

**Socioeconomic study on backyard pigeon farming system in
some selected area of Chittagong district.**



By

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Session: 2009-10

**Submitted in partial satisfaction of the requirements for the degree
of**

DOCTOR OF VETERINARY MEDICINE

Faculty of Veterinary Medicine

Chittagong Veterinary & Animal Sciences University

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Acknowledgement

The author bends his heads to the Almighty who is omnipotent, omniscient and omnipresent for His endless blessing to conduct this research work for the fulfillment of the requirement for the degree of Doctor of Veterinary Medicine (DVM).

The author desires to express his earnest gratefulness and profound appreciation to the following persons for the accomplishment of this dissertation.

The author conveying his gratitude and great appreciation to the venerable internship supervisor Assistant Professor Meherunnesa Chy.Summy, Faculty of Veterinary Medicine, Chittagong Veterinary and Animal Sciences University, for his valuable guidance, suggestion, supervision and encouragements during the entire period of this study to complete this production report.

Besides my advisor, I would like to thank the rest of my report committee: Prof. Dr. Md. Ahasanul Hoque, and Prof. Dr. A K M Saifuddin, for their insightful comments and encouragement, but also for the hard question which incited me to widen my research from various perspectives

The author expresses his thankfulness to all the friends of his batch for their co-operation and instructive suggestions.

Last but not least, the author is profoundly grateful to the mother and other family members for their endless sympathies, kind co-operation, sacrifices and prayers.

The Author

Plagiarism certificate.....

This report is a significant new work/knowledge. No sentence, equation, diagram, table, paragraph or section has been copied verbatim from previous work unless it is placed under quotation marks and duly referenced. The work presented is original and own work of the author (i.e. there is no plagiarism). No ideas, processes, results or words of others have been presented as Author own work. There is no fabrication of data or results which have been compiled/analyzed. There is no falsification by manipulating research materials, equipment or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.

The Author.....

Abstract

A survey was carried out to investigate backyard pigeon farming system in Doublemooring Thana under Chittagong district. Data was collected from 50 pigeon farmers. Average cost of housing per bird was 37.8114Tk. and average height of house was 4.314m, feed intake per pigeon was 41.4g /day. Per Year production from a pair of pigeon were 9-10 pair , cost of per pair of pigeon was Tk.1371, income per pair of pigeon was Tk. 3600 Tk. and net profit per pair of pigeon was Tk.2229 and BCR was 2.62. Most of the pigeon farmer's rare pigeon in small scale scavenging system with supplementary feeding. They have no idea about breed and variety of pigeon and prevention of diseases. There is a lot of demand of squab meat in the market due to delicacy and taste. The pigeon farming may be increased with government initiative providing training to farmers and extending loans. Introduction of meat breeds good flock size and balanced feed need to ensure for improving income and employment opportunity.

Key word-Pigeon, pigeon farming, Flock size

Chapter I

Introduction

Bangladesh, a country of 14,769.55 sq. kilometers area with about 145 million people, with a density of over 953 persons per sq km, making it one of the most densely populated countries in the world (Swan,1999).In 2000, 52.5% of the urban and 44.3% of the rural people were surviving under the poverty line I(2122 Kcal/d/capita) and 25% of the urban and 18.7% of the rural people under the poverty line II(1805 Kcal/d/capita), called the Hardcore poverty.

Due to higher nutritional deficiencies, about half of the population is unable to develop their working ability either physically or mentally. They have suffering from malnutrition which has a negative effect on immune system, and consequently many diseases. Meat is the good source of proteinacious food and most of the meat comes from the species of poultry (Chicken, Pigeon) etc.

Raising pigeon under the backyard system has a long history for Bangladesh (Asaduzzaman *et al*, 2009). The weather and vast areas of crop field along with housing premises of Bangladesh are suitable for pigeon farming. The contribution of pigeon has not yet been considered in relation to the contribution to the livestock subsector and whole poultry production through the pigeon provide alternative source of animal protein. Low investment, careless, less feed and housing cost, easy and economic husbandry practices, short reproduction cycle and less disease occurrence are observed in backyard pigeon farming (Asaduzzaman *et al*, 2009). Day by day the backyard farming system of pigeon are increased. At the year of 2002-2003 the population of pigeon was .72 million but in 2007-2008 it was 1.02 million (DLS, Annual report). Pigeon are also used in natural beautification and ornamental birds as source of recreation and in some case it also increases human social status. It also source of biofertilizer especially for family gardening and used as the laboratory animal in case of genetic and hormonal studies.

