

Broiler industry in Bangladesh: some issues

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Abstract

The article is mainly based on secondary data which deals with the evolution of broiler industry in Bangladesh. The emergence of broiler farming and the related backward and forward linkages opened up new dimensions for the employment of farm owners, traders, service providers and other business people in different parts of the country. The current status of broiler enterprises along with constraints to production and marketing are examined. Per capita annual consumption of meat is 5.99 kg against the universal standard of 80 kg per head per year. So scope exists for development of broiler industry in Bangladesh. Measures are also suggested for consideration of the concerned persons and or agencies for the solutions of the identified problems. Moreover, some policy interventions are urgently needed to ensure sustainability of broiler industry in Bangladesh.

Introduction

In Bangladesh malnutrition and unemployment are the most two of many problems. Poultry meat can efficiently and rapidly fulfill the shortage of protein requirement since it can be produced at least possible time as compared to meat of other ruminant animals. Commercial poultry could also serve as a tool for employment generation and poverty alleviation. Broiler farming has been playing an important role in providing meat and creating employment opportunities for the people through the establishment of poultry hatcheries, feed mills, equipment manufacturing factories, processing and marketing of broiler and broiler products. The International Food Policy Research Institute has estimated that by year 2015 poultry will account for 40 % of all animal protein (IFPRI, 2000). In spite of its potential, the industry does not grow satisfactorily. In this article a modest attempt is made to find out the problems and measures for development of broiler industry in the country. The article is based on both the secondary and primary data. The article is divided into 4 sections. Evolution of broiler farming in Bangladesh is presented in section II. Section III explains the Present Position of broiler industry. Constraints to Broiler industry are discussed in Section IV. Measures to solve the problems are examined in Section V. Conclusions are included in Section VI.

Evolution of broiler farming in Bangladesh

Before the emergence of Bangladesh in 1968-69, the Department of Poultry Science of Bangladesh Agricultural University (BAU), Mymensingh brought day old broiler chicks from Pakistan International Airlines and started producing broiler experimentally in the university poultry farm. During late 1980s the Department of Livestock Service (DLS), Bangladesh imported 'Arbor Acres' broiler parent stock. At the same time BIMAN, Bangladesh Airlines started a commercial poultry farm called Biman Poultry Complex with a contractual agreement with Shaver Poultry Breeding Farm of Canada. The firm supplied doc of broiler and layer to small farmers (Pervin, 2004). It is interesting to note that broiler farming is solely in the private sector particularly in the hands of small farmers.

Present Position

In Bangladesh poultry has been recognized by all corners as a profitable enterprise and most popular income generating activity for the rural poor particularly women and unemployed youths.

Broiler production has become a specialized and speedy business at present time for the people of the country. Short life cycle of the broiler and requirement of less relatively amount of capital attributed to its popularity to the farmers. There are some exciting examples where the poultry raiser has changed his / her economic conditions to a considerable extent. But it is a one-side picture as there are many farms that are compelled to leave the industry while some new farms enter the industry. This is the common picture

The growth of meat production was attributed to poultry as the production of beef and mutton remained almost stagnant. At present chicken contributes 51% of total meat production of the country though the share of broiler is not separated. Per capita annual consumption of meat in the country is 5.9 kg which is only 7.38% of the universal standard (MoFL 2006).

Number of parent stock and production of DOCs

In the country there are five breeder farms that have started rearing grand parent. Although the production of DOCs per year is not sufficient to meet the domestic demand but both the number of parent stock and production of DOCs are increasing over the reference period. In 1991-92, the number of broiler parent stock in the country was 30 thousand which increased to 2292 thousand in 2004-05. The number of DOCs was 3540 thousand in 1991-92 and the number increased to 192528 in 2004-05.

For computing growth rate, exponential trend function was fitted to number of parent stock and number of DOCs. Fixed base and chain base (Yamane 1967) index numbers of the number of parent stock and number of DOCs were computed and results are presented in Table 1.

The numbers of parent stock and day-old chicks have been increasing since 1991-92 (Table 1). Table shows that the number of parent stock was 7540% higher in 2004-05 compared to 1991-92 but the production of DOCs per year was 5338.64% higher as compared to base year while year to year variations were uneven in both the cases. The chain base index number on DOCs production was found lower in 7 years than the previous year over the 14 years while the parent stock production index number was lower in 8 years than the previous years. The compound growth rate of number of parent stock and the production of DOCs are .4075 and .3645 in ratio scale i.e. 40.75 and 36.45 in percentage point. The growth parameters are found significant at 1% level. The rapid growth rates of parent stock and DOCs are due to establishment of more and more breeder farms and hatcheries in the country.

