**CHAPTER – I
 INTRODUCTION**

**Boiler chicken (** *galus gallus domesticus*) are a gallinaceous [domesticated](https://en.wikipedia.org/wiki/Domestication) [fowl](https://en.wikipedia.org/wiki/Fowl), bred and raised specifically for [meat](https://en.wikipedia.org/wiki/Meat) production. They are a hybrid of the egg-laying chicken, both being a subspecies of the [red jungle fowl](https://en.wikipedia.org/wiki/Red_junglefowl) (*Gallus gallus*). Typical broilers have white feathers and yellowish skin. Most commercial broilers reach slaughter-weight at between 5 to 7 weeks of age, although slower growing breeds reach slaughter-weight at approximately 14 weeks of age ( Oliveira 1974).

At present, Broiler farming has become popular both in urban and rural area. It has encouraged the people of different sections such as small farmers, landless laborers and educated unemployed as well as for industrialists to establish broiler farms on small & large scale. The growth performance of broiler bird might simply be a function of higher feed intake ( Agarwal P K. 1986). Feed consumption followed similar trend to that of weight gain. These non-significant differences in growth performances support the findings of ( Haque and Chowdhury, 1994) and ( Anisuzzaman and Chowdhury, 1996) the study clearly indicate that all broiler farms made good profit. According to FAO (1997) appropriate size of the operation, maintaining highly productive stock, efficient utilization of resources, better housing, adoption of standard hygienic practices, reducing cost of production and adequate planning for marketing of the products play a major role in making commercial meat production more profitable. Lower costs of production and higher returns for larger than smaller flocks (Ahmad A. and HasnathM.A., 1983). The intensive farm rearing system has got more production and high profit by rearing the hybrid and exotic breed (Alam et al., 1998). The efficient utilization of feed and avoiding unnecessary feed wastage would minimize total cost of production. Thus management of broiler in an appropriate rearing environment would ensure better profitability (Arzey G. 2007 ).

Farm bio-security is a set of measures designed to protect a property from the entry and spread of pests, diseases and weeds ( Agarwal P K. 1986). Farm bio-security is your responsibility and that of every person visiting or working on your property. The disease outbreak and low bio-security and managemental practice decrease the average production performance in both commercial and small holding broiler farm in Bangladesh ( FAO, 2008 and Agarwal P K. 1986) .The disease in any stage of production effect the productivity of the farm. By avoiding overcrowding, effective use of  brood-grow house under better hygiene, appropriate light schedule and use of cages instead of floor houses will reduce mortality ( Odii M.A. 1998).

A marketing channel is a set of practices or activities necessary to transfer the ownership of goods from the point of [production](https://en.wikipedia.org/wiki/Production_%28economics%29) to the point of [consumption](https://en.wikipedia.org/wiki/Consumption_%28economics%29) ( Islam M.A. 2003 ) . It is the way products and services get to the end user, the [consumer](https://en.wikipedia.org/wiki/Consumer) and is also known as a [distribution channel](https://en.wikipedia.org/wiki/Distribution_%28business%29). A marketing channel is a useful tool for management, and is crucial to creating an effective and well-planned marketing strategy ( Saleque, Md. A., 2006 & 2007) .

**Objectives of my study :**

1. To understand the different aspects of broiler farm management.
2. To identify the problems related to broiler farming in Chittagong region.

**CHAPTER - II**

**MATERIALS AND METHODS**

The present study was conducted over a period from 1st November to 25th November 2017 to investigate the management strategies of broiler production system at Hathazari upazilla, Chittagong, Bangladesh. This area was selected for data collection because many small and large scale broiler farm was established within a decades. A pre-set questionnaire was used for recording the data. Data was collected directly from 10 (ten) farm owners by interviewing and also by observing farm activities for evaluating comparative management system of broiler farms. The questionnaire contains the following information i.e. farmer’s characters (education level, training, experiences and work forces on broiler farming), farm management parameters (farm size, housing system, name of broiler strains, and type of litter materials, number of feeder and drinkers, brooding system, vaccination type, deworming, types of growth promoter used, sources of day old chicks and feed, bio-security and marketing systems. The collected data were entered into Microsoft Excel 2007 and frequency and percentage of different variables were calculated to meet up the study goals and objectives.



