

CHAPTER I

Introduction

In Bangladesh, there are two types of broiler farming of which contract broiler farming is still under trial while independent small-scale broiler farming is dominant and performed for the development of broiler sector (Islam et al. 2010). The business poultry cultivating is getting greater fame, gigantic work openings are being made among the provincial ranchers, retailers, brokers, different help servicemen, money managers etc. Poultry population in Bangladesh is estimated about 304.17 million where chicken population is about 255.31 million. Despite tremendous progress of poultry industry in Bangladesh, it has been suffering from a number of infectious diseases such as avian influenza, Newcastle disease, fowl cholera, salmonellosis etc. The major constraints which lead to serious economic loss as well as discouraging poultry rearing in Bangladesh are the outbreaks of several devastating diseases (Das et al., 2005; Hamid et al., 2017; Rahman et al., 2017; Najmin et al., 2018). The growth rate of chicken last 10 years was 3.75 and 3.05% respectively.

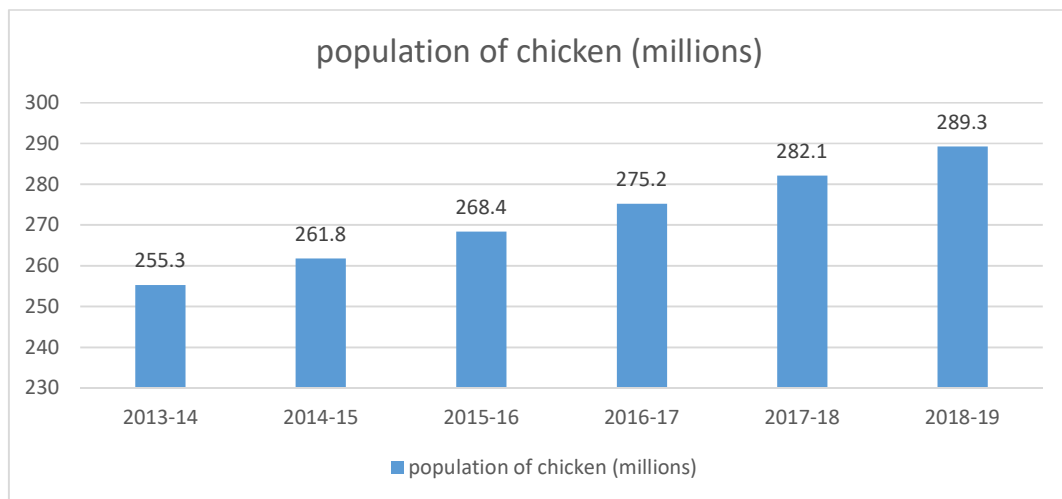


Fig 1: Population of chicken (source: Department of livestock service, 2018-19)

According to 2016-17 fiscal year govt. poultry farms are 92 lakhs and non govt. poultry farm are 1492 corer and 24 lakhs. Per head meat requirement is 121.74 gm and per head egg requirement is 92.75. (Annual Reports of the Ministry of Fisheries and Livestock (2017)

Among the sector of poultry industry broiler industry are growing fast. Broiler chicken attains 2kg live weight at 6-8 weeks of age. They can be utilized feed efficiently for meat

production. The production of meat depends on various factors such as nutrition, feed intake. The feed conversion efficiency is the ratio of amount of feed intake and the total live weight of birds.

Average energy intake is 1925 kcal as against the requirement of 2273 k. cal/day/capita. It is the biggest deficit. The deficit in the intake of children and expectant and nursing mothers is the severest. Thus picture is more serious in the rural areas. To meet the notational requirement of our country needs to produce more meat, egg along with other food items.

With the support of public sector the existing commercial poultry meat production system has been developing in the country with some emerging problems of different nature. Both commercial and smallholder producers are involved in broiler production. Commercial poultry rearing is extended to upazilla level and average 115 broiler farms were found in each upazilla. Rahman (2003) described a linear increase in broiler meat production in the last decade. Poultry meat contributes 29percent of the total meat in Bangladesh. Contribution of poultry to GDP and foreign exchange is essential to be 4.31 percent (GOB 1999) Poultry is one of the most prospective sectors for development. It is a quick money returnable enterprise mat needs relatively small initial investment (Raha 2007).