Broiler farming in the country is done most by the independent farmers while there are some farms with contract arrangements of various kinds. Aftab Bahumukhi Farm Limited (ABFL) introduced contract farming for broiler in 1994. Over the period there has been change on contractual agreement in 2006 as the broiler farmers are to purchase DOCS, feed etc. in cash from ABFL. On the other hand the ABFL purchases broiler at the price which is less than Tk. 7 per kg from the daily wholesale market price. At Gazipur area BRAC has developed contractual agreement with broiler farmers. But the experience in contract broiler farming is not very encouraging. The reasons for the change in the agreement are lack of farmers' sincerity, devotion and wind fall loss of the business due to bird flu rumor and other hazards etc.

Constrains to Broiler industry

Despite its high potential the broiler farming is not based on sound footings. The broiler industry has encountered some problems in the way to its development. Lets see what are the problems encountered by the poultry entrepreneurs. The poultry farm owners face problems at least in three broad areas i.e. in input sector, production sector and in output sector. We will discuss the problems in three different sectors one after another.

Table 1. Production of broiler parent stock and DOCs from 1991-92 to 2004-2005

Year	No. of parent stock '000'	No. of DOCs '000'	Fixed base index number		Chain base index number	
			Parent stock	DOCs	Parent stock	DOCs
1991-92	30	3540	100	100	100	100
1992-93	50	5525	166.67	156.67	166.67	156.67
1993-94	65	7750	216.67	218.93	130.00	140.27
1994-95	155	18750	516.67	529.66	238.46	241.94
1995-96	215	25250	716.67	713.28	138.71	134.67
1996-97	285	32500	950.00	918.08	132.56	128.71
1997-98	366	40250	1220.00	1137.00	128.42	123.85
1998-99	425	61800	1416.67	1745.76	116.12	153.54
1999-2000	780	104000	2600.00	2937.85	183.53	168.28
2000-01 ^a	1050	126000	3500.00	3559.32	134.62	121.15
2001-02 ^b	1381	116000	4603.33	3276.84	131.52	92.06
2002-03	1952	163968	6506.67	4631.86	141.35	141.35
2003-04	2299	164148	7663.33	4636.95	117.78	100.11
2004-05	2292	192528	7640.00	5438.64	99.70	117.29

Compound growth

Rate (%)	40.75 *	36.45*
	(21.54)	(14.12)

* Significant at 1% level. Figures in parentheses indicate the 't' values

Source: a. Rahman, 2003 ; b. Saleque, 2006

Policy

In true sense there is no policy for the development of poultry farming in the country. In 1992 a national livestock policy was drafted but it was not approved by the relevant authority. In 2004 another draft poultry development policy was developed but not yet approved. The rapid expansion of poultry farming in particular broiler farming is undertaken without any coordinated policy. The urgency of policy is felt by different stakeholders but no effective action has been taken yet.

Problems in input sector

The major inputs in poultry farming are: day-old-chick (DOC), feed including feed additive, growth promoter etc. medicine & vaccine, veterinary services, funds and other support services.

Day-old chick

DOC is the basic input of the broiler farming. There are about 130 firms involved in producing DOC of which 52.3% are in operation. It indicates the underutilization of our production capacity and thereby higher in cost of production. A recent field survey reveals that there are about 8 strains for broiler in Kishoreganj and Gazipur. The distribution system is not up to level of satisfaction. For getting supply of day old chick the farmers have made advance booking. There is no guarantee to get desired strain and required number of chicks at the desired time

Marketing system of DOCs

The hatchery owners have not developed own distribution channel for DOC. Sometimes the farmers directly collect chicks from the hatcheries and some times from the private firms popularly known as agents of the hatcheries.. Moreover, the chicks are delivered without grading. Buyers' ignorance about quality and attributes of DOCs, location of the suppliers and reputation of the hatchery are used as important factors for product differentiation. The hatchery owner determines the price of DOC unilaterally. The price of DOC has been increasing. The broiler farmers have no power

to bargain, simply they have to pay the price charged by the hatchery owners and / distributors of chicks.

Feed

In the market feed prices are increasing over time. Feed is available in the market but there is question of quality of feed and its ingredients. Feed -bags are not properly labeled by the manufacturers and sellers. In fact there is none in the market to check the quality of feed and their prices. Moreover, quality control in the feed industry is very poor (Khan 2002). Most of the feed millers minimize feed production cost either by adulteration of inferior quality of ingredients or inclusion of lower proportion of valuable items like meat and bone meal, vitamin – mineral premix, soybean meal, maize etc. or by replacing with low grade rice polish or other raw materials in the manufactured feeds(MoFL 2006).The farm owners are using a number of feed additives and growth promoters due to heavy promotional campaign of the sellers.

