

**SOCIO-ECONOMIC AND DEMOGRAPHIC CONDITION OF POULTRY
FARMERS AT MIRASARAI UPAZILLA UNDER CHITTAGONG
DISTRICT IN BANGLADESH**



A production Report Submitted by

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Degree of Doctor of Veterinary Medicine**

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A Production report
Submitted as per approved style and contents

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Author

ABSTRACT

The study was conducted to identify the socio-economic status of the poultry farmers in Mirasarai Upazilla under Chittagong district in Bangladesh. Total 20 poultry farms were selected from Mirasarai Upazilla under Chittagong district. The mean farm size (Number of bird), number of batch per year, age of the farmer, amount of land (acre) per farmer were 2305.026 ± 1.25 , 7.52 ± 1.07 , 34.6 ± 6.73 , 3.51 ± 0.4 with range 1000-10000, 6-10, 25-46, 0.2-5.6 respectively in broiler farm. In case of education level, the percentage of illiterate farmer is lower (5%) and percentage of high educated (Graduation) farmers are maximum (35%). Among 20 broiler farm, per batch average total income was 175600 taka whereas minimum income was 190700 taka and maximum was 1263000 taka, per batch average total cost was 238573.7 taka whereas minimum cost was 105000 taka and maximum cost was 934000 taka. Per batch average total profit was 90573.68 taka whereas minimum was 17000 taka and maximum was 329000 taka and per year average total profit was 349105.3 taka whereas minimum was 70000 taka and maximum was 1500000 taka. Hence it is revealed that broiler farming is profitable.

Key words: Poultry farming, Socio-economic condition, education

Chapter – I

INTRODUCTION

Bangladesh is a densely populated developing country and its economy is very much dependent on agriculture. Poultry is a part of agricultural farming system in Bangladesh. Even though raising poultry birds is mostly a subsistence practice in Bangladesh. The contribution of poultry production is vital to the national economy in case of generating employment opportunity, additional income for households and improving the nutritional level of the people. Poultry rearing is suitable for widespread implementation as it cost less, requires little skills, is highly productive and can be incorporated into the household works (**Dolberg *et al.*, 1997**).). In the last few years, the recognition of small-scale commercial poultry production helps to accelerate the pace of poverty reduction riding in new height in Bangladesh. The poultry industry has been successfully becoming a leading industry of the country. The sector is also growing rapidly for last two decades though it started farming during mid-sixty in this country. It has already capable to rise at an annual growth of around 20 per cent during last two decades. This industry has immense potentialities from the point of view of the economic growth of the country as well as fulfillment of basic needs and to keep the price at a minimum level and ensuring food especially animal protein for the human being. This industry has immense scope for the country through changing livelihood & food habit, reduction of dependence of meat related to cow and goat and ultimately has positive impact on GDP growth rate of the country.

Broiler farming plays an important role in improving livelihood, food security and poverty alleviation in rural and semi-urban communities in developing countries including Bangladesh. Broiler production has become a specialized and speedy business at present time for the people of the country due to short life cycle of the broiler and requirement of relatively less amount of capital attributed to its popularity to the farmers (**Ahmed *et al.*, 2009**).). A study report on the impact on Smallholder Livestock Development Project (SLDP) in rural community at different rural areas of Bangladesh revealed that the overall socio-economic condition of the beneficiaries, their egg and meat consumption capability, empowerment of rural women in decision making issues and employment opportunities were significantly increased after the intervention made by SLDP (**Alam,1997**). Another study showed that commercial broiler farming provided employment opportunities for unemployed family members, improved socio-economic

conditions and increased women empowerment among rural people of Bangladesh (**Rahman et al., 2006**). Broiler meat contains high quality protein and micro-nutrients which has had a tremendous impact on health and nutrition for the poor people in rural areas (**Neumann et al., 2002; Barroetoa, 2007**). Again, another study reported that it can be the main source of family earning or can provide sufficient income and gainful employment opportunity to rural farmers throughout the year (**Bhende, 2006**). For this reason, broiler farming has been playing a key role in providing meat to overcome the malnutrition and serve as a tool for employment generation and poverty alleviation (**Raha, 2007**).

Though broiler farming faces various problems, a huge scope exists for development of broiler industry in Bangladesh. It is interesting to note that broiler farming is solely in the private sector particularly in the hands of small farmers who are running their enterprise through self-finance. So it is very much necessary to assess whether broiler farming is contributing positively for the socio-economic development of the broiler farmers or not.