**Figure 1 : Map of the study area**

**CHAPTER - III**

**RESULTS AND DISCUSSIONS**

 **3.0: MANAGEMENTAL PRACTICES IN BROILER FARMS**

 **3.1 : *Collection of Day Old Chicks -***

Collection of broiler chicks is important for broiler farming. The farm owner collects the day old chicks from different hatcheries such as Paragon, Provita, Jayson, MAC, Progressive, Nourish, MM Agha etc. The price of day old broiler chick was paid 22-35/= as per company rate. After arrival of the chicks in the house farmers firstly gave water to the chick with the mixer of Glucose, Vitamin and minerals ( [Hussain, M.S.](http://www.cabdirect.org:80/search.html?q=au%3A%22Hussain%2C+M.+S.%22), [Alam, M.S.](http://www.cabdirect.org:80/search.html?q=au%3A%22Alam%2C+M.+S.%22), [Abedin, M.Z.](http://www.cabdirect.org:80/search.html?q=au%3A%22Abedin%2C+M.+Z.%22) 1990 ). . Then feed was given in a paper sheet for the first 3 hours, after that feed was given in feeder. Brooding was done artificially by hover maintaining a scheduled continuous temperature. **Figure 2 :** Graphical Representation of Temperature Schedule

**3.2 : *Flock size -***

During my internship period I observed different size of broiler farms at Hathazari. All the farms were organized and profitable. Most of the owner’s of the farm were interested to rear broiler under intensive farming system. But they were unwilling to rear broiler due to various problems like load shedding, low quality feed, low quality chicks, high mortality of chicks, transportation problems etc. So the possibility was found high but facility was found very low. The average flock sizes were found during my study period is given bellow.

 **Table 1 :** Flock size of broiler at the study area

|  |  |
| --- | --- |
| Farm no | Flock Size |
| 1 | 500 |
| 2 | 600 |
| 3 | 1000 |
| 4 | 900 |
| 5 | 700 |
| 6 | 800 |
| 7 | 700 |
| 8 | 1200 |
| 9 | 700 |
| 10 | 600 |

**3.3 : *Housing -***

A suitable house is the prime need for the rearing of poultry birds. During my study period I observed that 100% farmers use intensive housing system for broiler rearing. Among them 40% houses were North-south directed and 60% were East-west directed. About 90% of the floor of houses are made of concrete. On the other hand, roof of the 80% house were shed type. About 60% farmers maintain stocking density 1 sqft/bird and rest of all 1.5 sqft/bird.

 **Table 2 :** Housing management of different broiler farm :

|  |  |  |
| --- | --- | --- |
| Parameter |  Frequency |  Percentage |
| Housing system - |  |  |
|  Intensive house |  10 |  100% |
|  Semi-intensive house |  0 |  0% |
|  Total |  10 |  100% |
| Direction of house - |  |  |
|  North-south directed |  4 |  40% |
|  East-west directed |  6 |  60% |
|  Total |  10 |  100% |
|  Type of floor - |  |  |
| Concrete floor |  90 |  90% |
| Semi-concrete floor |  10 |  10% |
| Muddy floor |  0 |  0% |
| Total |  10 |  100% |
| Type of roof - |  |  |
|  Gable type |  2 |  20% |
|  Shed type |  8 |  80% |
|  Total |  10 |  100% |
| Stocking density - |  |  |
|  1 sqft space / bird |  6 |  60% |
|  1.5 sqft space / bird |  4 |  40% |
|  Total |  10 |  100% |

Feeder and waterer space followed by the farmers are given below:

 **Figure 3 :** Graphical Representation of Average Feeder & Waterer space per bird.

 Source: Field Survey, 2017

 **3.4 : *Feeding -***

Feeding is the important issue to rear broiler chicks. Feed comprises about 65 to 70 % of the total recurrent expenditure of the farm ( Saleque, Md. A. 2006 ).The chicks consume small quantity of feed for the first week. In this respect farmers follow the literature of the feed company. It was found that all the farmers used quality feed and it was given firstly in paper sheet (First 3 hours) and then in feeder. The feeders were be kept up to the neck level of the bird. The broilers need addlibitum feed and the farm owner collects the feed from different companies. The owners mainly follow the literature of the Quality, Provita, A-One, CP, Nourish and some other companies for their feeding management. The companies supply two types feed that is broiler starter and broiler finisher. 100% farmers purchase feed from dealers and supply feed 3 times/day to their birds. It was noticed that average feed required for a broiler was 2-2.25 kg (70% farm) and the FCR was average 1.6-1.7 kg (40% farm). The source of drinking water was tube well (90% farm ).