About 85% private hatcheries produce only broiler DOC (Day-Old Chicks) whereas 15% hatcheries produce both broiler and layer DOC. The broiler parent stock farms are purchasing parent Stock (PS) DOC both from home (53%) and abroad (47%). The available breeds are Hubbard classic, Cobb-500, Hybro (PN and PG) and Ross (Saleque, 2007). The commercial farms in our country are usually small to medium with some large farm also. These are concentrated mainly around the large cities and semi urban areas and to some extent to the rural areas. There are about 60-70% are the production costs is feed costs. Mainly the feed utilization by the broilers determines the farming profitability. In broiler feed conversion ratio (FCR), feed conversion rate (FCR) or feed conversion efficiency (FCE) is a measure of bird efficiency in converting feed mass increased body mass. Especially FCR is the mass of the food eaten divided by the body mass gain, all over a specified period of time. FCR is dimension less that is there are no measurements units associate with FCR. Birds that have low FCR are considered efficient users of feed. FCR can be measured as:

$$\text{FCR (Feed conversion ratio)} = \frac{\text{Total feed intake in kg}}{\text{Total weight gain in kg}}$$

Feed intake and feed conversion efficiency (FCR) are affected by rate of growth of birds; contents of ration, nutrient adequacy of the ration, environmental temperature, health condition of the birds. The meat production depends on mainly FCR. In Bangladesh, there

were abundant study was available on broiler parent stocks and the effects on different feed and nutrients for growth of broiler farm.

There are 167 commercial broiler farms present in the Banskali upazila. Most of the farmers have small to medium size broiler farm with 500-1000 birds. All farmers rear their bird under intensive farming system. They use the vaccination schedule of that hatchery from where the chicks are brought. Different farms use different company feeds. Poultry practitioners are not available in this upazilla.

However, very little number of studies is found in literature about the FCR on normal commercial broiler farms. Therefore, the present study was undertaken with the aim of knowing the broiler rising at Banskali upazila, Chattogram. To achieve the aim the following specific objectives were studied.

Objectives

- 1) To study the management of commercial broiler farming.
- 2) To study the live weight and live weight gain of commercial broilers.
- 3) To know the feed intake and FCR.
- 4) To know the income from broiler rearing.

CHAPTER II

Materials and Methods

a) Selection of the study area

To choose zone irregular examining method was followed. Banshkhali upazilla Chattogram locale was chosen purposively for my examination. During winter season, nature become so freezy and in summer season it turns out to be so sweltering. It has some swamp territory.



Fig 2: Map of Banshkhali Upazilla

b) 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 me. The data before their final use were pre-tested and modified.

Study were carried out by keeping the following records

i) Flock Size

The majority (85%) of flocks comprised 500-600 birds within the overall range between 500-1000.

ii) Housing

During my study I have seen that the farmer constructed gable type house for bird which is made by bamboo and tin and swing the wire net around the houses, the houses are south facing and well ventilated.

iii) Floor, Feeder and water space are shown in the following table.

Table-1: Floor, Feeder and water space

Age	Floor space	Water space	Feeder space
First week	0.5 Sqft/bird	0.5 inch/bird	1 inch/bird
Second week	0.5 Sqft/bird	0.75 inch/bird	1.5 inch/bird
Third week	1 Sqft/bird	0.75 inch/bird	1.5 inch/bird
Fourth week	1 Sqft/bird	1 inch/bird	2 inch/bird
Fifth week	1 Sqft/bird	1 inch/bird	2 inch/ bird

Source: field survey

* Water is supplied from tube-well.