The district Chittagong occupies an important place in Bangladesh in respect of poultry farming because of availability of all facilities. It is called the poultry belt of Bangladesh. So, the present study was undertaken to identify the socio-economic status of the poultry farmers and economic analysis of poultry farming (broiler) in Chittagong district of Bangladesh.

Objectives

- 1) To know the socio-economic and demographic status of the poultry farmer.
- 2) To study the management pattern of broiler farming.
- 3) To estimate the cost and profit from broiler farming.

Chapter-II

MATERIALS AND METHODS

2.1 Study area and Study period:

The study was conducted at Mirasarai Upazilla under Chittagong district in Bangladesh between the periods of February to March 2018.



Figure- Mirasarai Upazilla

2.2 Selection of study Area:

The area was selected from Unions of Mirasarai Upazilla under Chittagong district in Bangladesh. The area was selected because no study of this type was conducted previously in this area.

2.3 Preparation of the survey schedule:

The survey was developed in accordance with the objectives of study. Survey schedule was prepared to get the desired information from the poultry farm owner. The data was collected by visiting of farm to farm.

2.4 Sample and Sampling method:

Total Poultry farm in selected Upazila was 20.20 poultry farms were selected by using Simple random sampling method.

2.5 Sampling methods:

Mirasarai Upazilla under Chittagong district were selected in bias (Non-random selection). Mirasarai Upazilla has eight unions. From these union five unions was randomly selected and from these five unions' two villages from each union was randomly selected (Multi-stage random sampling). From these selected villages two farms of each category (Broiler and Layer) were selected randomly (Stratified random sampling). Each farm rearing at least 1000 bird is taken under consideration.

2.6 Method of data collection:

Data were collected through direct interview from the farmer by setting a designed questionnaire on broiler rearing and additional data were collected by face to face or personel contact.

2.7Analytical techniques:

The data were put on the master sheet in Microsoft Office Excel 2007 and were arranged in tabular form. Descriptive statistics (i.e. means, standard deviation, minimum, maximum etc.) were done to estimate the different variables.

Chapter-III

RESULTS AND DISCUSSION

3.1 General description of the farm:

Table 3.1: Analysis of different parameters related to farms and farm owners (N=20)

| Parameters | Total farm (N=20) | |
|----------------------------------|--------------------------|-------------------------|
| | Mean± Standard Deviation | Range (Minimum-Maximum) |
| Farm size (Number of bird) | 2305.026±1.25 | 1000-10000 |
| Number of batch per year | 7.52±1.07 | 6-10 |
| Age of the farmer (year) | 34.6±6.73 | 25-46 |
| No. of family member | 5.95±1.39 | 4-9 |
| Amount of land per farmer (acre) | 3.51±0.4 | 0.2-5.6 |

The **Table 3.1** revealed that the mean farm size (Number of bird), Number of batch per year, age of the farmer, number of family member, amount of land (acre) per farmer were 2305.026±1.25, 7.52±1.07, 34.6±6.73, 5.95±1.39, 3.51±0.4 with range Minimum 1000 bird and maximum 10000 bird, minimum 6 batch and maximum 10 batch, minimum 25 years and maximum 46 years, minimum 4 member and maximum 9 member, minimum 0.2 acre and maximum 5.6 acre with respectively in poultry farm. **Islam et al., (2010)** found per farmer have 0.49 acre and **Devendra, (1993)** showed 0.99- 1.97 acres of land per farmer.

3.2 Socio-economic condition of the farmers:

Different factors associated with socio-economic condition of the farmers of Mirasarai Upazilla are listed in **Table 3.2** and specific findings of the study also describe below:

Table 3.2: Factors associated with socio-economic status of the farmers in Mirasarai Upazilla (N=20).

| Variables | Categories | No. of farm/ Farm owner | Percentage (%) |
|-------------------------------|---------------------------|----------------------------|----------------|
| Type of farmer | Landless (0.00-0.50 acre) | 1 | 5 |
| | Small (1.25-2.47acre) | 3 | 15 |
| | Medium (2.48-4.94 acre) | 5 | 25 |
| | Large (\geq 4.95 acre) | 11 | 55 |
| Number ofbirds | < 2000 | 8 | 40 |
| | 2000-5000 | 9 | 45 |
| | > 5000 | 3 | 15 |
| Farming is main occupation | Yes | 18 | 90 |
| | No | 2 | 10 |

In Table 3.2 The result showed that about 55% large, 25 % medium, 15 % small and 5% landless farmers were involved in farming in Mirasarai Upazilla of Chittagong district (**Table 3.2**). These findings agree with the study of **Rahman et al., (2002)** in Rajshahi district. These findings indicate that, in this sector, comparatively rich farmers are more involved than poor, although **Islam et al., (2010)** reported that all of the farmers involved in the farming are small categories (Having 6-49 decimal land).

