



Effect of Family Training on Profitability of Small-Scale Broiler Farming in Joypurhat District

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Abstract

This study was conducted to compare the productivity and profitability of trained and non-trained small-scale broiler farmers in the Joypurhat district of Bangladesh. A total number of sixty farmers were trained on the “modern techniques for profitable and sustainable broiler farming”. The study showed that the mortality of broiler was 2.90 ± 0.89 percent and 11.30 ± 2.29 percent for trained and non-trained farmers, respectively ($P < 0.001$). Feed conversion ratio (FCR) was 1.65 ± 0.08 and 1.75 ± 0.10 for trained and non-trained farmers, respectively ($P < 0.01$). The net profit was 18.60 ± 2.77 and 8.74 ± 2.05 taka per broiler for trained and non-trained farmers, respectively ($P < 0.001$). It can be concluded from the present study that the family training would be a very essential tool for gaining more productivity and profitability of small scale broiler farming in Bangladesh.

Keywords: Productivity, profitability, family training, small-scale broiler farming, Bangladesh

1. Introduction

Rapid return and small capital investment attributes to popularity of broiler farming in rural areas. Different NGO and public sector organizations have been providing financial support to the small-scale broiler farmers at the grass root level for income generation and reduction of poverty (Raha, 2007). A good number of unemployed youth have started small-scale broilers farming without having any basic training on it. Siraj and Salahuddin (2007) reported that most of the broiler farmers were not able to achieve a minimum profit from their broiler farming without having any training on commercial poultry production. In the long run, they could not

sustain their broiler rearing. Biswas *et al.* (2001) reported that poultry rearing by rural farmers despite its profitability faced various problems relating to social, financial, marketing, technological support and management issues. It was observed that as the broilers farmers had not received any training. They were deprived of innovative knowledge in management of housing, feeding, vaccination, bio-security control measures, diseases control and so forth. They were deprived of the appropriate technological benefits. As a result, many broiler farmers failed to obtain minimum profit from their broiler farming. So, family training for broiler farmers was imparted at district level and many young broiler farmers availed the opportunity. Training and

continuous technical support helped them to increase their skill and knowledge for profitable broiler farming. The present study was undertaken to know the effect of family training on broiler farming with the specifically objectives were:

1. To examine the effect of family training on small-scale broiler production; and
2. To analyze the cost and profit for broiler production by trained and non-trained farmers.

2. Materials and Methods

2.1. Study period and sampling technique

The study was conducted at the Technology Dissemination Area (TDA) of Bangladesh Livestock Research Institute (BLRI), Joypurhat during the period of July 2006 to June 2007. A total number of 60-farmers (one female and one male from each poultry farm family, termed as farmers) were selected for family training (one female and one male from the same family) through need based approaches and strategies. Selected farmers attended a week long family training program on “Modern techniques for profitable and sustainable broiler farming”. Untrained farmers were selected from the different communities under the TDA areas. Technical assistance for broiler farming was provided to the trained farmers only during the study period. Monthly technical meetings were organized with the trained farmers’ to know the farm problems faced by them. Detailed discussions were conducted in the meetings to solve their farm problems and improve their skills and awareness for effective farm management to ensure profitable broiler farming. Both trained and non-trained farmers used commercial broiler feed and family labors only.

2.2. Data recording and monitoring

Data were recorded daily with the help of Local Service Providers (LSP) who gave the technical support to farmers. Data recording were regularly monitored and checked by the investigators of this study.

2.3. Data collection and tabulation

Data on broiler production performances like total feed consumption, market body weight, feed conversion ratio, mortality and marketing age and cost-returns like feed, chicks, management cost and income from sale value of broiler were collected in successive three batches of production. Fifteen trained and fifteen non-trained farmers were selected randomly from different communities in the study areas. Feed conversion ratio was calculated as the ratio of total feed consumed and total live body weight gained. Mortality (%) was calculated as the ratio of total birds and total dead birds $\times 100$. Net profit from each bird was calculated by subtracting total expenditure from total income per bird.