(iv) Treatment just after arrival of the chick in the house

After appearance of the chick in the house ranchers initially offered water to the chick with the blender of Glucose, Vitamin and minerals. At that point feed was given in a paper sheet for the initial 3 hours, after that feed was given in feeder. Number of waterer and feeder utilized by the rancher is appeared in following table.

v) Brooding

Table-2: Number of electric bulb for heat source

Number of chicks	No. of electric bulb	
	Summer	Winter
500	100 watt 2 in number and 60 watt 1 in number	200 watt 2 in number and 100 watt 2 in number

vi) Temperature schedule for broiler Brooding is given in following table.

Table-3: Temperature schedule for broiler Brooding.

Age (Weeks)	Temperature of Brooding
0-1	90°F
1-2	85°F
2-3	80°F
3-4	75°F
4-5	75°F

Source: Field survey

vii) Lighting schedule of broiler farm is shown in following table.

Table-4: Lighting schedule of broiler farm

Age (days)	Light/day (hour)
1-3	24
4-7	23
8-14	20
15-21	8
22-28	8 hours dark at night
29-35	8 hours dark at night

Source: Field survey

viii) Feeding

Since feed constitutes about 70% of the cost of producing broilers, it is important to give special attention to it. In this respect farmers follow the literature of the feed company. It has been seen that all the farmers used two different quality of feed and it was given firstly in paper sheet (First 3 hours) and then in feeder.

Farmers usually followed the ½ feed level in the feeder. The feeders were be kept up to the neck level of the bird.

Vaccination schedule of commercial broiler is shown in following table.

Table-5: Vaccination schedule of commercial broiler

Age	Vaccine (Trade)	Route
4 th day	BCRDV	Eye drop
11 th day	IBDL	Eye drop
21 st day	RDV	Eye drop

xiii) Marketing of Broilers

Broilers in this region were raised and sold when age at 5 weeks either at the local market or at the farmer doorstep to individual and local traders.

xiv) Data analysis

All data are collected from farm and recorded by using statistical tools. For calculation I have used statistical tools & Microsoft excel. For making chart I have used chart tools format and Microsoft excel.

CHAPTER-III

RESULTS AND DISCUSSION

3.1 Feed intake and feed conversion efficiency

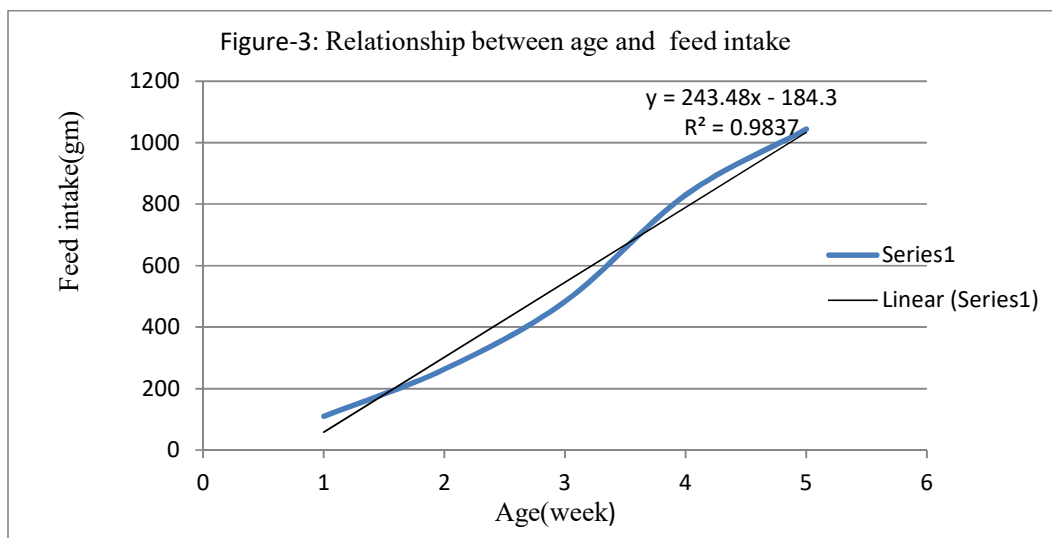
The average weekly feed intake and feed conversion efficiency (FCR) of the Cobb500 broilers under intensive farm are presented in table-6 and the rate of feed intake (age vs feed intake) are shown in the figure-3. The figure shows that feed intake of broilers were gradually increased with the increase of age of the bird. The higher R^2 values indicated that the feed intake of broilers was good fitted with the linear regression. The table-6 shows that the feed intake of broilers at 5th week of age was 1044gm/bird/ week. From the table-6, it could be seen that FCR of broilers in the farms were gradually increased with increase of age of the bird. That indicates that with the increase of age the broiler consume higher amount of feed that conversion into meat. The overall feed conversion efficiency of the Farm was 1.75 in each week.

