

A Study on Backyard Poultry (Chicken) Management and Production System at Chandhanaish Upazilla, Chattogram



A Production Report Submitted By

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ABSTRACT

Backyard Poultry is one of the key source of protein for the rural people in Bangladesh. The present study was conducted in Chandhanaish upazilla under Chattogram district of Bangladesh. Data was collected from 20 randomly selected households in Chandhanaish upazilla and analysed statistically. The study was undertaken to know the present status of backyard poultry rearing. This study shows that there is no scientific method followed in backyard farming in relation to housing, feeding. Most (55%) of the poultry house were made shortly wood and tin. Litter materials used by the farmers were sand, ash, rice husk. About 20%farmers did not use any litter materials in their poultry house. About 40% farmers provided boiled rice, rice polish and broken rice. Pond water, tube well water were supplied by 55%, 45% farmers respectively. Almost all the poultry raisers reared their poultry through free-range scavenging system. Most (65%) of the farmers did not vaccinate their poultry. New castle disease was identified as the major threat. Egg production of chicken was 30-45/year.

Key words: Backyard, present status, scavenging, production.

Chapter 1

INTRODUCTION

Bangladesh is an agro-based country. The main occupation and way of life for the rural people is agriculture. Most of the people lived in the village, don't have their own land to cultivate. They depend on others property and also the seasonal crop. The rural people are illiterate and poor. They are unable to operate and manage technical enterprise like broiler, layer and duck farms efficiently with a high return on the investment. Poultry production on a smaller scale like in the Smallholder Livestock Development Project, the poultry for Nutrition Project and the Participatory Livestock Development Project are useful to improve the native backyard poultry under scavenging and semi-scavenging system.

Poultry keeping is an integral part of multi-species subsistence livestock farming in Bangladesh. The method of keeping poultry under the subsistence farming has been characterized as the backyard poultry farming (FAO, 2006).

Backyard system in Bangladesh is a low-input and low-output system which mainly comprises of indigenous genetic resources and crossbreds birds housed with minimum facilities (Alam et al., 2014). This system allows the bird free-movement for scavenging food sources and in most of the cases, the birds are supplemented. Chicken, ducks and pigeon are the most common backyard poultry species of Bangladesh. However, quail, goose, guinea fowl and turkey are also kept by the farmers mainly as the hobby (Alam et al., 2014 and Dolberg, 2008). The eggs and meat of the backyard poultry farming is mainly used for home consumption and the surplus are for income generation, particularly by the women who spend this money to support children's education and to mitigate family's financial gap in severe needs what help them to be empowered in the male-dominated rural families of Bangladesh (Islam et al., 2017) with kitchen waste, family food leftovers and self-produced food grains by the farmers (Sonaiya, 2007).

According to Das et al. (2008) and some other researchers, it is clear that backyard poultry meat and eggs are still highly demanded by the consumers even at premium prices. Scientifically, it has also been proved that free-range poultry meat and eggs are enriched with some valuable nutrients. For example, free-range egg contains 2-times higher omega-3 fatty acids, 3-times vitamin E and 7-times beta carotene than that of the similar size caged egg. Free-range eggs also been reported to supply 33% less cholesterol, 25% less saturated fat and 66% more vitamin A compared to equal size caged eggs (Axe, 2016). Other than eggs, the meat of free-range scavenging chicken has

also been proved to be rich in taste and flavor (Islam et al., 2002).

There is considerable scope for improving the production performance of scavenging systems with low-cost intervention (Conroy et al., 2005). Improved birds in backyard poultry farming can ensure food security to the needy villagers (Pathak and Nath et al., 2013). On the basis of needs, extension program should be introduced to farmers to create awareness as well as to focus the sector (Billah et al., 2013). Attention should be focused on backyard poultry by the government and non-government development agencies to meet the demands for 2020 (Rao, 2006).

Chapter 2

OBJECTIVES

The present study was undertaken with the following objectives.

- To know the socio economic status of scavenging poultry keeper.
- To know the traditional scavenging poultry rearing of Bangladesh.
- To gather knowledge about the management pattern of family level poultry keeping.
- To identify the problems associated with poultry rearing in rural area.
- To know about the vaccination schedule maintaining in this poultry system.
- To know the biosecurity system maintain.
- To suggest simple and low cost practices to enhance sustainable income generation to generation through backyard poultry.

Chapter 3

LIMITATION OF THE STUDY

There was some limitations in the study of background poultry rearing. Because the time for the study was limited and the study area was also small. The system of poultry rearing is unorganized in rural area and most of them are illiterate and it was the main reason for not getting the proper and reliable data. So it is difficult to know the real picture of backyard poultry rearing of the whole country.

Chapter 4

MATERIALS AND METHODS

4.1 Study area and period

The present study was conducted at Chandhanaish upazilla under Chattogram district of Bangladesh. Chandhanaish is located in 22°12.7' north latitudes and in 92°2.5' east latitudes. Data were collected randomly from a different region of Chandhanaish upazilla during October to November 2019. In the Chandhanaish upazilla there is a tradition of poultry rearing through backyard system.

4.2 Data collection

In the study area 20 households were selected randomly from different villages. Primary data Primary data were collected from the direct observation of housing, feeding and litter management of different poultry houses under the study areas. Data were also collected from the interview of farmers with the help of pre-formed questionnaires. The obtained data were analyzed in accordance with the purpose of the study.

4.3 Data analysis

Collected data were tabulated and analyzed by descriptive statistics such as average, percentage using the software Microsoft Excel.

