

**PRESENT STATUS OF PIGEON FARMING IN SELECTED AREA
OF DINAJPUR DISTRICT**

A THESIS

BY

MOHAMMAD FAZLE RABBEE

Registration No.: 1605153

Session: 2016-2017

Semester: January-June, 2016

MASTER OF SCIENCE (M S)

IN

POULTRY SCIENCE



**DEPARTMENT OF DAIRY AND POULTRY SCIENCE
HAJEE MOHAMMAD DANESH SCIENCE AND TECHNOLOGY
UNIVERSITY, DINAJPUR-5200**

DECEMBER, 2017

**PRESENT STATUS OF PIGEON FARMING IN SELECTED AREA
OF DINAJPUR DISTRICT**

A THESIS

BY

MOHAMMAD FAZLE RABBEE

Registration No.: 1605153

Session: 2016-2017

Semester: January-June, 2016

Submitted to the Department of Dairy and Poultry Science, Faculty of Veterinary and Animal Science,
Hajee Mohammad Danesh Science and Technology University, Dinajpur for partial fulfillment of the
requirement of the degree

MASTER OF SCIENCE (M S)

IN

POULTRY SCIENCE



**DEPARTMENT OF DAIRY AND POULTRY SCIENCE
HAJEE MOHAMMAD DANESH SCIENCE AND TECHNOLOGY
UNIVERSITY, DINAJPUR-5200**

DECEMBER, 2017

**PRESENT STATUS OF PIGEON FARMING IN SELECTED AREA
OF DINAJPUR DISTRICT**

A THESIS

BY

MOHAMMAD FAZLE RABBEE

Registration No.: 1605153

Session: 2016-2017

Semester: January-June, 2016

Approved as to style and content by

(Prof. Dr. Tahera Yeasmin)
Research Supervisor

(Prof. Dr. Mst. Afroza Khatun)
Research Co-Supervisor

(Prof. Dr. Tahera Yeasmin)

Chairman

Examination Committee

**DEPARTMENT OF DAIRY AND POULTRY SCIENCE
HAJEE MOHAMMAD DANESH SCIENCE AND TECHNOLOGY
UNIVERSITY, DINAJPUR-5200**

DECEMBER, 2017

DEDICATED
TO MY
BELOVED PARENTS

ACKNOWLEDGEMENTS

For the very first of all, the author expresses his gratitude to the almighty Allah, the most gracious and supreme authority of the Universe for his kind blessings to fortunate the author to accomplish this research work and complete this thesis successfully. Words actually will never be enough to express how grateful the author is nevertheless will try his level best to express his gratitude towards some respected persons for their advice, suggestions, direction and co-operation in completing the research work and thesis.

The author would like to express heartfelt gratitude to his honorable Supervisor, Dr. Tahera Yeasmin, Professor and Chairman, Department of Dairy and Poultry Science, Hajee Mohammad Danesh Science and Technology University, Dinajpur for her cordial supervision, innovative suggestions, scholastic guidance, helpful comment, inspiration and timely instructions throughout the entire period of the research.

The author express his deep indebtedness to his Co-Supervisor, Professor Dr. Mst. Afroza Khatun, Department of Dairy and Poultry Science, Hajee Mohammad Danesh Science and Technology University, Dinajpur for her scholastic guidance, constructive criticism, untiring assistance and advice throughout the research work and in writing the thesis.

The author like to express heartfelt gratitude to his honorable teacher, Dr. Md. Kamruzzaman Mithu, Assistant professor, Department of Dairy & Poultry Science, Faculty of Veterinary and Animal Science, Hajee Mohammad Danesh Science and Technology University, Dinajpur for his scholastic guidance, innovative suggestions, constructive criticism, helpful comment, inspiration and timely instructions throughout the entire period of the research.