Sustainable and increasing rate of pigeon farming may enhance the rate of reducing the gap of animal protein deficiency, increase the rate of poverty reduction and it may improve the socio-economic status of the poor community.

Milton and Green (1987) observed that, the population pressure in Bangladesh forced marginal land to be bought under cultivation leaving practically no land exclusively for grazing of animal. Hence the possibility of expansion of livestock farming is very limited in this country. Pigeon however for their shorter life cycle and production require less capital compared to other meat producing animal such as cow, goat sheep etc.

The current study was conducted to record present status, problems and prospects and to formulate some suggestion about pigeon farming in Doublemooring Thana under Chittagong district.

Objectives of the study:

- i. To analysis the socio economic condition of the backyard farming of pigeon.
- ii. To evaluate production performance and profitability of raising pigeon in different numbers.
- iii. To determine feeding system and availability of feed for raising pigeon in Doublemooring thana under Chittagong district.
- iv. To identify some problems of pigeon farming and limitation of this study.

Chapter II

Materials and Methods

The survey was conducted in three different pigeon raising areas in Doublemooring Thana under Chittagong district by using a questionnaire developed mainly for collection of information on rearing practices, especially on feeds, feeding and housing systems of pigeon at backyard level. The areas and farmers were selected purposively. The interview schedule was carefully designed keeping the objectives in view. The schedule contained both open and closed form questions. Most easy, simple and direct questions were asked to obtain information. After necessary modification, the schedule was finalized. The parameters recorded are farmers personal information (age and educational level), housing, feeding management and marketing of pigeon and squab, consumption of pigeon meat by urban people, some observations, problems and prospects in pigeon farming by farmers. In this study also took some study like measurement of house, height and nest space and weight of squab on pigeon farming.

In backyard farming system there was not keep any written record. All the information was oral. The data collected through individual interviews were analyzed finally.

3.1 Duration of study:

The study was started from 15.01.15 and finished by 26.04.15

3.2 Selection of the study area:

Total 50 households were selected purposively from Double mooring Thana under Chittagong district.

The main considerations in selecting the study area were as follows:

- i. Availability of large number of pigeon in the study area.

- ii. Good communication facilities.
- iii. The author expected high co-operation from the owners of backyard pigeon farming.
- iv. No study of this type was done previously in this area.

Table: 1- No. of household having backyard pigeon in Doublemooring Thana under Chittagong district.

Sl. No.	Name of the area	Total no. of household	No. of household having backyard farming and interviewed	% of backyard pigeon farm
	Agrabad,CDA residential area			
01.	Road no.17	13	3	23.08
02.	Road no.4	8	2	25
03.	Road no.22	10	3	30
04	Road no.23	7	1	14.28
05	Road no.14	9	2	22.22
Mean		9.4	2.2	29.28
Halishahar residential area				
01.	L block	9	2	22.22
02.	G block	7	2	28.57
03.	K block	10	3	30
04.	A block	8	2	25
05.	B block	13	3	23.07
Mean		9.4	2.4	25.772
Agrabad, Excess road				

01.	C.N.B colony	64	6	9.37
02.	Forest colony	55	7	12.72
03.	S.B colony	50	4	8
04.	B.B colony	36	5	13.88
05.	Bapary para	17	5	29.41
Mean		44.4	5.4	14.67

3.3 Selection of sample and sampling technique:

A total of 50 household were selected randomly from Doublemooring Thana under Chittagong district.

3.4 Inclusion criteria of study population:

Key units having at least 3 pairs of pigeon reared under backyard condition.

3.5 Method of data collection:

Data were collected through direct interview schedule by researcher with a pre-tested questionnaire. The schedule was prepared maintaining relevance with objectives of the study.

3.6 Analytical technique:

After collecting data, the information was put on the master sheet. The data were arranged in tubular form and were analyzed as per objectives of the study. Simple statistical measures like arithmetic mean, percentage etc were used in this study.

It is however to be noted that for analytical purpose, the cost and returns per bird and per family were estimated.