2.4. Data analysis

Collected data were analyzed using Univariate General Linear Model (GLM) procedure of SPSS computer program version 11.50 for Windows (SPSS Inc. 1998). The differences among means were tested using Least Significant Difference (LSD).

3. Results and Discussion

3.1. Differences the farm practices between trained and non-trained broiler farmers

Trained farmers had more knowledge and skill on broiler farming compared with non-trained farmers. Differences on farm practices between trained and non-trained farmers for better understanding of the effect of family training in smallholder broiler farming are shown in Table 1.

3.2 Effect of family training on productivity of small-scale broiler farming

Broiler production performances in respect of feed intake, market body weight, feed conversion ratio, marketing age and mortality are presented in Table 2. Total feed intake upto market age per broiler was 2.64 ± 0.12 kg and 2.53 ± 0.09 kg for trained and non-trained farmers, respectively and the difference was significant ($P < 0.01$). This result agreed with the findings of Ershad *et al.*

(2004) who reported that total feed consumption per bird were 3.3, 3.9 and 3.7 kg for CLP (Certificate in Livestock and Poultry organized by Bangladesh Open University), farmers trained by Youth Training Center (YTC) and non-trained farmers, respectively. Market body weight was 1.60 ± 0.17 kg and 1.45 ± 0.21 kg per broiler bird for trained and non-trained broiler farmers, respectively. The body weight gain was higher in this study than that of Ershad *et al.* (2004) who found that the market body weight for CLP, YTC trained farmers and non-trained farmers were 1.68, 1.93 and 1.64 kg per broiler within the period of 39.9, 40.9 and 40.9 days, respectively. Feed consumption and market body weight were gained significantly better in broiler

birds of trained farmers than that in birds of non-trained farmers which might be the effect of family training imparted to the small-scale broiler farmers.

The feed conversion ratio (FCR) was 1.65 ± 0.08 and 1.76 ± 0.10 per broiler for trained and non-trained farmers, respectively. Significantly ($P < 0.01$) higher FCR in broilers of trained farmers over that of untrained farmers was the results of using quality feed, high quality broiler chicks, improved farm management, housing and sound bio-security control measure for preventing outbreak of diseases in farms of trained farmers.

Table 1. Differences on farm practices between trained and non-trained farmers

Parameters/points	Trained farmers	Non-trained farmers
Vaccination and medication schedule	Strictly followed vaccination and medication schedule recommended by BLRI	Were not so aware of vaccination and medication schedule.
Quality chicks and feeds	Were able to identify the high quality chicks and feeds.	Were not so skilled to perform that task.
Farm bio-security practices	Practiced farm bio-security as per recommendation.	Bio-security practices were ignore.
Interval between two batches	Maintained two weeks gap strictly.	Did not maintain the interval strictly.
Cleanliness and disinfection	Maintained it regularly and properly as per instructions.	Maintained it irregularly and improperly.

Table 2. Production performance of broilers reared by trained and non-trained farmers

Parameters	Trained farmers	Non-trained farmers	Level of significance
	Mean \pm SD	Mean \pm SD	
Feed intake(Kg/bird) upto market age	2.64 ± 0.12	2.53 ± 0.09	**
Market body weight(Kg/bird)	1.60 ± 0.17	1.45 ± 0.21	*
Feed Conversion Ratio	1.65 ± 0.08	1.74 ± 0.10	**
Marketing age (day)	33.85 ± 0.67	35.23 ± 0.62	NS
Mortality (%)	2.90 ± 0.89	11.30 ± 2.29	***

***= Highly significant ($P < 0.001$), ** = Significant ($P < 0.01$), * = Significant ($P < 0.05$), NS = Non significant, SD= Standard deviation

No significant difference ($P>0.05$) was found in marketing age of broilers under trained and non-trained farming conditions. It has been shown that the mortality of broiler was 2.90 ± 0.89 percent under trained farmers condition while 11.30 ± 2.29 percent in non-trained farmers condition within almost the same rearing period ($P<0.001$) (Table 2). Similar findings were reported by Ershad *et al.* (2004), who stated that the mortality percentage of broilers reared by CLP trained farmers, YTC trained farmers and non-trained farmers were 4.36, 4.19 and 7.95%, respectively. Higher mortality of broilers occurred under non-trained broiler farmers conditions was due to the lack of farmers' knowledge and skill on improved broiler farm management and diseases preventive measures. Higher production performances of broilers managed by trained broiler farmers were the outcomes of family training on improved farm management, bio-security and modern techniques of broiler farming.

3.3. Effect of family training on profit and cost of broiler production

Cost of day old chick (DOC), feed and management, total expenditure, total income and net profit are shown in Table 3.

There was no significant difference ($P>0.05$) in the cost of DOC between trained and non-trained farmers. However, this study revealed that

trained farmer spent non-significantly more money to collect quality DOC for getting higher body weight gain. This result coincided with the study by Ershad *et al.* (2004) who opined that trained farmers bought DOC at higher cost and non-trained farmers bought DOC at lower cost.

Feed costs were 53.44 ± 1.26 and 51.34 ± 1.22 taka per broiler for trained and non-trained farmers, respectively and that differed significantly ($P<0.05$) indicating that high feed cost was involved in rearing broilers by trained farmers because of using quality broiler feed.

Management cost for vaccination, medication, litter, electricity and transportation etc. were 6.34 ± 0.34 and 13.25 ± 0.28 taka per broiler reared by trained and non-trained farmers, respectively ($P<0.001$). The result clearly indicates that non-trained broiler farmers had to pay extra cost for treatment of diseases due to poor bio-security.

Total production expenditure per broiler reared by trained and non-trained farmers were 87.21 ± 2.27 and 90.80 ± 2.43 taka, respectively, representing significantly ($P<0.01$) higher production cost involved in broilers farming by non-trained farmers. The results of this study agreed with the findings of Ershad *et al.* (2004), who observed that trained farmers incurred lower production cost compared to non-trained farmers.

Table 3. Cost and profit of broilers reared by trained and non-trained small-scale broiler farmers

Parameters	Trained farmers	Non-trained farmers	Level of significance
	Mean \pm SD	Mean \pm SD	
Day old chick cost (TK./chick)	27.33 \pm 0.45	26.21 \pm 0.39	NS
Feed cost (TK./broiler)	53.44 \pm 1.26	51.34 \pm 1.22	*
Management cost (TK./broiler)	6.34 \pm 0.34	13.25 \pm 0.28	***
Total expenditure(Tk.)	87.21 \pm 2.27	90.80 \pm 2.43	**
Total Income (TK.)	105.81 \pm 1.98	99.54 \pm 1.79	**
Net profit (TK.)	18.60 \pm 2.77	8.74 \pm 2.05	***

***= Highly significant ($P<0.001$), ** = Significant ($P<0.01$), * = Significant ($P<0.05$), NS=Non significant, SD= Standard deviation

Income from rearing of broilers fully depends on FCR at desired marketing age and price per kg live weight. There was significant difference ($P < 0.01$) in income from a broiler between trained and non-trained farmers. The results agreed with those reported by Ershad *et al.* (2004).

The net profit per broiler differed significantly ($P < 0.001$) between trained (18.60 ± 2.77) and non-trained (8.74 ± 2.05) farmers, respectively. These findings might be due to the effect of family training as well as continuous technical assistance to the trained farmers. The trained broiler farmers ensured the quality chicks, feed, vaccination and medication for the optimum productivity and profitability of their small-scale broiler farming.

The results of this study shows that family training on commercial broiler production played a pro-vital role for productivity and profitability of small-holder poultry farming. The findings of this study coincided with the results of Begum (2005) who reported that farmers training helped to make a successful small-scale poultry farming by increasing their knowledge and skill on poultry production techniques.

4. Conclusions

The findings of this study have clearly revealed that trained broiler farmers made significantly higher profit than non-trained farmers which is the direct impact of the family training. It can be concluded from the results that immediate step must be undertaken to enrich the farmer's knowledge and skill on small-scale commercial broiler farming through family training with updated technologies for sustainability of prospective poultry farming in Bangladesh.

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