The author also would like to express his cordial thanks to his all reverend teachers and staffs of the Faculty of Veterinary and Animal Science, Hajee Mohammad Danesh Science and Technology University, Dinajpur for their kind assistance and encouragement to carry out the research work,

Last but not least, the author is very much grateful to his beloved parents for their never-ending prayers, unending sacrifices, inspiration and continuous blessings in every thick and thin of his life.

The Author

December, 2017

ABSTRACT

A survey was conducted using a pre-tested interview schedule in the town of Lalbag, Patuapara, Ramnagar, Paharpur, Barabandhor under sador upazilla of Dinajpur district to record present status, problems and prospects and to formulate some suggestions about pigeon farming in the town areas of Bangladesh. Data were collected from twenty pigeon farmers such as age, education level of farmer, housing, height of house, construction cost, duration of house, cage space, cage cost, breeds and varieties, feeding of pigeon and squab, quantity and quality of feed supplied to pigeon, number of male pigeon, number of female pigeon, marketing age of squab, weight of squab, price of pigeon, price of squab, production of squab/year/pair of pigeon, mortality of pigeon. Results revealed from the study, most of the pigeon farmers were young age (60%) and educated (50%). Height of house, house construction cost, duration of house, space of the cage (maximum percentage small), cost of the cage were 10.2 ft., Tk. 34750, 18.3 years, 24×24×18 inc³, Tk. 1125, quantity of feed supplied to each pigeon/day was 42.1g, mean number of male pigeon, mean number of female pigeon were 69.3, 73.9, marketing age of squab, weight of each squab were 51.5 days, 347.5 g, price of pigeon Rain, King, Siraji, Portar, Short face, Nan and Lakkha were Tk. 5585, Tk. 3850, Tk. 3570, Tk. 3250, Tk. 2390, Tk. 1410 and Tk. 945 price of each squab Rain, King, Siraji, Portar, Short face, Nan and Lakkha were Tk. 2765, Tk. 1920, Tk. 1785, Tk. 1625, Tk. 1195, Tk. 712 and Tk. 472.5 production of squab/year/pair of pigeon and mortality of pigeon were 12.1 and 13.6. Most of the farmers rear pigeon in small scale cage system and give supplied feeding. Farmers rear many breeds and varieties i.e. Rain, King, Bokhra, Portar, Bagdha, Homer, Giribazz, Siraji, Mukkhi, Fental, Lakkha, Zharna, Poka, Raser, Nan, Strachar, Jacpin, Short Face, Mondian and Helmet. Farmers rear known local breeds and varieties. In Bangladesh some breeds and varieties are Siraji, Loton, Jalali, Giribaz etc. They have not clearly idea about breed and variety of pigeon and prevention of disease. There is a huge demand of squab meat in the market due to its taste. Introduction of costly fancy meat breed, incorporation of more breed and varieties of pigeon, increased farm size and balanced feed for pigeon and squab needed to be ensured for improving cash income and employment generation. For this reason, pigeon farming may be increased in future provided government initiative to train farmers on management and extension of loans.

Key Word: Pigeon, Pigeon farming, Breeds and varieties of Pigeon, Management, Socio-economic.

LIST OF CONTENTS

CHAPTER	TITLE	PAGE NO.
	ACKNOWLEDGEMENTS	v
	ABSTRACT	vi
	LIST OF CONTENTS	vii-ix
	LIST OF TABLES	x
	LIST OF GRAPHS	xi
	LIST OF ABBREVIATION AND SYMBOLS	xii
CHAPTER I	INTRODUCTION	1-2
CHAPTER II	REVIEW OF LITERATURE	3-5
	2.1 Farmers personal information	3
	2.2 Pigeon and squab management	3
	2.3 Research gap and present study	5
CHAPTER III	MATERIALS AND METHODS	6-8
	3.1 Selection of the study area	6
	3.2 Instrument for data collection	6
	3.3 Collection of data	6
	3.3.1 Farmers personal information	7
	3.3.2 Housing of pigeon	7
	3.3.3 Feeding of pigeon and squab	7
	3.3.4 Management of pigeon and squab	7
	3.3.5 Marketing of pigeon and squab	8
	3.3.6 Merits and demerits of pigeon rearing	8
	3.3.7 Problems	8
	3.4 Problem confrontation	8
	3.5 Cost and benefit	8
	3.6 Compilation and analysis of data	8
CHAPTER IV	RESULTS AND DISCUSSIONS	9-27
	4.1 Farmers personal information	9
	4.1.1 Age of pigeon farmers	9
	4.1.2 Education level of pigeon farmers	9

