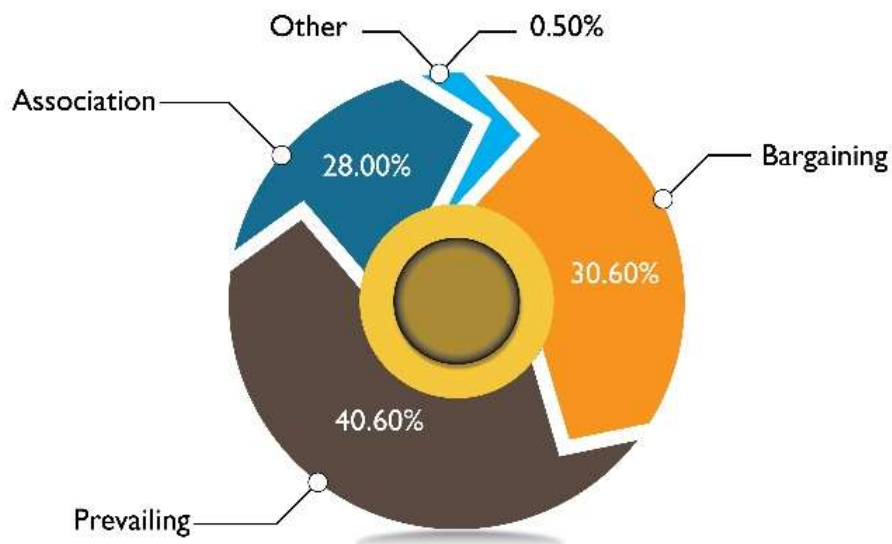
In Ramu and Cox's Bazar Sadar Upazilas HH farmers and micro-entrepreneurs' sell their live poultry (35.80%) and eggs (34.10%) to the retail market; and sell their live poultry (32.30%) and eggs (31.20%) to the whole sale market and rarely sell their live poultry (13.60%) and eggs (13.30%) by farias (Figure 27).



**Fig. 27:** Live poultry and eggs market chains sourcing for rearing

#### 4.17 Live poultry and eggs prices

In Ramu and Cox's Bazar Sadar Upazilas HH farmers and micro-entrepreneurs' get prices fixed by prevailing market 40.60%; by Bargaining 31.00%; and by Association for live poultry and eggs.



**Fig. 28:** Sourcing Live Poultry and Eggs Prices

#### 4.18 Egg Production and Sell

HH farmers and micro-entrepreneurs 44.20% produce and sell local layers eggs; 34% produce and sell HB layer eggs; 12.30% produce and sell local duck eggs. This indicates that the demand or uses of local layer for egg production is relatively high instead of HB layer.

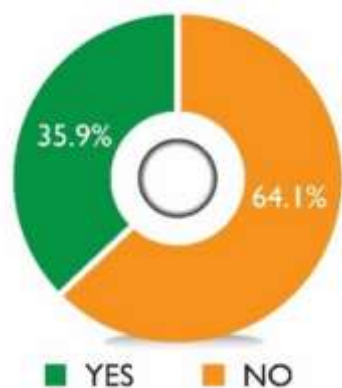
**Table I 4:** Egg Production and Sell

Egg production	Percentage
<b>HB layer</b>	34.00%
Local layer	44.20%
HB duck	1.90%
Local duck	12.30%
Koel	0.20%
Other specify	7.40%

## 4.19 Poultry value chains

### 4.19.1. Value Added Poultry Meat Sale:

About 35.9% HH farmers and micro-entrepreneurs sell value added poultry meats and 64.1% do not sell value added poultry meats. Among the 35.9% HH farmers and micro-entrepreneur's sales their products to the local markets (63.90%); restaurants (13.70%) and by faria 21.80% (Table: 15).



**Fig. 29:** Value Added Poultry Meat Sale

**Table.15:** Value-Added Poultry Meat's Different Selling Points

Selling Points	Percentage
Local market	62.90%
Restaurant	13.70%
Super shops	1.50%
Faria	21.80%

### 4.19.2. Other value-added products sale:

In Ramu and Cox's Bazar Sadar Upazilas HH farmers and micro-entrepreneurs' 98.6% does not produce any other value-added products and only 1.4% produced other value-added products (Fig: 30). Among 1.4% they produced 20% of frozen meats; Fried and roll about 30%; and sausages and nuggets are 10% (Table: 16).