Chapter III

Result and Discussion

4.1 Age of the pigeon farmers

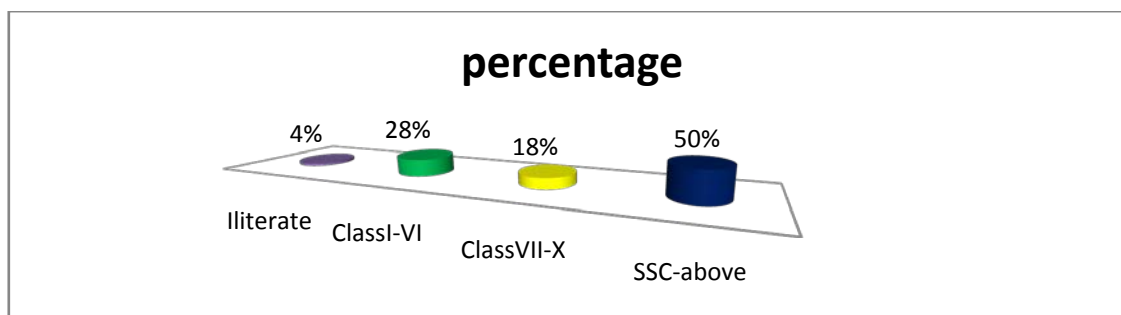
Age of the pigeon farmers ranged from 15 to 75 years. The farmers were graded into 3 age categories, which are presented in table 2. It is evident that 34% farmers were young, 42% were middle age and rests were old age group.

Table: 2- Farmers personal information

Categories of age	Age(Year)	Pigeon farmers		Range	
		No.	Percentage	Maximum	Minimum
Young	15-35	17	34	70	16
Middle age	35-55	21	42		
Old	55-75	12	24		
Total		50	100		

Assaduzzaman *et al* (2009) observed that 53.3% farmers were middle age, 26.6% farmers were young and rests were old. The age of the farmers observed was coinciding with Assaduzzaman, but sometimes the observation was varied due to year and study area.

Fig: 1-Literacy level of farm owner in the studied area.



Low cost of housing	200-300	14	28	37.8114	3.15	500	200
Medium of cost housing	300-400	17	34				
High cost of housing	400-500	19	38				

In this study we found that, housing per bird is Tk. 37. 8114. Levi (1957), observed that housing cost per pigeon only 14.00Tk. .When they used fish box. That is very lower than present study .In current study, pigeon were reared in scavenging condition and nests are used as night shelter for protection against predator. Nest was made strong and was placed at a reasonable height using strong support which may be reason for higher housing cost. According to Assaduzzaman *et al* (2009), housing cost of pigeon was about Tk. 1.00/month/ pigeon. But in our study we observed that it is Tk.3.1/month/pigeon. Variation is found due to price of construction material used for pigeon housing increase day by day.

4.3.2 Height of house

38% farmers used medium height house which is ranged from 3.4-4.9m, 34% used low height house (1.8-3.3m) and rests used maximum height house (5-6.5m) for their pigeon (Table.4). Medium height house is reasonably fair because farmers try to protect their pigeon from predators by placing nest at a higher where it is difficult for predator to reach pigeon farm. Other than maximum height require more cost and minimum height house have risk to attack by predator.

Table: 4- Height of pigeon house

Categories	Range (m.)	Pigeon farmers		Average height (m)	Height(m)	
		No.	Percentage		Maximum	Minimum
Minimum	1.8-3.3	17	34	4.314	6.5	1.8
Medium	3.4-4.9	19	38			
Maximum	5-6.5	14	28			

4.4 Feeding of pigeon -

In the table 5, we found that Pigeon feed cost Tk.30.00 per kg. Therefore, spending on

Table: 5- Average feeding of pigeon

Categories	Range(g)	Average(g)	Price of per kg feed(Tk.)	Cost of feed per pigeon/day(Tk.)
Low	35-40	41.4	30	2.00
Medium	40-45			
High	45-50			

feed (41.4g/day) for each pigeon was Tk. 2.00 per day. Feeding one pair of pigeon requires about 82.8g of feed which cost about Tk. 4.00 per day. Strand Magazine (1901) and Breton (1914) reported that feed intake per pigeon per day was 47.35g which was higher than the present observation. The differences have possibly been arisen because in the present study, pigeon were reared in scavenging system and farmer supplied only supplementary feeding whereas, in other studies the pigeons were reared confinement. Scavenging ability of pigeon is higher than that of chicken because pigeon can travel

long distance in search feed. Information was collected on supplementary feeding only. But the total feed intake was not possible to record by farmers.

