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Article

Small scale production system of broiler in Pabna and Sirajganj district of Bangladesh

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Abstract: The study was conducted in Pabna and Sirajganj districts under Rajshahi division of Bangladesh to assess the current scenario, feasibility, vaccination service, net income from small scale Broiler farming. The information was collected using pre-structured questionnaire from 50 randomly selected respondents who were involved in broiler farming. We collected the data related to family member(s), education, main occupation, training, annual income, number of broiler in each batch, name of feed Company; types of shed, existing marketing system etc. Results showed that out of 50 respondents 80% completed their graduation, 10% medium level of educated and rest of the respondents were illiterate. In case of farmer types, 29% small farmers, 41% medium type & rest of them were large type farmer. The day old chick (DOC) price was ranging from 40-42 taka each of all respondents. Most of the respondents used ready broiler feed and purchased from Kazi, Provita and Nourish Co.Ltd. About 30-40 % farmers marketed their birds at 32-35 days and final weight was ranging from 2.06- 2.29 kg/bird. The result of present study could be considered as a useful tool to new entrepreneurs at decision making in broiler production in Bangladesh.

Keywords: broiler production; farming system; DOC

1. Introduction

Bangladesh is a densely populated country. Almost 80% people are involved in farming. Farming is the activity or business of growing or raising livestock. Aspects of husbandry, productivity parameters, diseases, marketing and farmer attitudes in small-scale broiler farms in Some Selected Areas of Bangladesh were studied using a questionnaire-based survey. Special attention should be given to other sectors in agriculture like broiler rearing. As indicated by Assa (2012), poultry production is the fastest growing component of global meat production, with developing and transitional countries assuming a leading role. The potential for the development of small-scale poultry as well as broiler sector has been successfully proved and the contributions of this sector have a significant role in the economy of Bangladesh (Rahman, 2003). Recently, the demand for broiler meat is increasing in developing countries. In Bangladesh, the demand for broiler meat is increased rapidly, propelled by increased income and population growth and urbanization. The poultry sub-sector is an important path in fostering agricultural growth and reduce malnutrition for the people in Bangladesh. It is an integral part of farming system in Bangladesh and has created direct, indirect employment opportunity including support services for about 6 million people. 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. The sector accounts for 14% of the total value of livestock output and is growing rapidly. 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. It is stated that in Asia, poultry manure is used as feed for fish where poultry are raised on top of the ponds as part of an integrated system for example, fish-cum-duck farming. Development of poultry has generated considerable employment through the production and marketing of poultry and poultry products in Bangladesh. Keeping all points in mind the study was designed to know the current scenario and the feasibility of broiler production in Bangladesh.

2. Materials and Methods

Among several methods of data collection, survey method was preferred in this research program.

2.1. Selection of the study area

The present study was conducted in Dhaka, Pabna, Rajshahi and Tangail districts of Bangladesh. The area was selected for good communication facilities and accessibility of broiler farms. No study of this type was directed before in this zone.

2.2. Selection of farmers

A total of 50 respondents who had supreme interest & had poultry species specially broiler farms were selected for data collection.

2.3. Preparation of the interview schedule

The interview program was organized based on the objectives of the study. Most easy, simple and straight questions were used to know information. The designed interview scheduled was organized to collect information from the farmers about production, maintenance system, problems & prospects of broiler rearing.

2.4. Collection of data

Expected data were collected following the direct interviews and making individual visits. Interviews were generally conducted in the market or in the field or the respondent's house during their leisure time. Outstanding support, hospitability, cooperation and co-ordination was obtained from all the farmers during data collection.

2.5. Compilation of data

After completion of data collection, all interview schedules were compiled, coded, tabulated and analyzed based on the objectives of study. The collected data were first transferred to MS- Excel spread sheets and compiled to facilitate the needed tabulation.

2.6. Statistical analysis of data

Analysis was mainly done through tabular and graphical representations. Tabular technique was applied for the analysis of data using simple statistical tools like arithmetic mean, maximum, minimum, percentage, standard deviation and correlation matrix.

3. Results and Discussion

3.1. Farm and family information

Farm & family information according to their average age, group, farm size, average bird/group and education level are shown in Table 1 and it was revealed that 100% of the farmers in middle age and ranging from 31 to 50 years. That is similar to Aganga *et al.* (2000) conducted the study in the Southern region of Botswana reported that maximum farmers involved in poultry farming within the age ranged from 35 to 50 years. The present study was undertaken to evaluate the performance of broiler farming, management status of hybrid commercial broiler farming in local villages of Bangladesh. We also observed those people completed the education level of SSC involved at small broiler farming compared to the others two (Figure 1). In large type maximum farmers completed graduation and took as a principal occupation for their earning source (Figure 1).