**Fig. 30:** Perceptions of Micro-Entrepreneurs' value-added products

**Table. 16:** Types of Value-Added Products

Types of Value-Added Products	Percentage
Frozen meat	20.00%
Fried	30.00%
Nuggets	10.00%
Roll	30.00%
Sausage	10.00%

In Ramu and Cox's Bazar Sadar Upazilas HH farmers and micro-entrepreneurs' 85.4% does not think that demand of value-added products are increasing; on the other hand 14.6% thinks that demand is increasing (Table 17).

**Table 17:** Demand of Value-Added Products

Demand of value-added products	Percentage
Yes	14.6
No	85.4

Among the 14.6% Upazilas HH farmers and micro-entrepreneurs' said the reason for increasing demand because of its profitable (45.50%); Consumers preferences (40%); its ready to cook and eats (7.30%) (Table: 18).

**Table 18: Reasons of Increasing Demand**

Reasons	Percentage
Consumers preference	40.00%
Profitable	45.50%
Ready to cook	7.30%
Ready to eat	7.30%

#### 4.20. Managing poultry litters and wastes

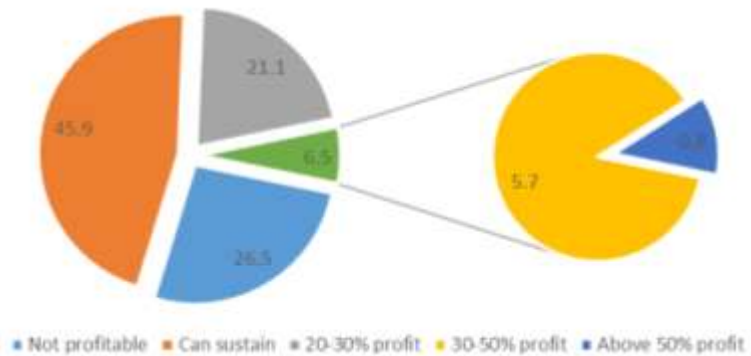
In Ramu and Cox's Bazar Upazilas HH farmers and micro-entrepreneurs' just throughout the litters and waste (92%); only 5% sell as manure; 2% used in bio gas plant and only 1% sell to the fish farms.

**Table 19: Managing poultry litters and wastes**

Details	Percentage
Just throughout	92%
Sell as manure	5%
Sell to fish farms	1%
Used in bio-gas plant	2%

#### 4.21. Profitability of Poultry farming and rearing

In Ramu and Cox's Bazar Upazilas among the surveyed 370 the HH farmers and micro-entrepreneurs said that they can barely sustain (45.9%); and not 26.5% said it's not profitable enough; 20-30% profit gains to 21.1% HH farmers and micro-entrepreneurs. and only 0.8% can profit up to 50%.



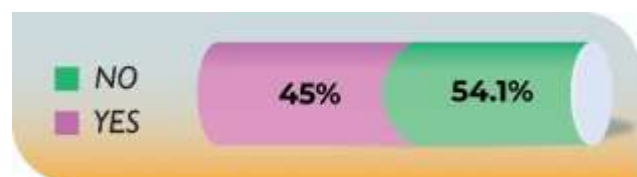
**Fig. 31: Profitability of Poultry farming and**

#### 4.22. Justified price for the products

In Ramu and Cox's Bazar Upazilas among the surveyed 370 the HH farmers and micro-entrepreneurs 54.1% said they do not get the justified price whereas 45.9% said they are getting justified products prices. 30.8% HH farmers and micro-entrepreneurs said market price is high, whereas 25.7% said market price is unpredictable. 22.2% said it is reasonable and 21.4% said market price is moderate.

**Table 19: Status of Market Prices**

Market price	Percentage
Reasonable	22.2
Moderate	21.4
High	30.8
Unpredictable	25.7



**Fig. 32: Price Justification**

### 4.23 Market system assessment and market constraints in Bangladesh

The selected market system, i.e., the poultry market in Bangladesh, is supported by various services, policies, and rules, as well as supporting functions such as infrastructure and financing.

#### **Services:**

- Veterinary services are available to help prevent and control disease outbreaks in poultry farms.
- There are training and extension services available to educate farmers on best practices in poultry farming.

#### **Policies and rules:**

- The government has implemented various policies and regulations to ensure the safety and quality of poultry products, such as the Livestock Act and the Poultry Development Policy.
- The Bangladesh Standards and Testing Institution sets standards for poultry products to ensure their safety and quality.

#### **Infrastructure:**

- Bangladesh has a relatively good transportation infrastructure, which facilitates the movement of poultry products from farms to markets.
- The country also has several hatcheries and feed mills, which provide inputs to poultry farmers.

