**CHAPTER - I**

**INTRODUCTION**

Small scale poultry production has developed in a large number of developing countries around the world as an important source of earning for the rural poor. It is growing rapidly and successfully becoming a leading industry in Bangladesh. Islam (2003) stated that there is no doubt that exciting times lie ahead for the Bangladesh poultry industry. Akter and Uddin (2009) reported that poultry industry as a fundamental part of animal production is committed to supply the nation a cheap source of good quality nutritious animal protein in terms of meat and egg. Poultry meat alone contributes 29% of the total meat production in the country (BBS, 2001) and it can efficiently and rapidly fulfill the gap of protein requirement in the shortest possible time. This sector is crucially important in the context of agricultural growth and improvement of diets of people in Bangladesh.

 Profitability of broiler production involves proper assessment of demand, planning the size of the activity, possible integration of activities to bring down the cost of production, foresight into market price situations, and prudent assessment of cost-benefits and finally the rate of returns in the activity. These situations vary from country to country and even between regions of a country. Thus, to explore the insight of the broiler farming of a particular area of the country, it is essential to understand the characteristics of the farmers, farm size and socio-economic status of the farmers to make the business profitable. Therefore, the present study was undertaken to identify the existing management system of broiler farm, problems related with broiler production and their potential solutions.

**The objectives were as follows:**

1. Distribution of the respondents according to their socio-demo-graphic status.
2. Describe the management system of broiler farmer.

**CHAPTER - II**

**MATERIALS AND METHODS**

**2.1: Study area**

The present study was conducted to investigate the existing broiler farming status at Rangamati District, Chittagong, Bangladesh. It is a district in south-eastern Bangaladesh.I have collected data from Asambosti, Tanchangya parha, Keppoparha , Alutila, Rangapani and Vedvedi areas which are nearly situated at Rangamati district division.

**2.2: Study population**

A total of 20 broiler farms were used in the study. Data were collected through an interview schedule involving 20 respondents who were involved in broiler farming. Respondents were randomly selected from different parts of the upazilla for collecting data to address the objectives. In this study 20 respondents were interviewed to find out their socio-economic condition. The selected character-istics included age, occupation, total annual income, annual income from poultry, farm size, rearing system, sources of day old chick, type of feed used, feed price, marketing age, marketing price, water source, water supply, ventilation, foot bath, litter change, litter materials, feed storage room, feed collection, farmer's problem and recommendations.

**2.3: Study period**

The study was performed for a period of 77 days from March 1 to April 6 and July 5 to August 3, 2017.

**2.4: Statistical analysis**

Descriptive statistics were used to analyse the data and statistical pachage spss 16.0 was used.

**CHAPTER - III**

**RESULTS AND DISCUSSION**

**3.1: Socio-economic background**

Number and percentage distribution of respondents according to their age group, family size and occupation are shown in Table 3.1. It is revealed that the majority (60%) of the respondents were in the middle age (31-50 years), 30% respondents were young (upto 30 years) and the remaining were old age (above 50 years). Aganga et al. (2000) conducted study in the Southern region of Botswana reported that maximum farmers involved in poultry farming remain within the range of 35-50 years. Educational background of the 20 respondents, as observed in the present study, 20% were within the elementary level, 70% were secondary and remaining 10% were within the intermediate level, suggesting that the maximum farmers handling broiler farms were within the secondary level of education. The results are consistent with the previous report of Rahman et al. (2002).

Out of the 20 respondents 60% were involved in agriculture, 30% in businessman and 10% in services as their main profession. Being a part of agriculture based economy it was not surprising that 60% of poultry farmers choose their main profession as agriculture, which was highest. Previous reports of Jabber and Green (1983), Miah (1990) and Karim (2001) showed that farmer’s main occupation was agriculture. In case of annual income of farmers, 45% of the respondents belong to medium level of income (100001-150000 taka), 30% and 25% of the respondents were in low and high level of incomes, respectively.