3.2. Feed consumption and feeding schedule management scenario in broiler farming

Feed intake of broiler correlated with the age and increased up to the marketing. Farmers maintained the feeding schedule formulated by the commercial feed Co. ltd from 1^{st} to 5^{th} weeks of age. From the Figure 2 we observed that in the 1^{st} week comparatively higher amount of feed consumed by the bird of medium type than other types. But during 5^{th} weeks of age average feed consumption was slightly higher in small group than birds of large and medium types (Figure 2).

Feeding scheduled was maintained by all types of respondents in commercial broiler farming. From the study it was observed that hundred percent of farmers used ready feed from different private Co.Ltd for feeding their birds. Average price of feed was almost similar ranging from 42.2 to 42.71 taka per kg in all groups (Table 2).

3.3. Housing management practices

Housing system is a crucial factor for commercial farming specially broiler rearing. Kacha, and Semi-bricks type's sheds were most commonly used by the broiler farmers. The following Figure 3 revealed that Kacha & Semi-bricks types were used by all respondents but concrete type was not used by the farmers. As small stake holder invest lower amount of money for this reason they used Kacha type shed but large group also used Kacha shed. Semi-bricks type was maintained mostly by medium holder (Figure 3).

3.4. Chick source, price, production cost and marketing system of broiler in the studied areas

From the Table 3 we found that hundred percent respondents used day old chick (DOC) and purchased from commercial hatchery for their farming. Average price was almost similar in small, medium and large type farmer (Table 3). But DOC weight was slightly higher (54-55.71 g) in small & medium type farmer than large type farmer (51.2 g). The market weight of broiler was higher in large types (2.3 kg/bird) than other two types at 5^{th} weeks of age. From the below Table 3 we also found that selling price of broiler was almost similar in all groups (116-117 tk/kg). But the selling price of broiler fluctuated seasonally. The average production cost of broiler was more or less similar in small and medium holder (108 tk/kg). In case of large farmers had slightly higher production cost (Table 3).

3.5. Litter management practices

Litter management is an important factor for successful and economic broiler farming. From the following table perceived that saw dust & rice husk were used normally as litter material where rice husk was used in maximum level than saw dust in all groups (Table 4). In case of thickness of litter was 2 inches in summer season and 4 inches in winter season in all types farmer. They changed their litter material at 30 days' interval. They were not interested to reuse of litter due to outbreaks of diseases (Table 4).

3.6. Vaccination and medication practices in broiler farming

Broiler farming is mostly susceptible to many viral diseases and may occur any kind of havoc in the farm. In case of vaccination Newcastle Disease (ND) and Infectious Bursal Disease (IBD) vaccine were used by all farmers for the commercial broiler as shown in Table 5 and a similar result was reported by Islam *et al*. (2014). About 42% of the farmers used vaccine for fowl pox, 30% used others (Table 5). The farmers were also maintained strong medication techniques for the out breaks of Avian Influenza Coccidiosis and Salmonellosis. Oral saline, glucose, vitamin C in water, amino acids, enzyme, electrolytes, and liver tonic were used by the farmers to enhance the growth performance of broilers.

Table 1. Farmers' education level and farm size.

Parameter	Small (up to 500)	Medium (up to 1000)	Large (up to 1500)
Average bird/group	444	914.29	1680
Farm size (%)	29.41	41.18	29.41
Average age (age)	31.6	34	42

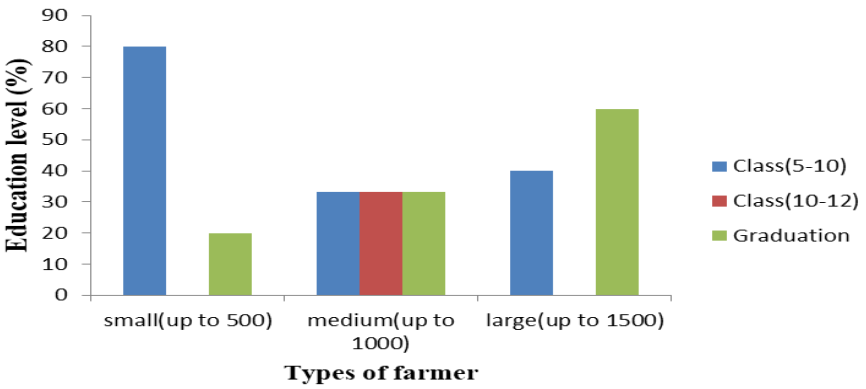

Figure 1. Educational background.