CONTINUED LIST OF CONTENTS

CHAPTER	TITLE	PAGE NO.
4.2	Housing of pigeon	11
4.2.1	Height of house	11
4.2.2	House construction cost	12
4.2.3	Duration of house	12
4.2.4	Space of the cage	12
4.2.5	Cost of the cage	13
4.3	Feeding of pigeon and squab	13
4.3.1	Quantity of feed supplied to pigeon	13
4.4	Management of pigeon and squab	13
4.4.1	Number of male pigeon	13
4.4.2	Number of female pigeon	14
4.4.3	Marketing age of squab	14
4.4.4	Weight of squab (g/squab)	16
4.5	Marketing of pigeon and squab	17
4.5.1	Price of pigeon	17
4.5.1.1	Price of pigeon (Rain)	17
4.5.1.2	Price of pigeon (King)	17
4.5.1.3	Price of pigeon (Siraji)	17
4.5.1.4	Price of pigeon (Portar)	19
4.5.1.5	Price of pigeon (Short face)	19
4.5.1.6	Price of pigeon (Nan)	20
4.5.1.7	Price of pigeon (Lakkha)	20
4.5.2	Price of squab (Tk./squab)	20
4.5.2.1	Price of squab (Rain)	20
4.5.2.2	Price of squab (King)	20
4.5.2.3	Price of squab (Siraji)	22
4.5.2.4	Price of squab (Portar)	23
4.5.2.5	Price of squab (Short face)	23
4.5.2.6	Price of squab (Nan)	23
4.5.2.7	Price of squab (Lakkha)	23

CONTINUED LIST OF CONTENTS

CHAPTER	TITLE	PAGE NO.
	4.5.3 Production of squab/ year/pair of pigeon	24
	4.6 Mortality of pigeon	24
	4.7 Problems faced during the data collection	26
	4.8 Some observations	26
	4.9 Problems of pigeon farming	27
	4.10 Prospects of pigeon farming	27
CHAPTER V	SUMMARY AND CONCLUSION	28
	REFERENCES	29-31
	APPEDICES	32-39

LIST OF TABLES

TABLE NO.	TITLE	PAGE NO.
4.1	Farmers personal information	10
4.2	Management of pigeon and squab	15
4.3	Price of pigeon	18
4.4	Price of squab	21
4.5	Production of squab and mortality of pigeon	25

LIST OF GRAPHS

GRAPH NO.	TITLE	PAGE NO.
4.1	Farmers personal information	11
4.2	Management of pigeon and squab	16
4.3	Price of pigeon	19
4.4	Price of squab	22
4.5	Production of squab and mortality of pigeon	25

LIST OF ABBREVIATIONS AND SYMBOLS

Abbreviation	Full meaning
1st	First
2nd	Second
AD	Anno Domini
Agric.	Agricultural
BBS	Bangladesh Bureau of Statistics
CONTD.	Continued
Dr.	Doctor
e.g.	For example
Exper.	Experimental
g	Gram
i.e.	That is
kg	Kilogram
Ltd.	Limited
m	Mohammad
MS	Master of Science
No.	Number
pp	Page to page
Tk.	Taka
UK	United Kingdom
USA	United States of America
SD	Standard Deviation
Symbol	Full meaning
%	Percentage
/	Per
+	Plus
×	Multiply