 **Table 3 :**  Feeding management in broiler farm :

|  |  |  |
| --- | --- | --- |
| Parameter | Frequency | Percentage |
| Feed obtained from - |  |  |
|  Producer | 10 | 100% |
| Own feed mill | 0 | 0% |
| Total | 10 | 100% |
| Feed supplier - |  |  |
| A One | 4 | 40% |
| Nourish | 4 | 40% |
| Adnan | 2 | 20% |
| Total | 10 | 100% |
| Frequency of giving feed - |  |  |
| 3 times / day | 10 | 100% |
| More | 0 | 0% |
| Total | 10 | 100% |
| Source of drinking water - |  |  |
| Tube well | 9 | 90% |
| Pump | 0 | 0% |
| Filter | 1 | 10% |
| Total | 10 | 100% |
| Per head feed required - |  |  |
| 2 kg | 7 | 70% |
| 2.25-2.50 kg | 3 | 30% |
| Total | 10 | 100% |
| FCR - |  |  |
| Average 1.6-1.7 kg | 7 | 70% |
| Average 1.8-1.9 kg | 3 | 30% |
| Total | 10 | 100% |

**3.5 : *Weight gain -***Farmers reported that the considered market weight per bird for selling varies from 1.6-1.8 kg after 5th weeks of rearing ( Ahmad, A. and Hasnath, M.A. 1983). About 80% farmers marketing their live birds at 110-115 tk per kg. After 30 days of proper management and feeding weight gain which is recorded by the farm owner are given bellow :

**Figure 4 :** Graphical Representation of Weight Gain


 Source: Field Survey, 2017

 **3.6: *Farming -***

During survey it was observed that 80% of the farmers rear 6-7 batches of broiler per year round and rest of all rear 7-8 batches. They maintain 10-15 days of gap between two successive batches (80% farmers) ( Jadhav, M.F , Siddiquei, 1999 ). A total of 100% farmers used saw dust as litter materials. Litter was changed 1 and 2 times per batch in 60% and 40% farms respectively. 80% of the farmers turned litter 1 times per day and rest 20% farmer 2 times per day for proper mixing. The birds were marketed between 26 to 30 days of age.

 **Table 4:** Farming management of Broiler Farm

|  |  |  |
| --- | --- | --- |
| Parameter | Frequency | Percentage |
| No of batches per year - |  |  |
| 6-7 batches | 8 | 80% |
| 8-9 batches | 2 | 20% |
| Total | 10 | 100% |
| Gap between two batches - |  |  |
| 10-15 days | 8 | 80% |
| 25-30 days | 2 | 20% |
| Total | 10 | 100% |
| Litter materials - |  |  |
| Saw dust | 10 | 100% |
| Rice husk | 0 | 0% |
| Wood savings | 0 | 0% |
| Total | 10 | 100% |
| Turning of litter per day - |  |  |
| 1 / day | 8 | 80% |
| 2 / day | 2 | 20% |
| Total | 10 | 100% |
| Changes of litter per batch - |  |  |
| 1 times | 6 | 60% |
| 2 times | 4 | 40% |
| Total | 10 | 100% |
| Age of selling birds - |  |  |
| 26 days | 1 | 10% |
| 28 days | 4 | 40% |
| 30 days | 5 | 50% |
| Total | 10 | 100% |

**3.7 : *Vaccination -*** The incidence of two major viral diseases like Newcastle and Infectious Bursal Diseases occurs very often in Bangladesh. Therefore, the chickens were vaccinated against those diseases. In case of Newcastle disease. BCRDV first dose was given at 3-5 days and a booster was given at 17 days. In case of Infectious Bursal Diseases first dose was given at 12 days of old and second dose wae given at 22 days of old ( Oliveira, 1974 ). Medication was performed as per need during intensive rearing at Hathazari area. But to explore the actual performance of the breed as well as as the effect of location and supplementation on mortality, medication was not emphasized during study in the field.