4.5 Feed item supplied to pigeon

Different type of feed ingredients are supplied to the pigeon like yellow corn (33.75%), hard wheat (18.75%), peas(20%),rapeseed(4%), cowpeas (2.5%), hilled oat(3%), polished rice (4.747%), Milo(16.25%) (Table.6). Feed ingredients are differing from availability of feed ingredient, season and areas of the study.

Table: 6- Different types of grain mixture for pigeon feeding

Feed ingredients	Iteam-1(%)	Iteam-2(%)	Iteam-3(%)	Iteam4 (%)	Average (%)
Yellow corn	35	35	30	35	33.75
Hard wheat	20	20	20	15	18.75
Peas	20	20	20	20	20
Rapeseed	5	3	5	3	4
Cowpeas	3	2	3	2	2.5
Hulled oat	2	3	2	5	3
Polished rice	5	2	0	0	4.747
Milo	10	15	20	20	16.25
Total	100	100	100	100	100

4.6 Marketing of pigeon and squab

Marketing age of squab was grouped into 3 categories i.e., 20-24 days, 25-29 days and 30-35 days (Table. 7). Most of the pigeon farmers (44%) sold their squab within 30-35 days,38% sold during 25-29 days and the rests sold in 20-24 days (Table:6). In 1957, Levi

reported that marketing age varying from 25 to 35 days with an average of 30 days which is coincide of our study. People choice varied from country to country regarding squab consumption by consumers.

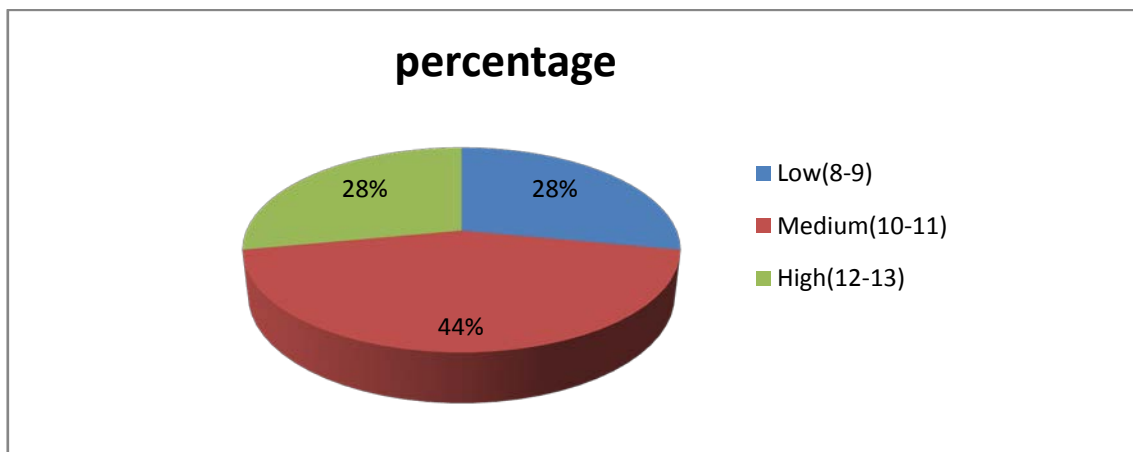
Table: 7- Marketing of pigeon and squab-

Marketing age of pigeon	Pigeon farmers	
	No.	Percentage
20-24 days	9	18
25-29 days	19	38
30-35 days	22	44

4.7 Production of squab/year/pair/of pigeon

According to Fig. 2, we found that, 28%, 44%, 28% squab produce from low, medium and high producing pigeons. There is a believe that good commercial pair of pigeon should produce 9 to 10 pair squab/year (Levi, 1957) which is very contradicted the findings of this study. Poor hatchability, homosexuality of pairs and disease has been reported by farmers as reasons to deplete prolificacy in pigeon.