#### **Financing:**

- The government has various financing schemes, such as the Agricultural Credit Policy, to support the development of the poultry sector in Bangladesh.
- There are also microfinance institutions that provide loans to small-scale poultry farmers.

However, despite these supporting factors, the poultry market in Bangladesh faces several constraints, including:

1. **Disease outbreaks:** As mentioned earlier, disease outbreaks are a major constraint for the poultry market in Bangladesh, which can result in huge losses for farmers.
2. **Lack of proper infrastructure:** Many poultry farms in Bangladesh lack adequate infrastructure, such as proper housing and feeding facilities, which can affect the health and productivity of the birds.
3. **High cost of production:** The cost of production for poultry in Bangladesh is relatively high due to factors such as expensive feed, energy costs, and labor costs.
4. **Inadequate financing:** Poultry farmers in Bangladesh often face difficulties in accessing financing to expand their operations or invest in modernization.
5. **Limited market access:** Poultry farmers in Bangladesh often face limited market access due to issues such as poor transportation infrastructure and a lack of marketing channels.
6. **Seasonal fluctuations:** The demand for poultry products in Bangladesh tends to fluctuate seasonally, which can result in price volatility and supply shortages.

Addressing these constraints will be crucial for the development of the poultry market in Bangladesh and improving the livelihoods of poultry farmers in the country.



Based on the findings of the study, the following recommendations are made to improve market system development of safe poultry and poultry products in Bangladesh:

1. Strengthen the enforcement and implementation of existing policies and regulations related to food safety in the poultry sector.
2. Increase transparency and information sharing among market actors, including through the development of a centralized information system for tracking poultry production and distribution.
3. Support the adoption of new technologies, such as improved breeding and processing techniques, to improve the efficiency and quality of poultry production.
4. Promote the development of value chains in the poultry sector, including through the establishment of linkages between small-scale producers and larger buyers.
5. Increase public awareness and education on the importance of food safety in the consumption of poultry and poultry products.
6. Encourage public-private partnerships to support market system development in the poultry sector, including through the provision of technical assistance and financing.

Overall, implementing these recommendations is require collaboration and coordination among stakeholders in the poultry sector, including producers, processors, government agencies, and civil society organizations. However, by working together, it is possible to improve the safety, efficiency, and competitiveness of the poultry sector in Bangladesh, and to ensure that consumers have access to safe and nutritious poultry products.

## 06 Conclusions & Lessons Learned

The baseline study on market system development of safe poultry and poultry products in Bangladesh provided useful insights into the country's poultry sector's difficulties. The study found important obstacles and potential for enhancing food safety and market development, emphasizing the importance of a multi-stakeholder approach to addressing these difficulties. The study discovered that, while there are laws and regulations in place to protect food safety in the chicken industry, enforcement and implementation are lacking. Furthermore, market actors lack transparency and information sharing, making it difficult for consumers to make informed choices and producers to enter new markets. The study also found potential to improve the poultry sector's efficiency and competitiveness, such as through the adoption of new technologies and the development of value chains.

However, it can be mentioned here that:

- **Strengthen veterinary services:** Efforts should be made to improve access to veterinary services for poultry farmers in Bangladesh, particularly in rural areas. This can be achieved by expanding the network of veterinary clinics, training more veterinarians and Para veterinarians, and providing farmers with information on animal health and disease prevention.
- **Enhance biosecurity measures:** Biosecurity measures should be strengthened at all levels of the poultry value chain to reduce the risk of disease outbreaks. This can be achieved by promoting the use of vaccines and disinfectants, enforcing strict quarantine measures, and educating farmers on good biosecurity practices.
- **Raise awareness among farmers and consumers:** Awareness campaigns should be launched to educate farmers and consumers about safe poultry production and consumption. This can be achieved by using various communication channels, such as radio, television, and social media, to disseminate information on good practices in poultry production and the importance of safe poultry products.
- **Support private sector actors:** Private sector actors, such as input suppliers, processors, and retailers, should be supported in their efforts to improve poultry production and marketing. This can be achieved by providing training and technical assistance, facilitating access to finance, and creating an enabling policy environment for private sector investment.

Overall, the Baseline study on Market System development of safe poultry and poultry products in Bangladesh provides valuable insights into the challenges and opportunities facing the poultry industry in Bangladesh. By implementing the above recommendations, stakeholders can work together to improve the safety and sustainability of the poultry value chain, ultimately benefiting both farmers and consumers.



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