Factors involved with broiler farming system by the respondents are shown in Table 3.2. About 48% respondents had small size farms (100-500 birds), 40% had medium (501-1000 birds) and remaining were large size (1001-2000 birds). About 80% respondents reared Cobb-500 and rest reared Ross, Hubbard and Starbro strain. These results are almost similar to the previous report of Hauque (2005). Singh and Sharma (2003) also estimated that maximum farmers choose Cobb-500 for their better production.

**Table 3.1 Distribution of respondents according to their age group, education level, occupation and annual income of farmers.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters** | **Categories**  | **No. respondent** **(n=20)** | **% respondent****(n=20)** |
| Age  | Young age (≤30 yrs)  | 6 | 30 |
| Middle age (31-50 yrs)  | 12 | 60 |
| Old age (>50 yrs)  | 2 | 10 |
| Education level  | Low educated (1-5 class)  | 4 | 20 |
| Medium (6-9 class)  | 14 | 70 |
| Higher (10-11 class)  | 2 | 10 |
| Occupation  | Agriculture  | 12 | 60 |
| Businessman  | 6 | 30 |
| Services  | 2 | 10 |
| Annual income of farmers (taka)  | Low income (50000-100000)  | 6 | 30 |
| Medium income(100001-150000)  | 9 | 45 |
| High income (151000-240000)  | 5 | 25 |

**3.2: Factors associated with broiler farming in Rangamati District**

In this study, most of the farmers (90%) vaccinated their birds regularly against infectious disease. Rahman (2004) reported that 70% broiler farmers vaccinated birds regularly and 30% did not practice vaccination. About 30% respondents received suggestion from experienced farmers, 10% did not take any suggestion and remaining taken suggestion from veterinary surgeons, technical graduates or dealers. About 70% respondents received short training on broiler management whereas about 30% did not take any training at all. The result is same as Rahman et al. (2003), who reported that among 20 respondents in the study area, 70% had training on broiler farming from local YTC (Youth Training Center), Upazilla Livestock Office, NGO's and different broiler farming related agencies. In the present study out of 20 respondents, 80% purchased broiler chick from Kazi Farm Ltd. and 95% used ready-made feed for broiler rearing. All farmers collected feed from dealer, had separate feed storage room, used deep well water, used rice husk as litter materials, maintained good ventilation but did not maintain footbath . 16 (80%) farmers collected vaccine from dealer and 4 (20%) farmers collected from Govt. veterinary hospital and 18 (90%) farmers regularly vaccinated their broilers.

**Table 3.2 Factors associated with broiler farming system in Rangamati district.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters** | **Categories** | **No. respondents** **(n=20)** | **% Res-pondents** **(n=20)** |
| Farm size  | Small (100-500 birds)  | 0 | 0 |
| Medium (501-1000 birds)  | 8 | 40 |
| Large (1001-2000 birds)  | 12 | 60 |
| Name of strain  | Cobb-500  | 16 | 80 |
| Ross  | 2 | 10 |
| Hubbard  | 1 | 5 |
| Starbro  | 1 | 5 |
| Vaccination  | Practiced  | 18 | 90 |
| Not practiced  | 2 | 10 |
| Counselor  | None  | 2 | 10 |
| Veterinarian  | 4 | 20 |
| Dealer  | 12 | 70 |
| Training on broiler rearing  | Received  | 14 | 70 |
| Not received  | 06 | 30 |
| Sources of broiler chick  | Kazi Farm Ltd.  | 16 | 80 |
| Gausia | 3 | 15 |
| CP company | 1 | 5 |
| Feed use  | Ready made  | 19 | 90 |
| Hand made  | 1 | 10 |
| Water source | Deep tubewell | 20 | 100 |
| Pond | 0 | 0 |
| Litter change | 1 | 2 | 10 |
| 2 | 18 | 90 |
| 3 | 0 | 0 |
| Ventilation | Good | 20 | 100 |
| Poor | 0 | 0 |
| Foot bath | Yes | 0 | 0 |
| No | 20 | 100 |
| Source of vaccine | Dealer | 16 | 80 |
| Hospital | 4 | 20 |
| Litter materials | Wood dust | 0 | 0 |
| Rice husk | 20 | 100 |
| Feed collection | Dealer | 20 | 100 |
| Own self | 0 | 0 |
| Feed storage room | Separate | 20 | 100 |
| Not separate | 0 | 0 |