CHAPTER I

INTRODUCTION

CHAPTER I

INTRODUCTION

Bangladesh has a long historical record of raising poultry under backyard system. The weather and vast areas of crop field along with housing premises of Bangladesh are suitable for pigeon farming. It appears from the archaeological records that the pigeon is found to have been closely allied with man. Whenever civilization has flourished, there the pigeon has thrived, and the higher civilization, usually the higher regard for the pigeon. Poets, philosophers, and historians have extolled this bird or let drop a line that indicates a surprising personal knowledge of it. Pigeons were not only tended with loving care by these ancient peoples, but that they occupied a position of reverence and were regarded as holy. The Assyrians and Syrians either worshipped pigeon and doves or obtained from harming them as being of a sacred nature. The pigeon has come to be almost worshipped in remote parts of the Mohammedan world. As recently as 1925, a near riot was caused in Bombay when two European boys ignorantly killed some street pigeons. The stock exchange and general market were closed and a widespread strike threatened. At the mosque of dove, at Istanbul, pigeons have increased greatly in number due to the reverence for them, which does not permit disturbance of their nests in or about the holy buildings. The sacrifice of doves and pigeons in the early Hebrew rituals of expiation was a remnant of the adoration of his bird sacred to Astarte. Pigeons are used as deferential referring to the dove as an emblem of peace, of purity of tendencies and of affection. The song of Solomon and Psalms have a number of such references. Pigeon racing was well recognized in Palestine around 200-220 AD, and bets were made upon the outcome of the race. The authentic documentary evidence of the use of the pigeon as a military aid begins with the Romans over 2000 years ago (Samad, 1993).

In Bangladesh, Indigenous chickens produce about 75% of the eggs and 78% of the meat consumed domestically and the rest from farm poultry. The contributions of pigeon have not yet been addressed in relation to the contribution of livestock sub-sector and whole poultry production though the pigeons provide the advantageous copes having the beneficial facts.

Hence profitable, pigeon farming may be an easy and reliable source of employment opportunity, way of family labor utilization and cash income. Sustainable and increasing rate of pigeon farming may enhance the rate of reducing the gap of animal protein

consumption/deficiency; increase the rate of poverty reduction will improve the socio-economic status of the community in urban area.

In the ancient period, the pigeons had been domesticated and reared as the carriers of message and ornamental and/or game birds. The ability of pigeon to carry messages has been reliably exploited in the warfare, trade friendship maintenance and political administration. But now-a-days, the pigeons have also been mainly reared for family nutrition and recreation. The manorial dovecot has been replaced by the commercial plants which produce the juvenile birds for human consumption. These are common in the USA, continental Europe in the UK where pigeon rearing is mostly for recreational and/or ornamental purpose. The keeping of pigeons for pleasure/recreation has a fascination for all social classes, in part attributable to the intelligence of the pigeon and its ability to recognize and interact with people without constraints on the liberty of the birds.

There are many farms at Dhaka who rear pigeon for renting to others in inauguration of different festivals. After inauguration the released pigeon again come back to their homes. In addition, several commercial pigeon markets have been established in Dhaka especially at Katabone, Gingira, Tongi, Tataribazar where mostly rare species and variety of pigeons are available.

There is no information about pigeon farming whether it is possible to be used as an income generating source or not. However, no published information about pigeon farming is available for long time and this farming going to out of sight of the people.

So, current study was conducted to know about present status of pigeon farming with the following objectives:

1. To identify the present status of pigeon rearing in town areas of Dinajpur district.
2. To identify the problems and prospects of pigeon rearing in Dinajpur district.



CHAPTER II

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

Some information on pigeon rearing available in literature is discussed under following headings:

2.1 Farmers personal information

Khanum (1997) observed average age of the respondents was 44.62 years where as Rahman (1999) reported 39.2 years. According to BBS (1999-2002), illiterate and literate people were about 54.7% and 45.3% in Bangladesh.