This study found that the FCR of broiler is 2.00:1 at 5th weeks age which is more than the research Goliomytis et.al.2003 who found the FCR 1.78:1. P.K. Sarkar, 2008 reported that the FCR of commercial broiler is 1.62:1 at 28 days but this study found that the FCR of commercial broiler is 1.99:1 at 28 days which is more than Sarkar report, (2008).

Table-6: Mean Feed intake and Feed Conversion Ratio (FCR) of birds

Traits	Feed intake of birds/week(kg)	Feed Conversion Ratio(FCR)
Day old	-	
1 st week	55±1.08	1.00±0.03
2 nd week	131.60±2.41	1.77±0.03
3 rd week	241.75±2.60	1.98±0.02
4 th week	415±2.35	1.99±0.04
5 th week	522±1.79	2.00±0.09
Overall	273.07±86.79	1.75±0.19

	a (intercept)	b (slope)	R²
Feed conversion ratio	-184.3	243.4	0.98



3.2 Live weight and live weight gain

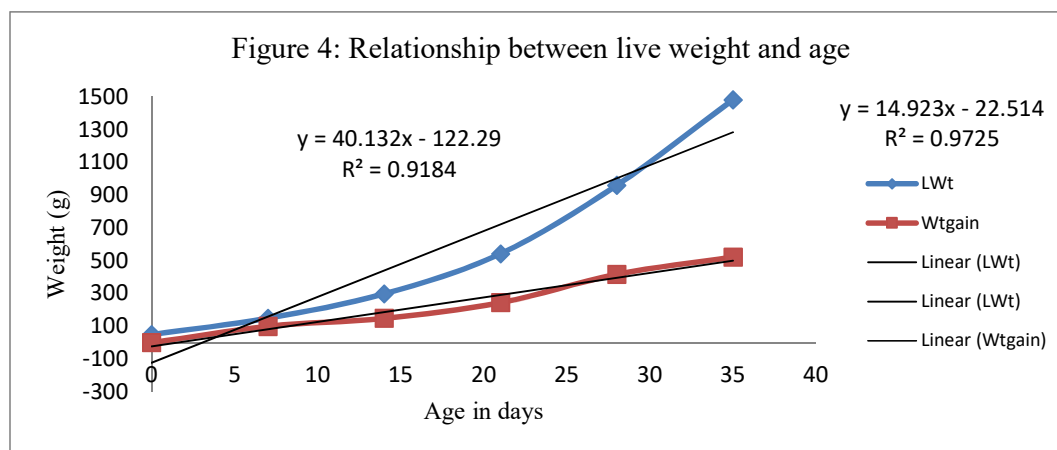
The live weight and live weight gain of Cobb-500 broiler under intensive farm are presented in table-7 and the rate of weight gains (age vs liveweight) are shown in figure - 4. The figure shows that liveweight of broilers were gradually inclined with the increase of age. The R² values were very high (curve 1 and 2), which indicated the weight gain of broilers were steady and good fitted with the liner regression. From this table-7, it was seen that the broilers of the farm were increased liveweight with the increases of age. The table-7 shows that the live weight of broilers at 5th weeks of age were 1481.32 gm/bird and the live weight gain of broilers at 5th week of age were 522.18gm/bird. From the table-7, it could be seen that weight gain of broilers in the farms were gradually increase with increase of age. That indicated that with the increase of age the broiler consume higher amount of feed that conversion into meat. The overall live weight gain of the farm 286.37gm/week/bird.