Medicine & vaccine

The learned doctors use to utter that prevention is better than cure. In the case of commercial strains use of medicine is very common. There is problem in using medicine /or vaccine as mismatch between doses of drugs and flock size of the farm. For example, in our country the poultry farms varies from 200 birds to few thousand while vaccines are not available for such a small doze of 200. It becomes uneconomic for the small farm to purchase drugs for a small flock. Moreover, sometimes vaccine is not available in the market or supply is inadequate to meet the demand of the poultry farmers. The medicine/ or vaccine sellers dominate price. There is no uniformity of price in the market. Market price varies from area to area and even from shop to shop of the same area. So it involves high cost of executing a vaccination programme for the flock.It is also learnt that antibiotics are also used indiscriminately which caused not only monetary cost but also results in health hazards for the consumers.

Veterinary service

This service is very expansive and rare. The existing facility in public sector is also inadequate to provide such service to widely scattered poultry farmers. There are a few private practitioners in some areas. So for the individual small poultry farm owners it is very costly to get the service of a veterinary doctor.

Credit facility

The findings of various studies [Pervin (2004) , Rasheda (2006)] indicate that most farm owners suffer from adequate amount of credit to run their farms. Sometimes Bank finds it difficult to provide credit to widely located farm owners. Consequently, the farmers are compelled to borrow funds from Mahajans or other non-institutional sources.

A recent survey reveals that only 17%, and 12% of contract broiler growers in Kishoreganj and Gazipur and 30% of independent farmers of Gazipur borrowed for broiler farming. The sources of borrowings included commercial bank, BKB, NGO, traders and money lender. Provision of credit for commercial poultry is not yet very regular and well established practice among all the financial institutions - banks and NGOs in Bangladesh (Jabbar *et.al.*, 2005).

Production sector

Most of the farm owners start the farming without proper training. The common problems faced in producing broilers are examined below.

Location of the farm

Indiscriminate and unplanned growth of poultry farms particularly in the cities and towns is creating environment hazard and bio-security problems. There is no guideline for the establishment

of poultry farms to ensure environmental and bio-security. (MoFL, 2006). At village level broiler farms are established very close to homestead while many farms are located by the side of highway where heavy vehicles are plying all the time. This faulty site selection might have negative effect both on the human as well as on the growth of the birds.

Support services

Support services such as technical advice, farm management, feeding practices, and market information are not available in the market. If any of those available at all the individual farmers are not able to use that facility.

Lack of training and farmer's ignorance about quality of inputs

Generally most of the farmers started broiler farming without prior training on broiler rearing which is most essential. Moreover, their level of general education was not so high. The level of formal schooling varies from area to area (Table 2). They are not aware of the quality of DOCs their product characteristics and inherent quality. In addition there is no system of dissemination of information about the features of DOCs. The farmers have to depend solely on the reputation of the hatchery and the supplying agents. At the very outset the farm owner started with high ambition on trial and error method which very often caused financial losses and they compelled to shutdown their farm. Generally they operate their business on the prescription of different sales representatives of various inputs particularly drugs and feed additive.

Table 2. Education level (years of schooling) of the sample farmers

District	Contract	Independent	Non-participant
Kishoreganj (2006)	9	8	4
Gazipur (2006)	9	9	4
Kishoreganj (2004)		9	
Gazipur (2006)		9.5	

Source Field Survey, 2006

Note: Figures within parentheses indicated the study year

The broiler farms of the country have been facing a number of problems. Table 3 shows the problems faced by the broiler farm owners in Gazipur and Kishoreganj districts.

Output sector

The broiler farm owners have no power in selling their produce. The traders dominate the market price. Broilers are mainly sold at farmgate. The traders are organized; wealthy, fully aware of market information while the framers are not organized having no market information and bound to sell at some specific time. So, the traders are powerful to determine price and other terms and conditions of sales. The farmers purchase inputs at the prices set by the input sellers while sell broiler at the price, which is also dominated by the trader-buyers. They are buying inputs at an increasing price while their product prices do not increase proportionately. Price fluctuation of broiler was considered as a problem by 93% and 83% of farmers in Gazipur and Kishoreganj districts respectively while only 50 % mentioned price of broiler as low.

In addition to farmers, the wholesalers and retailers of broilers also faced some problems which are summarized in Table 4.