2.2 Pigeon and squab management

Usually, pigeons are reared as pairs. Therefore, male female ratio should be 1. However, Darwin (1874) reported more male squabs were produced than female in pigeon, whereas, Cole and Kirkpatrick (1915) documented male female ratio in Pigeon was 1.05. Levi (1957) indicate (information from Palmetto pigeon plant, 1938) that male female ratio varied in different breeds and varieties. The ratio was 0.97 in Red and Yellow Carneaux, 1.0 in White Carneaux and 1.01 in Homers and 0.92 in Silver Kings x White Carneaux.

The Strand Magazine (1914) and Bretton (1914) reported that 12,000 pigeons and their young would consume approximately 1250 pounds feed per day i.e. 47.35g of feed per day. They also stated that the cost of feeding for each pigeon was Tk.1.33 per day. Levi (1957) reported a pair of carneaux and its progeny (young killed at 28 days of age for market) consumed approximately 100 pound of feed per Year i.e. 24.53g per day. Kings consume slightly more feed 110-115 pound per year i.e. 36.99g per day-43.21g/day. Homers, about 90 pound of feed per year i.e.32.08g/day.

Levi (1957) recorded housing cost per pigeon only Tk. 14.00 when they used fish boxes. Marketing age varying from 25 to 35 days with an average of 30 days. He observed weight of squab is about 0.75-1 pound i.e. 340.91g-454.55g. There is a belief that a good commercial pair of pigeon should produce 18 to 20 squabs per year (Levi 1957), whereas, Delhauer (1934) documented 9.47 squabs per pair per year and he also reported more than sixteen squabs per pair per year from White Carneaux.

Platt and Dare (1937) recorded 11.4 squabs per pair per year. They also found more than fifteen (15) squabs per pair per year in White Kings.

Levi (1957) documented the average squab price has been about 75 cents per pound i.e Tk.105. Rahman (1999) reported each loton pigeon was sold at Tk.150-200, whereas, Levi (1957) observed the price of each commercial pigeon was Tk. 175.00.

Egg production is influenced by factors such as poultry instinct to adapt to the environment; on the other hand, poultry laying capacity is determined by genetic capability and environment (Rasyaf, 1985). Average egg weight is about in this experiments Ensminger (1992) indicates that poultry egg weight is influenced by genetic, body weight and age. Egg numbers that have been produced in a year is affected by clutch, protein content, water, temperature, cage type and diseases.

The heritability of egg weight is 0.6gm (Noor, 2008), and 0.4-0.85gm (Etches, 1996). Bokhari (2002) reported that a pair of squabbling pigeons will consume about 45.30-56.6 g feed/day. Feed and water intake ratio is 2:1 which is similar with chickens. According to Sturtevant and Hollander (1978) feed consumption is about one-tenth of the pigeon's body weight with an average of 34.5 g/day.

Bokhari (2002) observed that the marketing age of squab were at about 25 to 30 days with an average 27.50 days. While, Bolla (2007/a); Blechman (2006) stated that squab was slaughtered at about 28 and 30 days. Levi (1957) documented that body weight of squab was an average 397.73 g, Jane (2005); Bolla (2007/b) observed that live weight of squab were about 679.5-736.1 g and 450-700 g. and the male pigeon is larger, aggressive, heavier and consume more feed than female.

Sometimes pigeons and doves gather together while feeding and its wild variety were found near about human habitation (Khan, 2008).

There was no recommended pigeon breed in Bangladesh. Loton, Giribaz, Siraji and Jalali were found 80, 10, 5 and 5 to, respectively in coastal region (Samad. 1988).

Houses for pigeons are generally called lofts (Levi, 1977). Pigeon houses are also sometimes referred to as "coops" although the word seems to have originally applied to the breeding pens inside the housing (Levi, 1977). Pigeons are quite territorial about their housing/nesting area (Castoro and Guhl, 2008).

These pigeon houses often contain specially constructed openings to allow the pigeon keeper to give his animals liberty for purposes of exercise while allowing them to re-enter the house without special assistance from the keeper. At the same time these houses are constructed to keep the pigeons safe from predators and inclement weather and give them nesting places in which to raise their squabs.