**Table 5:** Vaccination schedule of commercial broiler.

|  |  |  |
| --- | --- | --- |
|  **Age**  |  **Vaccine (Trade)**  |  **Route**  |
|  4th day |  BCRDV  |  Eye drop  |
|  12th day  |  IBD-L  |  Eye drop  |
|  17th  day  |  BCRDV |  Eye drop  |

Most of the farmers vaccinated their birds regularly against infectious diseases. It was noticed that 70% farmers performed ND + IBD vaccine with their Booster vaccination while others 30% farmers only ND + IBD.

**Figure 5 :** Prevelance of scheduled vaccination in broiler farming

 Source Field survey 2007

 **3.8 : *Problems of broiler farm in Hathazari Upazilla -***

1. Shortage of quality feeds with proper nutrition

2. Insufficient electricity and disruption

3. High prices of Feeds

.4. Low quality Day Old Chicks

5. High mortality rate of chicks

6. Insufficient farming and bio-security knowledge.

7. Lack of well-established diagnostic lab and professionals

8. Lack of post mortem facilities

**CHAPTER - IV
CONCLUSIONS & RECOMMENDATIONS**

From the study it can be seen that body weight of broiler was achieved through proper care and management by the studied farm. Broiler farming has bright prospects in generating self-employment at Hathazari, Chittagong with providing training skills and necessary extension services by DLS and NGO’s at desired level. As several poultry hatcheries and feed companies are supplying chicks and feeds, farmers have opportunity to collect feeds and chicks with competitive market price but as the farmers are collecting chicks and feed from dealer, dealers might be taking opportunity from farmers as procuring of feed are made on credit from dealers might be indicating the financial weakness of farmers and this might be making them dependable on dealer. Credit facilities through bank and NGO’s with lower rate of interest might be helpful for the broiler farmers to run their enterprise without dependency on dealers. Day old chicks (DOCs) price and live broiler marketing system will be suggested that selling live broiler at high price and buying day old chick at low price for making farm business as a profitable enterprise. If all the managemental factors such as feeding, watering, temperature, lighting, sanitation, vaccination, disease control, diagnosis of disease and medication are properly practiced, then the production could be achieved. Further more intensive research is needed with larger sample size for final recommendation on the broilers.

#  LIMITATIONS

During my study period following limitations were observed -

a) Short duration of the study period.

b) Sample size was very small.

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**Appendix**

**Questionnaire for data collection**

1. a. Name of the farm..................................................

 b. Name of the owner....................

 c. Address: .....................………

**2. Husbandry practice:**

A. Housing: a) intensive b) semi-intensive

 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 c) filter
* 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. Vaccination: a) ND b) IBD c) IBD booster
3. Number of sheds:
4. Drainage facility: a) sufficient b) insufficient.
5. No of batches per year ………………….
6. Gap between 2 batches …………………
7. Feed cost per batch ………………………….
8. Per head feed required ……………………
9. Prices of DOC ……………………………
10. Total days of brooding …………..
11. Age of selling birds …………………..
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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 ***Biography***

This is ***Hameem Mollick Meem***, son of Mohsin Mollick and Kamrun Nahar. I am the dweller of Comilla. I completed S.S.C in 2008 with GPA-5 and H.S.C in 2010 with holding CGPA-5. I got admitted in Doctor of Veterinary Medicine course under Chittagong Veterinary and Animal Sciences University in 2010- 2011 session. During internship program, I got an opportunity to make a production report on comparative analysis of management & husbandry practices in different broiler farms of Hathazari, Chittagong under supervision the of Assistant Professor **DR. Babu Kanti Nath,** Dept. of Dairy and Poultry Science. In future I want to develop myself as a veterinary practitioner by dealing as veterinary surgeon. I am enthusiastic to be a researcher in the field of Large animal Medicine and want to be a skilled poultry practitioner in future.