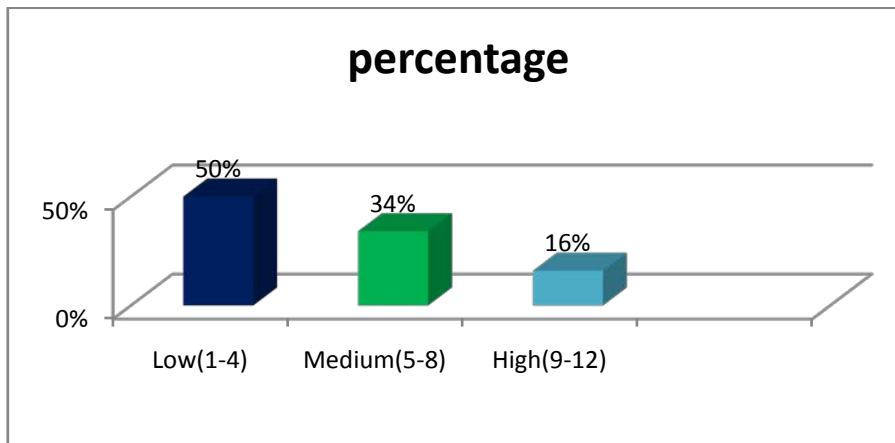
Fig-2 Production of squab /year/pair of pigeon



4.8 Mortality of the pigeon

Mortality of the pigeon ranged from 5-15% (Fig.3). Among the pigeon farmers 50% reported low mortality, 34% farmers reported medium mortality and 16% high mortality. Most

Fig: 3. Mortality of squab.



Of the mortality occurs from the attack of predators and disease.

4.9 Cost benefit analysis

The total cost and total income from the studied backyard farming under semi intensive farming are presented in the table-8. The table shows that the total cost and total income were Tk.1371 Tk. and Tk.3600 respectively. From the table-8 it could be seen that the profit of the farming was somewhat high because of higher delicacy of pigeon meat. The table shows that the net profit, gross margin are Tk. 2235 and Tk.2229 Tk. respectively.

Table: 8- Cost and return from per pair of pigeon

Cost

Housing cost	4.5 Tk.
Equipment cost	1.5 Tk.

Chick cost	200 Tk.
Feed cost	1095 Tk.
Electricity, labour,litter.medicine vaccine cost	50 Tk.
Miscellaneous	20 Tk.
Total variable cost	1365 Tk.
Total cost	1371 Tk

Income-

Income from selling squab	3600 Tk.
Litter material	20 Tk.
Total	3620 Tk.
Gross margin	2235 Tk.
Net profit	2229 Tk.
BCR	2.62

In the study, the BCR is greater than 1 and that is 2.62.It indicates that if backyard pigeon farmer invest Tk.1 then they would get return of Tk. 2.62.

4.10. Problems identification-

The following problems are identified in general from the response of the studied pigeon rarer under the study-

- I. Lack of improved breed.
- II. Lack of available medicinal supports such as vaccination support, treatment support.
- III. Lack of availability of feed.
- IV. Lack of government supervision.
- V. Lack of organized marketing system in Bangladesh.

- VI. Pigeons are almost incapable of depending themselves and hence losses from predators.

4.11. Limitation of the study-

- i. **Recall bias**-Farmers supported not to have seen equally co-operative and friendly. They sometimes tried to escape in the middle of the interviews.
- ii. **Misclassification**-Most of the farmers thought that the investigator was an agent of Government authority and therefore, they initially did not want to co-operate with the researcher.
- iii. **Data recording**-Normally farmers did not keep any written document of their farm activities.
- iv. **Previous pigeon rearing record**-Some farmers were found during study that reared pigeon previously but rearing has been stopped for the following reasons- squab mortality, feed problem, disease affection, stealing of pigeon.

Chapter IV

Conclusion

Pigeon farming in urban areas of Bangladesh is not well organized. Most of the people rear pigeon in small scale following scavenging system and provide supplementary feeding only. The farmers rear desi pigeon and having no idea about slandered variety of pigeon. It is profitable business and price of pigeon meat is high. Pigeon farming may be increased in future provided government initiative to train farmers on management and extension of loans are ensured. Introduction of improve breed and varieties may ensure better income and employment opportunity.

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Biography

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Ongoing research	<ol style="list-style-type: none">1. Socioeconomic study on backyard pigeon farming system in some selected area of Chittagong district.2. A case report on <i>Strongyloides papillosus</i> in a goat