Pigeons were especially prized because they would produce fresh meat during the winter months when larger animals were unavailable as a food source. In the past wealthy landowners often had pigeon houses and kept pigeons. Strict laws were enacted to protect the inhabitants of these structures. Tegetmeier (1868).

Ten pairs of pigeons can produce eight squabs each month without being fed especially by the pigeon keepers. For a greater yield, commercially raised squab may be produced in a two-nest system, where the mother lays two new eggs in a second nest while the squabs are still growing in the first nest, Schiere and van der Hock (2001), fed by their father Bolla (2007). Establishing two breeding lines has also been suggested as a strategy, where one breeding line is selected for prolificacy and the other is selected for "parental performance" (Aggrey, 1993).

2.3 Research gap and present study

No research has been conducted in Bangladesh regarding rearing and management status of pigeon for long time. Moreover, problems and prospects of pigeon rearing is also not well documented. Disease, Treatment, and curing management of pigeon is not well developed. Thus, this species as a component of poultry going beyond the sight of scientist and people in general. With those ideas, in view, the present survey was undertaken to record present status, problem and prospects and to provide some suggestions about pigeon rearing in the urban area of Bangladesh.



CHAPTER III

MATERIALS AND METHODS

CHAPTER III

MATERIALS AND METHODS

3.1 Selection of the study area

Study area selection is an important step for conducting any research. For this study, the selected areas were Lalbag, Patuapara, Ramnagar, Paharpur, Barabandhor under sadar upazilla of Dinajpur district. The area and pigeon farmers were selected randomly. Keeping in view the objectives of the study, the area was chosen for the following reasons:

1. Good communication facilities and consequently less expense conducting the study.
2. No study of this type was conducted previously in this area, this area represent overall scenario of pigeon farming at the selected area.
3. Researcher had perception about better co-operation from the pigeon rearing farmers.
4. The duration of research work had three and half months.

3.2 Instrument for data collection

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 get information. The interview schedule was pre-tested with three (3) farmers for judging suitability to the pigeon farmers. After necessary modifications, the schedule was finalized. The parameters recorded of farmers are personal information (age and education level), housing, feeding, management and marketing of pigeon and squab, consumption of pigeon meat by the urban people. Problems and prospects of pigeon farming.

3.3 Collection of data

The data were collected through the interview schedule. House to house survey was made by researcher himself. Initially, pigeon farmers were reluctant to give information and some farmers feared imposition of taxes. Finally, they were convinced and extended

their co-operation. Through interview schedule following information were collected. Interview schedule is given in Appendix table.

3.3.1 Farmers personal information

- a) Age of pigeon farmers
- b) Education level of farmers
- c) Occupation of pigeon farmer
- d) Numbers of family members
- e) Family status
- f) Family earning source

3.3.2 Housing of pigeon

- a) Types of housing
- b) Materials of housing
- c) Height of house
- d) House construction costs
- e) Duration of house
- f) Nest space
- g) Nest construction costs
- h) Number of nest/pair of pigeon

3.3.3 Feeding of pigeon and squab

- a) Quality of feed supplied to pigeon
- b) Quantity of feed supplied to pigeon
- c) Procedure of feed supplied to pigeon
- d) Feeder and waterer
- e) Pigeon feed ingredients
- f) Feeding pattern of pigeon

3.3.4 Management of pigeon and squab

- a) Number of male pigeon
- b) Number of female pigeon
- c) Number of squab
- d) Breeds and varieties of pigeon
- e) Who take care of pigeon?