The size of the farm reflects the socio-economic status of the farmer. About 40% of the farmers have less than 2000 birds, 45% have 2000-5000 birds and 15% have more than 5000 birds.

The present study shows that, farming is the main occupation of 90% of the farmers involved in the study and for remaining 10%, it is subsidiary occupation. **Ahmed et al., (2009)** showed that, farming is the main occupation of the 35% of the broiler farmer. This higher value in my finding is due to involvement of broiler in my study but **Ahmed et al., (2009)** did not consider layer farmers.

3.3. Education level of the farmers:

Table 3.3 Education level of the farmers (N=20)

| Education level of Farmers | No. of farmers | Percentage (%) |
|----------------------------|----------------|----------------|
| Illiterate | 1 | 5 |
| Primary | 1 | 5 |
| Below SSC | 2 | 10 |
| SSC | 4 | 20 |
| HSC | 5 | 25 |
| Graduation | 7 | 35 |
| Total | 20 | 100 |

The literacy level of the farmers have been grouped into six educational group according to **Sumy et al.,(2010)**. The **Table 3.2** shows the education level of the farmers. There were found 5% farmers were illiterate, 5% farmer had education level of primary, 10% Below SSC , 20% farmers had education level of SSC ,25% farmers had education level of HSC and 35% were Graduate. These findings are agreement more or less with **Sumy et al., (2010)** that were in a study on backyard chicken owners.

3.4 Economic analysis:

Table 3.4Total cost of poultry production per batch (N=20)

| Cost items | Total farm (N=20) | |
|---|-------------------|--------------------------------------|
| | Mean± SE (Taka) | Range (Minimum-Maximum) (Taka) |
| Per Day Old Chick purchasing cost (Taka) | 29.1±7.25 | 21-50 |
| Total Day Old Chick purchasing cost(Taka) | 84035±100714 | 21000- 250000 |
| Feed Cost (Taka) | 129486.8±94189.15 | 55900-304000 |
| Labor Cost (Taka) | 6307.69±1797.43 | 4000-10000 |
| Medicine Cost (Taka) | 6131.57±2120.28 | 2000-10000 |
| Electricity Cost (Taka) | 1463.15±482.13 | 1000-3000 |
| Litter Cost (Taka) | 3947.36±1129.09 | 3000-7000 |
| Total Cost (Taka) per batch | 238573.7±180909.4 | 105000-934000 |

In Table 3.4 The result showed that among 20 broiler farm, per batch average per Day Old Chick purchasing cost was 29.1 taka whereas minimum rate was 21 taka and maximum rate was 50 taka. Per batch average Total Day Old Chick purchasing cost was 84035 taka whereas minimum was 21000 Taka and maximum was 250000 Taka. Per batch average Feed cost was 129486.8 taka whereas minimum was 55900 taka and maximum was 304000 taka .Per batch average labour cost was 6307.69taka whereas minimum was 4000 taka and maximum was 10000 taka. Per batch average medicine cost was 6131.57 taka whereas minimum was 2000 taka and maximum was 10000 Taka. Per batch average electricity cost was 1463.15 taka whereas minimum was 1000 taka and maximum was 3000 taka. Per batch average litter cost was 3947.36 taka whereas minimum was 3000 taka and maximum was 7000 taka. So, incase of 20 farm, per

batch average total cost was 238573.7 taka whereas minimum cost was 105000 taka and maximum cost was 934000 taka. **Alam J., (1997)** found the cost per bird was BDT. 106.68 forintensive farm. The higher value of cost in my study due to recent increase of price of feed and other raw materials.