Chapter 5

RESULT AND DISCUSSION

5.1 Male female ratio

In backyard system, people usually don't maintain the ratio of male-female poultry. Rather people prefer to keep single or multiple numbers of cocks in their flock at their own choice. In the study, it was found that more than 90% of the farmers kept a single number of cock in their flock for breeding purpose either it was the small or large flock.

5.2 Housing system

Housing Materials	Household Number	Percentage (%)
Wood and tin	11	55
Concrete	4	20
Earthen	3	15
Bamboo	2	10
Total	20	100

Table 1. Materials used in poultry housing.

There was a close similarity in making poultry houses in Chandhanaish region. In the study areas, 60% of the people made their houses very close to their own residents and 40% of the people made completely separated poultry houses keeping a minimum distance. Most (55%) of the poultry houses were made shortly with wood and tin. Concrete made house were 20%, earthen made houses were 15% and 10% houses were made with bamboo, polythene and other materials. Halim (1988) reported in Naogaon district of Bangladesh that 44%, 28%, and 28% poultry were kept in bamboo cages, living house and earthen house, respectively.

5.3 Litter used in poultry house

Litter materials	Farmers numbers	Percentage (%)
Sand	6	30
Ash	4	20
Both sand and ash	2	10
rice husk	4	20
No litter	4	20
Total	20	100

Table 2. Litters used in poultry house.

Different poultry householders used different litter materials on the floor of their poultry houses. It was also found that some of the farmers did not use any litter materials in the poultry houses. In the study areas, 30% farmers provided sand, 20% provided ash and 10% farmers provided both sand and ash, 20% farmers provided rice husk. Alam et al., (2014) observed that 67.50% farmers used ash then using sand or paper and ash together as a bedding material in their poultry house. It was found that 20% farmers did not use any litter materials on the floor of their poultry houses.

5.4 Feed ingredients provided by farmers

Feed ingredients	Households number	Percentage (%)
Boiled rice and rice polish	4	20
Broken rice and rice polish	4	20
Boiled rice and rice polish and broken rice	8	40
Boiled rice ,rice polish, broken rice and paddy/rice/wheat	4	20
total	20	100

Table 3. Feed ingredients provided by farmers.

Backyard poultry raisers usually provide less supplement feed, unlike commercial poultry raisers. Some common feed ingredients were used by the farmers. Only boiled rice and rice polish were used by 20% of the farmers. Again only broken rice and rice polish were used by 20% farmers. About 40% farmers used boiled rice, rice polish and broken rice at the same time and 20% of the farmers were found to provide additional paddy or rice or wheat along with boiled rice, rice polish and broken rice. Due to scavenging system farmers provided the mentioned feed ingredients single time or twice in a day.

5.5 Water management

Backyard poultry farmers were less conscious of good management and sanitation practices. They were not cautious about a water-borne disease. They provided that water which was nearer to them. In the study areas, 55% of the farmers supplied pond water, 45% of the farmers provided tube well water. Majority of the water sources were found as unhygienic.

5.6 Rearing system

There is a traditional practice in backyard poultry rearing system. Almost all the farmers rear poultry in free-range scavenging system. This result agrees with the result of Dutta et al., (2013) who reported that free-range scavenging system has prevailed in chicken all the year round. In the study areas, only a single household was found to rear their poultry by the semi-scavenging system. In the rural areas, women are the main contributors to backyard poultry farming practice. In the study areas, 80% poultry raisers were female where only 20% poultry raisers were male.

5.7 Vaccination

In the remote areas, people were less aware of vaccination. But in many areas, people were becoming more cautious to reduce mortality rate through vaccination. It was found that only 65% farmers vaccinate their poultry and 35% usually ignore the vaccination strategy. Due to the higher prevalence of Newcastle disease, people mainly immunized their poultry against this disease.

5.8 Diseases of poultry

There are few numbers of diseases in backyard poultry. But some of the infectious diseases cause tremendous mortality of the birds in the rural areas. Among those diseases, Newcastle disease is found as the major cause of death of the chicken. Hossain et al., (2013) reported that ND was of the major infectious diseases that reduces the number and productivity of traditionally managed chickens. During outbreak, avian influenza becomes most devastating for poultry. Other diseases of chicken included fowl pox, fowl cholera, salmonellosis, necrotic enteritis and coccidiosis which cause great economic loss of the rural poultry farmers.

5.9 Causes of mortality

Two main causes of mortality of poultry were identified during the study period. Death of 85% poultry occurred due to different diseases and 15% of death occurred due to predators. In the study it was found that mortality by diseases were results from the lack of consciousness about vaccination strategy. Islam et. al., (2015) mentioned that the major cause of death in poultry occurred by Ranikhet disease. Dutta et al., (2013) reported that high mortality of their chicks occur due to Newcastle disease, salmonellosis, gumbo and coccidiosis. Predators which are threat for indigenous poultry are mainly rat, dog, cat etc. found in the study area.

5.10 Production performance

The production performance of backyard poultry is much lower than the commercial poultry. Age of sexual maturity varies according to the management, particularly on the availability of feed in the villages. Egg production in 80% of the chickens ranges from 30 to 45 per year. The farmers of the study area use fertile eggs as table purpose and also for incubation. Broody hens were used mainly for incubation of chicken eggs. The number of eggs set for incubation ranges from 8 to 10 per hen. Body weight gained in matured hen mostly ranges from 1-1.5 kg that also used as meat purpose.

Chapter 7

CONCLUSION

The backyard poultry farming in Bangladesh is revealed as a source of income for the poor and marginal people of the rural areas. As low investment and quick profit in the poultry sector, people should be encouraged in poultry farming. Rural people need support from government as there is crisis in the vaccination, marketing facilities. Training and other extension programmes should be carried to encourage farmers.

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