3.3.5 Marketing of pigeon and squab

- a) Price of pigeon
- b) Production of squab/year/pair of pigeon
- c) Marketing age of squab
- d) Weight of squab (g/squab)
- e) Price of squab (Tk/squab)
- f) Carrying system of squab for marketing
- g) Due to transportation mortality

3.3.6 Merits and demerits of pigeon rearing

3.3.7 Problem

- a) Predator problem
- b) Housing problem
- c) Weather problem

3.4 Problem confrontation

- a) Mortality of pigeon
- b) Diseases and curing measures
- c) Predator
- d) Rearing problem
- e) Social problem

3.5 Cost and Benefit

- a) Total cost per year
- b) Total income per year
- c) Loss/Profit

3.6 Compilation and analysis of data

Collected data were compiled, tabulated and analyzed in accordance with the objectives of the study. Qualitative data were converted into quantitative forms by means of suitable score whenever needed, local units were converted into standard unit scales. Simple tabular techniques were used to explain the data. Minimum, maximum mean, standard deviation and percentage were used mainly to illustrate the results.

A decorative graphic consisting of several overlapping, semi-transparent squares in shades of blue, red, and orange, intersected by two thin, light blue lines forming a cross shape.

CHAPTER IV

RESULTS AND DISCUSSIONS

CHAPTER IV

RESULTS AND DISCUSSIONS

In the surveyed area, some aspect of the socio-economic background of the pigeon farmers, particularly regarding farmers personal information, all management procedure, production, marketing etc. From the surveyed result although have lots of problems in pigeon farming but having huge possibility of farming in the town area of Bangladesh. Problems faces during data collection, some observations in the surveyed area, problems and prospects of pigeon farming are discussed under following points.

4.1 Farmers personal information

4.1.1 Age of pigeon farmers

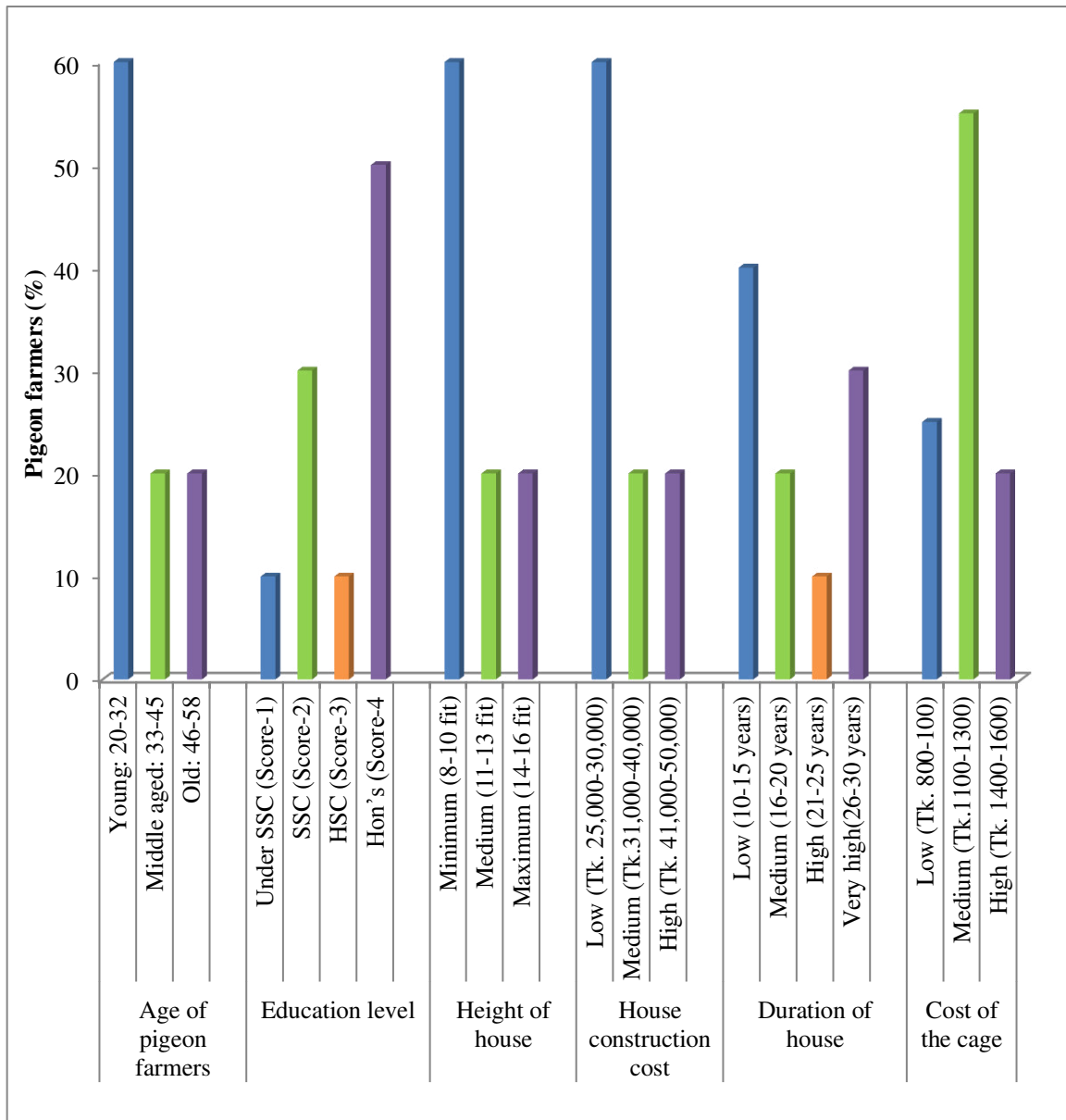
Age of the pigeon farmers ranged from 20 to 58 years. The farmers were graded into 3 age categories, which are presented in Table 4.1 and Graph 4.1. It is evident that 60% were young, 20% were middle age and rests 20% were old. The mean and standard deviation of age of the pigeon farmers were 34.50 and 11.38 respectively. Mean age of the pigeon farmers observed (34.50) contradict with Khanum (1997) and Rahman (1999). They were founded the mean age of pigeon farmer is 44.46 and 39.20. The differences could possibly be explained by the year and area of study.