**Table 3.3: Status of number of flocks and rearing days of poultry in Rangamati District**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameters | Average | St. deviation | Minimum | Maximum |
| No. of flocks | 1190 | 282.657 | 700 | 1700 |
| Rearing days | 33 | 1.725 | 30 | 35 |

In this study the minimum number of flock was 700 and the maximum number of flock was 1700 whereas the average number of flock was 1190 and its St. deviation was 282.657. On the other hand the minimum number of rearing days of poultry was 30 days and the maximum number was 35 days whereas the average rearing days of bird was 33 days and St. deviation was 1.725****.

 **Fig: 3.3, Prevalence on no. of shed in broiler farm.**

 **Fig: 3.1, Prevalence of biosecurity in broiler farming system in Rangamati District.**

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 **Fig: 3.2, Prevalence of farm profitability in broiler farming system in Rangamati District.**

**3.3: Production cost and marketing price of live broilers in Rangamati District**

Factors associated with cost of production and marketing of live broiler are shown in Table 3. About 50% respondents purchased day-old chicks at 31-33 taka per chick whereas 80% respondents purchased feed 35-40 taka per kg.

About 75% respondents considered market weight as 1.5 kg per bird, whereas the rest 25% sold broiler weighing about 1.8 kg per bird. Almost similar result was observed by Hauque (2005), who found 1.5 kg average market weight per bird. Perry et al. (1999) also found average market weight per bird was 1.10 kg. It ranged from 1.07 kg to 1.70 kg per bird.

Majority of the respondents (60%) sold broiler at 30-33 days of age bird. About 80% respondents marketed broiler with a price of 110-115 taka per kg bird, rest 40% marketed broiler at 120-125 taka per kg bird. Karim (2001) showed that there was a wide range of fluctuation in market price, which might be due to the fact that farmers, while selling the bird, were captivated by the middleman. Out of the 20 respondents 30% respondents had production cost 90-95 taka per kg live bird and 45% respondents had highest production cost at 101-104 taka per kg live bird which is in close agreement with the results previously reported by Hauque (2005).

**Table 3.4 Factors associated with cost of broiler production and marketing.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters**  | **Categories**  | **No. res-pondents** **(n=20)**  | **% res-pondents (n=20)**  |
| Price (Taka/chick)  | 25-30 | 5 | 25 |
| 31-33 | 10 | 50 |
| 34-40 | 5 | 26 |
| Feed price (Taka/kg)  | 35-40 | 16 | 80 |
| 41-45 | 4 | 20 |
| Market weight (kg/ bird)  | 1.50 | 15 | 75 |
| 1.80 | 5 | 25 |
| Marketing age (d) | 30-33 | 12 | 60 |
| 34-37 | 8 | 40 |
| Marketing price (Taka/kg live bird)  | 110-115 | 16 | 80 |
| 120-125 | 4 | 20 |
| Production cost (Taka per kg bird) | 90-95 | 6 | 30 |
| 96-100 | 5 | 25 |
| 101-104 | 9 | 45 |
| Annual income from broiler farm (Taka/year)  | 19200-50000 | 5 | 25 |
| 51000-100000 | 10 | 50 |
| 100001-144000 | 5 | 25 |