This study conducted that the liveweight of commercial broiler at 5th weeks of age is 1481.32gm/bird which is less than the research of Shahidullah et.al. (2008) who found that the live weight of commercial broiler at 5thweeks age is 1770gm/bird. The study found that the live weight of commercial broiler at 4th weeks age is 959.14gm/bird which is less than the report of Sarkar, 2008(1250gm/bird).

Table -7: Mean Live weight and Live weight gain of birds

Traits	AverageLive weight (gm)/ week	Live weight gain(gm)/week
Day old	49.45±0.59	-
1 st week	149.54±2.37	100.09±2.03
2 nd week	298.24±3.39	148.70±1.88
3 rd week	542.44±3.56	244.20±1.82
4 th week	959.14±9.47	416.70±7.38
5 th week	1481.32±19.66	522.18±13.90
Overall	580.02±6.5	286.37±25.30

	a (intercept)	b (slope)	R ²
Live weight of birds	-122.20	40.13	0.92
Live weight gain of birds	-22.51	14.92	0.97



3.3 Cost and return from the flock

The total cost and total income from the studied commercial broiler flock under intensive farming are presented in the table-8. The table shows that the total cost and total income were 86600Tk and 94276Tk respectively. From the table-8 it could be seen that the profit of the flock was somewhat less because of higher price of chick and feed. The table shows that the cost/bird, total profit, profit/bird were 173.2, 7676 tk and 15.35Tk respectively.

This study found that profit/bird is 15.35Tk/bird which is less than the report of P.K.Sarkar 2008(21.11tk/bird). This study found that profit/bird is 15.35Tk/bird which is more than the report of Shaikh et al. who found 6.56tk/bird.

Table-8: Cost and return from the flock

Cost:

Flock Size	Chick Cost	Feed Cost (Up to 35 days)	Electricity, Labor, Litter, Medicine/ Vaccine cost	Miscellaneous	Total	Cost/ bird
500	@ 45Tk/chick= 22500	2.73kg/bird@ 40.00Tk. =54600	@ 15Tk/bird = 7500	2000 Tk.	86600 Tk.	173.2 tk

Income:

Flock size	Sale price	Profit	Profit/bird
500	@130/ Kg = 490×130×1.48 (2% mortality) = 94276 Tk. (1.48 Kg/bird)	94276-86600 = 7676Tk.	15.35Tk.

CHAPTER IV

CONCLUSION

From the study it can be seen that the body weight of Cobb-500 which was achieved through proper care and management of broiler rearing by the studied farm. The live weight, live weight gain, feed intake and FCR at 5th weeks of age were 1481.32gm/bird, 522.18gm/bird/weeks, 1044gm/bird/week and 2.00:1, respectively. It also found that the cost /bird and profit/bird were 173.20Tk and 15.35Tk, respectively. If all the management 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.

CHAPTER V

LIMITATIONS

- The study period was short.
- This study was limited to certain parameters and some of the parts of the study were left untouched due to time, so I wish future researchers could elaborate this study by approaching the untouched portion.
- Farmers were not cooperative during the study
- Great constrain was corona pandemic.

CHAPTER VI

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BIOGRAPHY

My self jony dev, the author of this case report would like to introduce as Intern. DR of Chittagong Veterinary and Animal Sciences University (CVASU) have passed four years academic career in faculty of veterinary medicine and attended several clinical training programs on Veterinary Medicine in Bangladesh. As a student of Veterinary science, the main mission and vision of my life is to do something better and creative job by dint of my academic knowledge and experience, for the development of livestock as well as development of the economic condition of our country. This production report on **Broiler Farm Management, Broiler's Live Weight Gain and Income from Broiler** is the first step to fulfill my dream. I strongly assure that I have done all the works furnished here in this report and I hold entire responsibility of the information given here which are collected from different books, journal and websites.