Table 3.5 Total profit of poultry production(N=20)

| Parameters | Total farm (N=20) | |
|-------------------------------|-------------------|--------------------------------------|
| | Mean± SE (Taka) | Range (Minimum-Maximum) (Taka) |
| Total income per batch (Taka) | 175600±985600.4 | 190700-1263000 |
| Total profit per batch (Taka) | 90573.68±116410.5 | 17000-329000 |
| Total profit per year (Taka) | 349105.3±510056.1 | 70000-1500000 |

In Table 3.5The result showed that, among 20 broiler farm, per batch average total income 175600 taka whereas minimum income was 190700 taka and maximum was 1263000 taka, Average total profit was 90573.68 taka whereas minimum was 17000 taka and maximum was 329000 taka and per year average total profit was 349105.3 taka whereas minimum was 70000 taka and maximum was 1500000 taka.

Chapter -IV

CONCLUSION

From the above discussion it can be concluded that Mirasarai Upazilla under Chittagong district is a very suitable and prospective zone for poultry farming and broiler production. Although poultry farming is an important segment of agriculture. At present, a large number of educated unemployed persons are related to poultry farm. These sectors play an important role to solve poverty, unemployment and malnutrition problem. During my study period, some problems and difficulties were found in poultry production. To overcome the difficulties of poultry raising and to make poultry production more profitable in the country as well as uplifting the socio-economic status of the farmers, some recommendations are put forward for the improvement of existing production of poultry. Regular vaccination is a prerequisite for any improvement in poultry production. Necessary steps should be taken to reduce the losses from diseases. Availability of day old chicks should be ensured. The government and non-government organizations should play a vital role in making provisions for chicken's feed in the country, so that the chicken raiser can purchase feed with a reasonable price. Farmers should establish the biosecurity check list, establishment standard for each of the check points, strictly maintaining these points and regular correction and standardization of biosecurity steps. From my study, in economic analysis the broiler farming was found more profitable. This study recommends the farmers to establish broiler farm for more profit. So, by my study, I would like to request the literate, elite and rich persons dealing with animals, authority concerned and ultimately government to take proper steps and play an important role for establishment of a poultry zone in this area by solving all problems and giving more opportunities for the existing farm owners.

Chapter -IV

LIMITATION

There were some limitations in my study. The study period was limited and study area was restricted to a particular upazilla, for this reason the findings may not reflect the whole country. There was limited recording system in goat farms under study as a result it was difficult to select valid data. Moreover, even interviews were not always right person who involved with rearing of poultry directly. Some of the farmers were not cooperative to give information.

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APPENDIX

QUESTIONNAIRE

ID NO :

Date:

A) Information about farm owners :

- 1.Name of the owner : 2. Age:
- 3.Address:
4. Occupation : a) Farmer b) Employee c) Business
5. Education level: a) Primary b) Below SSC c) SSC d) HSC e) Graduation f) Illiterate
6. Family Member:
7. Amount of Land :
8. Farm starting period:
9. If any other farm: a) Yes b) No
10. If yes, Type of farm :

B) Information about farm:

1. Name of the farm:
2. Location of the farm:
3. Type of housing :

Placement: a) South facing, b) North facing, c) East facing, d) West facing.

Design : a) Gable type, b) Shed type, c) Combination type

Materials: a) Bamboo. b) Tin, c) Wood, d) Brick

Floor Type:a) Concrete b) Mud.

4. Type of farm: a) Broiler b) Layer c) other
5. Name of strain:
6. In case of broiler farm, number of batch:
7. Each batch number of bird:
8. Total number of bird:
9. Number of shed:
10. Labour number:
11. Farm Biosecurity: a) Yes b) No
12. Type of litter:
13. Vaccination:

C) Information about Poultry:

1. Number of bird:
2. Average weight:
3. Selling time:
4. Type of feed:
5. Quantity of feed:
6. Market price of broiler (per kg) :.....
7. Incidence of disease:
8. Mortality rate:

D) Information about Total Variable Cost (per batch):

1. Per Day Old Chick purchasing cost:
2. Total Day Old Chick purchasing cost:
3. Feed cost:
4. Medicine cost:
5. Laborcost:
6. Electricity cost:
7. Any loan for farming frombank:a) Yes b) No
8. Amount of loan:
9. Total Cost:

E) Information about Total income &Profit:

- 1) Per batch total income:
- 2) Per batch total profit:
- 3) Are you profitable by farming: a) Yes b) No
- 4) Total profit per year: