



Original Article

Major Problems and Challenges of Egg Production and Marketing in Bangladesh

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ABSTRACT

Currently poultry sector is one of the most promising sectors for Bangladesh. This sector can provide various opportunities to increase our national GDP. Major concerns of the study were focusing on the entire problems of the poultry sector. Data were collected from 19 reputed layer farms owner and 48 egg traders located in two Upazila at Mymensingh district. In this study, some problems were considering such as major marketing problems were economic problems, lack of information system, improper supply of medicine and vaccines, lack of adequate and suitable transportation system and price instability. The study also evaluates some specific measures to minimize the existing problems in the poultry sector and they are as government interfere in capital, providing right information of layer farming system, provision of adequate supply of medicine and veterinary services, development of transportation system, price stability by market monitoring. Combined with helpful government policies like extension of subsidies to layer farm owners will help Bangladesh to play a significant role in layer products trade besides meeting the ever increasing domestic demand. Results suggested that to increase layer production and develop the layer industry, the government as well as other private integrators can take initiatives to establish an effective and well organized layer farming system in Bangladesh. The study also provides useful information to the researchers for further research in this area.

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Introduction

The poultry sector continues to grow and industrialize in many parts of the world. An increasing population, greater purchasing power and urbanization have been strong drivers of growth. The poultry sub-sector is an important avenue in fostering agricultural growth and reduce malnutrition for the people in Bangladesh (Silva and Rankin, 2014). 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 (Ansarey, 2012). This sub-sector has proved as an attractive economic activity, thereby, indicating its importance for the entire economy. The sector accounts for 14% of the total value of livestock output and is growing rapidly (Raihan and Mahmud, 2008).

Poultry production associated with poultry related industry contributes 20.65% of the total livestock contribution (Khan and Roy, 2006). Poultry meat and eggs available in Bangla-

desh are mostly originated from locally grown backyard poultry and also from small and large scale poultry enterprises. Meeting the domestic demand for meat and eggs through importation is very rare and sporadic (Anas, 2015). Poultry meet up the demand of about 22-27% of the total animal protein supply in the country (Prabakaran, 2003). 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 (FAO, 2014). Development of poultry has generated considerable employment through the production and marketing of poultry and poultry products in Bangladesh (Silva and Rankin, 2014).

Besides, on the poultry side there is also large dearth in the availability of eggs (SFYP, 2015). The current production of these commodities needs to be increased at least 2 times by the year 2021 to feed the growing population in the country.

This illustrates how urgent is the need to increase the production of milk, meat and eggs (SFYP, 2015). The demand for poultry and livestock products, in general has been increased significantly that leads most to poultry-related development interventions promoting intensification of traditional poultry systems (FAO, 2009). In recent years, the poultry sector in Bangladesh has gained sufficiency against the current market demand (Raha, 2013), but not against the standard nutritional requirement (DLS, 2016). Under these circumstances to meet up the deficiency of meat and egg, the government and private organizations should put efforts together to enhance the present meat and egg production status.

The government is getting interested in this sector and is encouraging both urban and rural people to work here and enhance capacity. People in rural areas are getting attracted to this sector and taking it up as a business (Ansarey, 2012). Besides government, there are many private enterprises, like Aftab Poultry, Aman Poultry, Bangladesh Rural Advancement Committee (BRAC), C.P. (Bangladesh) Co., Ltd., Kazi Poultry, Nourish Poultry, Paragon Poultry etc. are working for poultry and poultry products development in the country. Moreover, good management practices should improve for the development of poultry industry. Experiences from South Asian countries show that adoption of good practices of poultry management can significantly contribute to an improvement of farm owner's livelihoods (Pica-Ciamarra and Dhawan, 2010).

Despite the poultry sector, especially egg is an important part of our national economy; presently there are some studies that investigate the status of egg production and the role of private sector for its development in Bangladesh. In order to establish future plan for the poultry development in the country, it is essential to know details about the current activities and solve the problems related to poultry production and marketing in the country. The aim of this study is to identify the major problems faced by the selected layer farm owner and egg traders and to recommend measures for these problems so that the layer farm owners and egg traders can get better economic return from production and egg trading which will enable to explore the potentialities of this sub-sector.

Methodology

Method of Investigation

For this study survey method was adopted for collecting data. This study is based on both primary and secondary data. Primary data were collected from the field survey and secondary data were collected from reliable sources.

Selection of the Study Area

For the present study, Mymensingh Sadar Upazila and Trishal Upazila were selected because, recently a large number of commercial layer firms have been established there. So, there is a good prospect of egg marketing in the study area. For the present study preliminary visits were made in some villages at Sadar Upazila and Trishal Upazila of Mymensingh district. Pach para and Namapara village were selected for data collection in Trishal Upazila. Mechua Bazar, Sessore Bazar, Futangir Bazar, K.R. Market in Sadar Upazila and Trishal Bazar, Namapara Bazar in Trishal were selected for data collection from the traders for the present study.

Selection of the Sample

The commercial layer farm owners and egg traders were considered as the population for this study. Selection of the sample was one of the crucial aspects for this study. Total sample size of the study was 60. Selected sample consisted of 19 layer farm owners and 41 traders. Purposive sampling technique was used for selecting the sample.

Preparation of Survey Schedule

The survey schedule was developed by keeping in view the objectives of the study. Attention was given to the general form of the schedule to see that the questions followed a logical and appropriate sequence. Care was taken on wording questions to ensure that they were unambiguous and easily understood to ensure cooperation by respondents. Two different types of survey schedules were prepared to collect the expected information from layer farm owners and intermediaries. Before preparing the final survey schedules, a draft survey schedule was prepared in such a way that all factors associated with the marketing of egg could be included. The final schedules were developed with the following information: Production and problems of egg marketing and the suggestions of the intermediaries to solve those problems

Collection, Processing and Tabulation of Data

The data were collected from primary sources during the month of March, 2018. Primary data were collected by the researcher herself through face to face interview with the selected respondents in the study area. Before the actual interview respondents were given a brief introduction about the nature and purpose of the study. At the time of interview the researcher asked the questions systematically and explained the questions whenever it was found necessary. The layer farm owners were interviewed at their farms while the traders were interviewed at market places. After collection of data from the field, all the collected data for the present study were coded, tabulated, summarized and processed for analysis. The first step was taken to scrutinize the data of each and every schedule to find out any inconsistency or omission in the data collection and to avoid irrelevant information. The data were then transferred from survey schedule to tabular forms for systematic study. The data was analyzed using descriptive statistics to find the meaningful result for the research objectives.

Result and Discussion

Problems faced by layer farm owner

According to the layer farm owners the following problems were identified in the study. The problems however were grouped into economic, technical, marketing and social and natural.

Economic problems

Farm owners were asked to identify some economic problems related to egg production. The problems which were identified and faced by them are discussed below:

1. Lack of capital: This is the most important problem which affects more than 63% of farm owners. Amount of capital determine the level of farm and determine how farm will be equipped. Access to capital will make farm to grow faster than those that do not have access to any financial assistance. Though, starting a layer farm business requires little money, but that is when farm owners can access this at right time.

Table 1. Various problems faced by layer farm owners in Bangladesh.

Problems	Layer farm owners n=19		
	Number	Percentage	Ranking
Economic problems			
Lack of capital	12	63.16	2
High bank interest	19	100	1
Price of poultry feed and feed materials	19	100	1
High price of veterinary drugs	19	100	1
Lack of government support	19	100	1
Technical problems			
Lack of information in layer farming system	11	57.89	7
Inadequate knowledge of layer diets	13	68.42	6
Poor quality of feed	17	89.47	3
Non availability of day old chicks	18	97.74	2
Water related Problem in layer farming system	16	84.21	4
Irregular electricity supply	19	100	1
Non availability of medicine	19	100	1
Inadequate supply of vaccines	19	100	1
Marketing problems			
Fluctuation of consumer demand	09	47.37	6
Demand of eggs from native birds	08	42.11	7
Problem of marketing systems and middlemen	19	100	1
Breakage of eggs in transit	14	73.68	4
Lack of market information and communication system	07	36.82	8
Price variation of day-old chicks (DOCs)	16	84.21	2
	15	78.94	3

Source: Field survey, 2018.

2. High bank interest: The bank interest rate is very high which is on an average 12-14% per annum and real effective interest rate (A real interest rate is adjusted to remove the effects of inflation and gives the real rate of a bond or loan) is around 18-20% per annum. Moreover, lot of hidden charges and costs are associated in this sector to avail the loan from the banking sector. So that it was found in the study area that 100% of farm owner agree with this high interest rate statement. Actually bank interest rate should be less than 10%. Moreover, NGOs and also Grameen bank should play more active role to lower the interest rate (25%) for layer sector under their social business program so that rural people can be motivated.

3. Price of layer feed and feed materials: One of the major problems in the development of the layer subsector in Bangladesh is the lack of sufficient and appropriate feed. Both

manufactured and mixed ingredient feeds are used in the sub-sector. The manufactured feeds of different feed mills available are not homogeneous in nature. According to layer farm owner all of them (100%) point out problem about high price of layer feed. Feed must be purchased by farm owner and they felt stuck in financial problem because of high price of feed so it also may cause debt.

4. High price of veterinary drugs: Diseases are a major problem for the layer industry in Bangladesh. The mortality rate of layer is high (35-40%) because of disease and predators. Layer farm owners usually carry out vaccination and medication for common layer diseases (IBD, Newcastle, fowl pox, fowl cholera, fowl typhoid, *Salmonella*, *Mycoplasma*, infectious oryza, coccidiosis, infectious bronchitis and EDS). However, the medical facilities are poor at district and Upazila level livestock offices. The prices of essential animal drugs are high. They nearly always urgently need to buy vaccines at high prices on the open market. During field survey both two Upazila farm owners (100%) opined that cost of drugs caused fall of layer farming.

5. Lack of government support: All the sample farm owners (100%) opined that it is essential to increase the government financial support and supervision to improve the layer sector to ensure the adequate supply of feed and vaccine at cheaper price. They also opined that timely supply of credit should be ensured.

Technical problems

A layer farm owner should have technical knowledge to run a layer farm but most of the layer farm owners started this business without being properly trained. Technical problems related to conducting layer business are stated below:

1. Lack of information in layer farming system: This problem is as bad as the first point. If farm owners want to succeed in life in any business or in anything at all, that need the right information about that thing. In study area 58% farm owners just rush into layer farming system without the proper information, while some got information from the wrong source.

2. Inadequate knowledge of layer diets: Feeding is more than just given the birds feeds, they need balanced diets if farm owners want them to do well. Some layer farm owner mix complete feeds with cheaper scratch grains, but doing so dilutes the levels of nutrients the chickens are receiving, and nutrient deficiencies can occur. But it was found that 69% farm owners were went through inadequate knowledge about layer diet.

3. Poor quality of feed: Sometime quality of feed cannot be maintained properly specially at the time of high price. Ninety percent of sample farm mentioned that poor quality of mixed feed in the study area was an important problem.

4. Non availability of day old chicks: Many layer farm owners (about 98%) were victim of this problem, not every company that sell day old birds are the right place to get birds. Once farm owners are victim, no way out, they were going to spend a lot on drugs and many a time they lose many of their birds.

5. Water related Problem in layer farming system: This problem should not be underrated, the quality of water avail-

able is very important, the acidity of the water must be checked and balanced before we give to the birds. Acidic water is imply negative effect to the life of the birds as this is affect them in many ways. About 84% of farm owners worried about clean and safe water supply in layer farm.

6. Irregular electricity supply: Irregular electricity supply was a major problem of layer farming in the study area. All most of farm owners faced the problem of load-shading and irregular electricity supply, which hampered egg production.

7. Non availability of medicine: This is a big threat to all layer farm owners (100%), not all drugs requires are available in the market, sometime those available are not effective, meaning they are fake. When some are prolong in used, they build resistance to its effect.

8. Inadequate supply of vaccines: Vaccination failure is common because of improper transportation and storage, handling and application. Most layer farm owners actually 100% of them use vaccines without knowing the maternal antibody status of their flocks.

Marketing problems

Marketing problem is one of the most important problem for the layer farm owner. There were some problems faced by the sample farm owners in marketing their eggs which are presented in Table 1.

1. Fluctuation of demand: Demand of layer eggs sometimes fluctuates specially during winter season. In winter season birds are affected by “Avian Influenza” or in the easy term bird flu (MMWR, 2015). Once this virus attack any bird it spared too fast as all birds in that region were affected and most them died. So in winter demand of egg were lower than other seasons it was stated by about 48% of layer farm owners.

2. Demand of eggs from native birds: About 42% of farm owners said that the consumers were interested to purchase eggs laying by native birds instead of farming eggs. As they were differ between native (deshi) and farm eggs on the basis of the taste.

3. Problem of marketing systems and middlemen: Most of the times eggs and chickens are being marketed through middlemen, as a result the farm owners does not get actual price. The unscrupulous middleman is taking the advantages. As a result, the all farm owners (100%) have been counting huge losses for some times, as the production cost is high and selling price is low. The actual layer farm owner doesn't get the benefit of the high price as they are oppressed by the middlemen who suck the profit. Moreover, the end users i.e., customer has to pay higher price.

4. Breakage of eggs in transit: It is the evidence from the Table 1 that 74% of respondents mentioned that on an average 90% eggs were broken in transit. It occurred due to car-less handling and unfavorable condition of roads. They considered it as one of the major problems in egg marketing.

5. Lack of market information and communication system: The right market information and good communication system helps the farm owners to operate smoothly their business. Many of respondents (about 37%) claimed that lack of

proper information and communication gap was a constraint of egg marketing system.

6. Price variation of day-old chicks (DOCs): The price of day-old chicks is set by hatchery owners which vary from month to month. There is no bargaining between buyers and sellers of DOCs at any point in the supply chain, since the market is basically supply driven. About 84% respondents opined that DOCs are usually sold in cash at a fixed price to farm owners and agents, but with a commission to agents. Hatchery owners sell the DOCs at the hatchery or through their sales centers directly or through sales agents to the layer farm owners. The DOCs are usually packed in paper boxes or bamboo baskets. A few hatcheries use their own or hired trucks to transport DOCs from the hatchery to the sales centers or agents. Mostly, however, layer farm owners do not transport DOCs by specialized vehicles but use buses, rickshaws or vans, which are hazardous and increases the likelihood of chick mortality.

Suggestions as Perceived by the Layer Farm Owners

To overcome the difficulties of layer farming and to make the layer farming more profitable, the farm owners of the study area were asked to suggest solutions to the problems identified above. In order to overcome these problems, following suggestions were put forward by the farm owners.

Table 2. Measures suggested by the layer farm owner.

Suggested measure	Layer farm owners n= 19		
	Number	Percentage	Ranking
Government intervention in capital	16	84.21	4
Providing right information of layer farming system	13	68.42	6
Development of disease diagnostic facilities	14	73.68	5
Access to right chicks and low price of chicks	17	89.47	3
Provision of adequate supply of medicine and veterinary services	11	57.89	8
Provision of effective training facilities	12	63.16	7
Regularity of electricity supply	08	42.11	11
Price stability by monitoring	09	47.37	10
Dissemination of market information	10	52.63	9
Establishment of hatchery	19	100	1
Adequate supply of feed at reasonable price	19	100	1
Development of transportation system	18	94.74	2

Source: Field survey, 2018.

1. Government intervention in capital: The only possible solution to financial problem or inadequate capital problem of layer farming, is getting assistance from government, government should set up a committee on how to help those that have interest on farming activities. Provision of short term loan for layer farming should be made on easy term and condition by government and NGOs. In the study area most of respondents (about 84%) agree with that government should support layer farms through providing credit facilities. By so doing they empower them, they will be the boss of their

company and they will not be looking for white collar job because they are engaged already.

2. Providing right information of layer farming system:

Layer farm owners were rush into layer farming system without the proper information, while some got information from the wrong source. Getting the right information will help them in all area of their farm and they will get the reward on time.

About 69% of them thought the only solution to this type of problem is getting information from the reliable source. Dear reader not just information, but right information from the right sources. In the case of layer farming system, it should strongly advise them get their information from ministry of agriculture or from qualified veterinary doctor, hope it will help them for producing quality eggs.

3. Development of disease diagnostic facilities: In study area many of layer farm owner (about 74%) talked about diagnosis facility. In every Upazila there had a veterinary surgeon but it was not enough for all. Moreover there were many non-licensed veterinary doctors (as they claimed themselves). So government should establish new veterinary care centers with qualified veterinarian, field assistance and modern logistics supports.

4. Access to right chicks and low price of chicks: For day-old chicks farm owners should consult veterinary doctor before they get their chicks, either a day old or at any point at all, so this prevent their layer farming from problem of wrong chicks. To reduce the high price of day-old chick, government can fix the maximum price of a chick after consultation with the hatchery association. It was reported by 90% of the layer farm owner.

5. Provision of adequate supply of medicine and veterinary services: To prevent outbreak of diseases, government should increase veterinary services by supplying necessary vaccine and medicines at lower price and by establishing new veterinary care centers with adequate veterinary technicians, field assistance etc. and it was reported by 58% of respondent.

6. Provision of effective training facilities: About 63% respondent thought effective training on layer management in a prerequisite for development of a profitable layer farm. Proper training on proper farming system, balance diet of feed, primary diseases recognition should be arranged by the government and NGOs. Proper training leads farm owner to get a profitable business. Most of the respondents in the study areas suggested to organize such training by government or NGOs.

7. Regularity of electricity supply: Government should identify the areas where layer farming are visible than other area and take proper step to supply sufficient electricity which opined by 42% of respondent of study area. Light is an important part of layer farming. Proper growth of birds were depend on the lights.

8. Price stability by monitoring: Farm owners (about 47%) claimed that price of were not in their hand, it decided by traders. So they do not get proper price from their production. Government should take proper step to ensure the stable

and reasonable price for egg by floor price scheme and giving price incentives to the farm owners.

9. Dissemination of market information: About 53% of layer farm owners advised that market information should be disseminated regularly through radio, TV and newspaper. As a result the farm owners would run their business smoothly.

10. Establishment of hatchery: All farm owners suggested to establish hatchery and breeding farm. Government and privet sector should take appropriate policy for ensuring steady supply of quality day old chicks to the farm owners.

11. Adequate supply of feed at reasonable price: Though feed price is too high that farm owners go through on debt. So government non-government organization should came forward to explore the untapped market for feed in the study areas. Consequently, price will come down through competition in the market and it was opined by 100% of field respondent.

Problem Faced by the Egg Traders

In the study areas the egg traders were found to face various marketing problems at the time of egg marketing. The problems are presented in Table 3 and discussed below:

Table 3. Various problems faced by traders.

Problems	Egg traders n= 41		
	Number	Percentage	Ranking
Lack of operating capital	26	63.41	6
Lack of institutional credit	32	78.05	4
Lack of adequate and suitable transportation system	37	90.24	3
Breakage and spoilage of egg	41	100	1
Price instability	39	95.12	2
Inadequate space of market	28	68.29	5
Unfavorable condition (Hartal, strike, flood and natural calamities)	41	100	1

Source: Field survey, 2018.

1. Lack of operating capital: The findings of the study indicate that 63.41% of traders faced lack of operating capital as the major problem of egg marketing (Table 3). They told that after a period of time required for rearing poultry with provision of feeding, the production period of egg appears. This is the expense period for poultry farmer when they can't earn from selling and required operating cost for the poultry farm.

2. Lack of institutional credit facilities: Table 3 showed that 78.05% of traders considered lack of institutional credit facilities on easy terms and conditions as a major problem in the study area.

7.4.3 Lack of adequate and suitable transportation system: In the study area 90.24% of traders considered lack of adequate and suitable transportation system as a great marketing problem (Table 3). They considered this problem as the main cause of breakage of eggs.

4. Breakage and spoilage of eggs: Brakeage of eggs in transit was another marketing problem which was reported by 100% of traders. They mentioned that the percentage of breakage and spoilage of eggs are so many.

5. Price instability: Price instability was one of the major problems of egg traders. Because of the price instability they earned lower profit and sometimes, they incurred losses. Table 3 showed that 95.12% of traders face this problem.

6. Inadequate space of market: It is evident from Table 3 that 68.29% of traders complained that the space in the market was inadequate for egg trading. It is extremely difficult for new comers to enter the market because of lack of market.

7. Unfavorable condition (Hartal, strike, flood and natural calamities): All the respondents opined that hartal, strike, flood and natural calamities caused problems for the smooth transportation system and the delay in transportation caused deterioration in egg quality which was showed in Table 3 and the 100% of respondent agreed with this statement.

Measure Suggested by Egg Traders

To overcome the problems of egg marketing and to make the business more profitable on the study area, the following suggestions were made by the egg traders. The suggestions are presented in Table 4 and are discussed below:

Table 4. Measure suggested by egg traders.

Measures suggested	Egg traders n=41		
	Number	Percentage	Ranking
Provision of institutional credit	29	70.73	3
Development of storage facilities	37	90.24	1
Government regulation on price	21	51.22	5
Adequate market space and facilities	28	68.29	4
Improved marketing information and communication system	33	84.62	2

Source: Field survey, 2018.

1. Provision of institutional credit: It appears from Table 4 that 70.73% traders mentioned that provision of institutional credit for solving the problem of operating capital. They also suggested that institutional credit should be made available at low interest rate and install payment conditions.

2. Development of storage facilities: Table 4 shows that 90.40% of traders in the study area, suggested for development of modern storage facility by establishing cold storage.

3. Government regulation on price: In the study area 51.22% of respondents suggested that government regulation on price to control price fluctuation. To maintain price stability, government should fix up the price.

4. Adequate market space and facilities: In the study area 68.29% of traders demanded to increase the existing marketing facilities. They also demanded that the space of market should be extended by constructing new markets.

5. Improved market information and communication system: In the study area 84.62% of traders faced these problems which adversely affected the profitability of the trade. They suggested that communication should be improved and

market information should be determined regularly through radio, television and newspaper.

Conclusion

As a developing country Bangladesh is badly suffering from the problem of poverty, unemployment and malnutrition. The expansion of the commercial layer sector has resulted in a decline in real prices of layer products and consumption has consequently increased. In addition to family layer production carried out at a small scale, mostly with indigenous layer. The layer sector is producing commercial layer and eggs to meet up the demand of the consumers.

Layer industry is the most vital for its contributions to national economy. The present study identified some problems and constraints associated with layer farming and egg marketing. The problems faced by the layer farm owners were categorized into economic, technical and marketing. The economic and technical problems were mainly lack of capital, high feed cost, non-availability of day-old-chicks, lack of training facilities, inadequate knowledge of layer diets, irregular supply of electricity, inadequate supply of vaccine and medicine etc. Marketing problems included fluctuation of demand, breakage of eggs, price fluctuations, lack of transportation facilities etc. Problem faced by intermediaries were poor communication and transportation, shortage of capital, lack of storage facilities, breakage of egg, price instability, unfavorable condition like hartal, strike, flood and natural calamities etc. Some measures were suggested by the layer farm owner and traders for solving the identified problems. Measures suggested by the farm owners included establishment of hatchery, adequate supply of feed at reasonable price, government intervention for capital, development of diseases diagnostic facilities, provision of adequate supply of medicine and veterinary service, regularity in electricity supply, price stability, development of market information etc. measures suggested by the traders were provision of institutional credit, development of storage facilities, adequate market space and facilities, improvement of market information and communication system etc.

On the other hand the government has to monitor whether or not layer farms are looking after the benefits of all categories of farm owners. Combined with favorable government policies like extension of subsidies to layer farm owners and exporters and protection from imports, will help Bangladesh to play a significant role in global layer products trade besides meeting the ever increasing domestic demand. It can be suggested that to increase layer production and develop the layer industry, the government as well as other private integrators can take initiatives to establish an effective and well organized layer farming system in Bangladesh. The findings of the present study are expected to be helpful benchmark information for layer farm owner, economists, researchers, as well as policy makers and will provide useful information for the further development of layer farming in Bangladesh. The study may also provide useful information to the researchers for further research in this area.

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