In present study out of 20 respondents 50% respondents earned 51000-100000 taka per year from broiler farm, whereas the rest 25% and 25% respondents earned 19200-50000 and 100001-144000 taka per year, respectively. Hauque (2005) showed that the annual income from poultry farming ranged between 12988.80 to 276120.00 taka per year, which is very close to the result of the present study

**3.4: Problems and suggestions on rearing and marketing of broiler**

Depending on demand, price variation of day old chick and lack of quality chicks, availability and quality of vaccines, high price of feed, lack of quality feed and training facilities were the major problems for broiler production faced by farmers in the study area. In this study, about 36% respondents reported more marketing age of birds, 32% reported higher cost of production and 30% reported lack of training facilities. The farmers also suggested that the government should fix and control the price to a limit up to stability so that they can get deserved price. Availability of commercial day old chicks with reasonable market price should be ensured. Sufficient training programs on broiler farming should be arranged, so that the farmers can keep themselves up to date. For indemnity, safety, and security, poultry insurance system should be introduced immediately.

**CHAPTER - IV**

**LIMITATIONS**

i. The study was conducted in a small scale.

ii. Short time period.

**CHAPTER -V**

**CONCLUSION**

The result of this study area will be useful for farmers and researchers to identify the overall problems and their remedies on feeding, management and marketing related to broiler production. The findings may therefore pass some valuable information for proper management of broiler in rural area of Bangladesh.

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 **APPENDIX**

**Questionnaire for data collection**

1.

a. Name of the farm:....................................................................................................................

b. Name of the owner/Farmer/Employee:...................................................................................

\c. Father’s name:.........................................................................................................................

d. Address: Village..........Road no...........House no………

Union......................P.O..........................Thana....................District............................Phone no/Mobile no..........................

2.Husbandry practice:

A. Housing:

 a. Brooder house b. Grower cum finisher house

 B. Feeding:

* Collection of feed...........................................
* Storage of feed …..........................................
* Types of feed...................................................
* How many times feed supplied daily.............

C. Watering:

* Source of water……………………….

 a. Deep tube well b. Pond

* System of water storage………………

 a. Water tank b. Water house

* Frequency of water supply……….

 a. Adlibitum b. Insufficient

D. Litter materials................................................................

E. Litter change....................................................................

F. Ventilation

 a. Sufficient . b. Insufficient

G. Natural light...................................................................

H. Artificial light.................................................................

I. Bio-security....................................................................

J. Foot bath:

 a. Yes b. No

K. System:

a. all in all out b. Not

3. Number of sheds:.........

4. Drainage facility:

 a. Sufficient b. Insufficient.

5. Have electric fan?

 a. Yes b .No

6. Most common diseases prevalence in the farm................

7. Management of disease condition:

 a. Self management

 b. Quack

 c. Veterinary doctor

8. Feature of Veterinary doctor calling:

 a. Actively b. occasional c. In critical situation d. Not at all.

9. The farm is profitable or not......................................................

Name of the interviewee............... Name of the interviewer...........

Date.......... Date: ……………

Signature............. Signature ……………………

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The Author,

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**BIOGRAPHY**

I am KALPANA CHAKMA daughter of Mr. Chiranjit Chakma and Mrs. Ranjita Chakma. I completed my Secondary School Certificate (SSC) examination in 2009 from Sapchari High School, Rangamati, Chittagong and Higher Secondary Certificate (HSC) examination in 2011 with from Rangamati Women College, Chittagong. Currently I have been studying Veterinary Science at the Chittagong Veterinary and Animal Sciences University, Chittagong, Bangladesh. At present I am doing my Internship Programme which is compulsory for awarding my degree of Doctor of Veterinary Medicine (DVM) from Chittagong Veterinary and Animal Sciences University. My favorite hobby is book reading and exploring the unexplored. I feel much comfort and pleasure on voluntary community works for the betterment of society as well as for the nation. I feel massive interest in the research of wildlife medicine and conservation of nature and animal welfare.