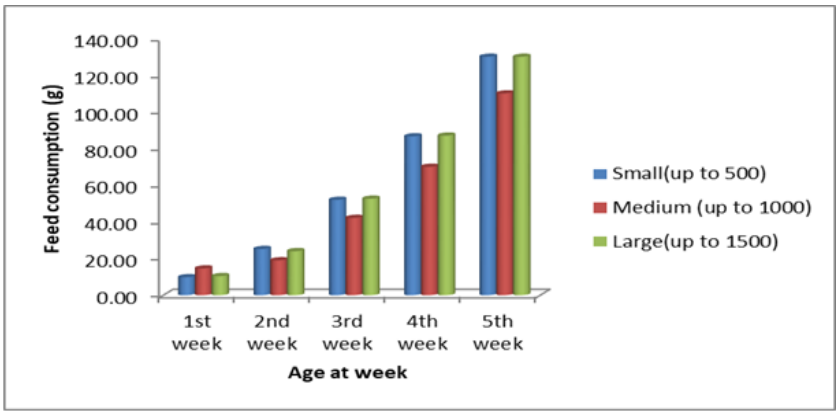

Figure 2. Feed consumption (g/day/bird).

Table 2. Feeding management practices.

Parameter	Small (up to 500)	Medium (up to 1000)	Large (up to 1500)
Feeding Schedule maintained (%)	100	100	100
Ready feed used (%)	100	100	100
Average Price of Feed (Tk/kg)	42.4	42.71	42.2

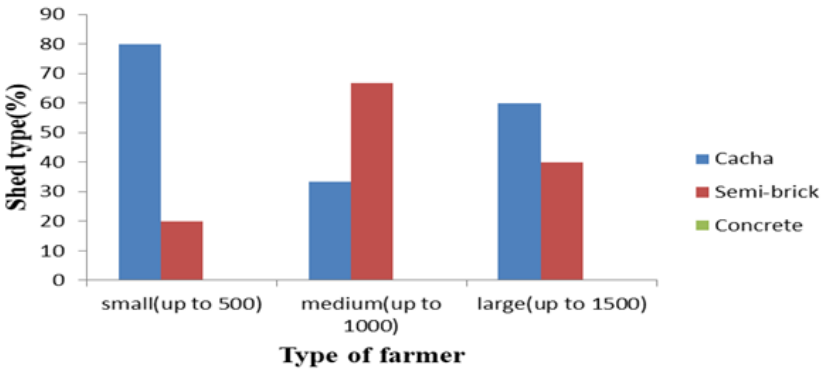

Figure 3. Different types of sheds used.

Table 3. Chick source, price, production cost and marketing system.

Parameter	Small (up to 500)	Medium (up to 1000)	Large (up to 1500)
Purchased chicks from commercial hatchery (%)	100	100	100
Age of Chicks to started farming at 0 days (%)	100	100	100
Price of chicks (tk/chick)	41.4	40.71	41.2
Marketing at near Market (%)	100	100	100
Marketing at surroundings areas (%)	100	100	100
Cost of Production (tk/kg)	108	108.3	109.6
Market Wt. (kg)	2.1	2.29	2.32
Selling price (tk/kg)	116	117.14	117.0

Table 4. Litter management.

Parameter	Small (up to 500)	Medium (up to 1000)	Large (up to 1500)
Litter materials (%):			
Saw dust	40	14.28	40
Rice husk	60	85.71	60
Thickness of Litter (Inch)			
2 Inch in Summer (%)	100	100	100
4 Inch Winter (%)	100	100	100
Litter changes at 30 days (%)	100	100	100
Did not reuse of litter (%)	100	100	100

Table 5. Type of vaccine used.

Vaccine used	Percentage (%)
ND & IBD	100
Fowl pox	42
Others	30

4. Conclusions

The findings of these study areas will be helpful for farmers and researchers to identify the overall problems and their remedies on feeding, housing, management and marketing related to broiler production. The results may permit some valuable information for proper management of broiler in rural area of Bangladesh. From the study it may be concluded that medium size of broiler farming is more profitable than others and can take as their main occupation of young unemployed people for earning source as well as improve their livelihood.

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Conflict of Interest

None to declare.

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