Table 3. Problems faced by farmers in broiler production

Problems	Study I	Study II
	% of responses	
Shortage of capital	37	27
Shortage of availability of DOCs	53	47
High price of DOCs	63	60
Poor quality & high mortality rate of DOC	-	100
High price of feeds	80	93
Poor quality of feed	-	93
High mortality rate	87	100
Inadequate veterinary services	53	-
Irregular electricity supply	100	80
Irregular payment	33	-
Lack of training facility	67	-
Attack of diseases/outbreak of diseases	93	100
High cost of veterinary service	-	53
Insufficient veterinary services	-	63

Source: Study I: Rasheda (2006); Study II: Pervin (2004)

Table 4. Problems faced by traders in broiler marketing (Figures in percentages)

Problems	Study I			Study II		
	Wholesalers	Retailers	All	Wholesalers	Retailers	All
Shortage of capital/Lack of operating capital	43	56	50	58	56	57
High cost of feeds	79	75	77	83	89	87
Lack of market information	64	44	53	42	39	40
High transportation cost	86	88	87	92	72	80
Price fluctuation of broiler	72	75	73	58	61	60
Poor transportation & communication system				100	100	100
Inadequate marketing facilities	86	69	77	67	72	70
Unfavourable condition ¹	43	44	43	58	50	53
Tips & donation	29	50	40	-	-	-
Shortage of broiler birds	64	69	67	-	-	-

¹ Hartal, strike, rumour & natural calamities

Measures to solve the problems

The aforementioned problems are a few examples of various problems faced by the broiler farm owners particularly the medium and small farmers situated in different areas of the country. Tables 5 and 6 indicate some suggestions of the broiler growers and traders respectively to solve the identified problems.

Table 5. Measures suggested by the farmers

Suggestion	Study I	Study II
	% of responses	
Increasing supply of DOCs	√	50
Adequate supply of quality feed at reasonable price	√	77

Prevention of mortality rate	✓	93
Veterinary facilities at lower price	✓	60
Government intervention for capital supply	✓	30
Regularity in electricity supply	✓	100
Ensure price stability	✓	73
Effective training facility	✓	67
Formation of cooperative	✓	-

Note: ✓ = indicates measure suggested by the sample farmers

Table 6. Traders' suggestions to solve the problems

Suggestion	Type of traders (%) Study I			Type of traders (%) Study II		
	Wholesaler-cum-retailer	Retailer	All	Wholesaler-cum-retailer	Retailer	All
Development of transportation & communication system			✓	100	100	100
Reasonable price of feed			✓	75	78	77
Provision of institutional credit on easy term			✓	58	50	53
Government regulation on price			✓	75	61	67
Adequate marketing facilities			✓	50	67	60
Improvement of market information system			✓	42	39	40
Adequate supply of broiler			✓	-	-	-
Administrative & disciplinary action			✓	-	-	-

Note: ✓ = indicates measure suggested by the sample traders

In addition, the following measures may be considered to solve the problems.

1. Formulation of national policy for poultry development.
2. Research programme should be undertaken to develop broiler strain which will be most suitable to our environment. Research should also be conducted to utilize our resources for seeking alternative sources of feed to cut down the high cost of feed.
3. Introduction of scientific training program for both the present and potential broiler farmers.
4. Development of organization of broiler farmers whether it group, Samity or cooperative.
5. Adoption of contract farming on broiler / formation of input and output marketing cooperative / group
6. Arrangement of institutional credit for broiler farming
7. Compliance with international requirement / standards (Raha, 2006)
8. Development of market and safe product.

Conclusions

The scope for the development of broiler industry is evident by many factors such as high demand for broiler meat, unemployed human resource, profitability of enterprise and of short duration etc. All these are strong points but there are some weak points too. As no industry can survive in the market depending on imported inputs such as DOCs, feed, medicines and vaccine etc. It is supported by the findings of the earlier study that the Indonesian poultry industry, heavily reliant on foreign imports, completely collapsed with economic downturn in 1997 (Ferrell, 2000). In addition, in absence of trade barriers the possibility of dumping is not uncommon (Templeman and Kerkwijk, 2001) which may damage our industry.

It is well conceived that broiler farm owners are not getting remunerative returns but the input

suppliers / traders i.e. hatchery owners, feed mill owners, pharmaceutical companies and the broiler traders are doing better in the market. All the concerned agencies should recognize that their business is greatly depends on the success of broiler farmers. Increasing flow of broiler production would not be possible if the broiler farmers would not earn reasonable income continuously from the broiler farms. Then the domestic demand will be met by imported broiler meat. Or the broiler farmers would look for alternative sources of inputs particularly DOCs and feed in free market environment. In that case our domestic hatchery and feed mills have to face the competition from abroad. Integrated approach involving all the concerned industries are needed to ensure steady growth and survival of all of them in the country.

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