4.1.2 Education level of pigeon farmers

Level of education is an important indicator for pigeon farming. Score was ranged from 1 to 4, with an average of 3. The standard deviation was 1.12. The farmers were classified into 4 categories on the basis of their level of education. Data presented in Table 4.1 and Graph. 4.1 showed that, most of the farmers (10%) were under SSC, 30% SSC pass, 10 % HSC pass and 50% Hon's pass. Results revealed from the study indicate that pigeon farmers had higher education level in the context of Bangladesh. According to BBS (1999-2002), illiterate and literate people were about 54.7% and 45.3%.

Table 4.1 Farmers personal information

Categories	Pigeon farmers		Range (years)		Mean \pm SD
	No.	%	Maximum	Minimum	
Age of pigeon farmers					
Young: 20-32	12	60			
Middle aged: 33-45	4	20	58	20	34.50 \pm 11.38
Old: 46-58	4	20			
Total	20	100			
Education level					
Under SSC (Score-1)	2	10			
SSC (Score-2)	6	30	4	1	3 \pm 1.12
HSC (Score-3)	2	10			
Hon's (Score-4)	10	50			
Total	20	100			
Height of house					
Minimum (8-10 fit)	12	60			
Medium (11-13 fit)	4	20	16	8	10.2 \pm 2.78
Maximum (14-16 fit)	4	20			
Total	20	100			
House construction cost					
Low (Tk. 25,000-30,000)	12	60			
Medium (Tk.31,000-40,000)	4	20	50,000	25,000	34750 \pm 9385.74
High (Tk. 41,000-50,000)	4	20			
Total	20	100			
Duration of house					
Low (10-15 years)	8	40			
Medium (16-20 years)	4	20	30	10	18.3 \pm 9.28
High (21-25 years)	2	10			
Very high(26-30 years)	6	30			
Total	20	100			
Cost of the cage					
Low (Tk. 800-100)	5	25			
Medium (Tk.1100-1300)	11	55	1600	800	1125 \pm 243.06
High (Tk. 1400-1600)	4	20			
Total	20	100			



Graph. 4.1 Farmers personal information

4.2 Housing of pigeon

In present study all the farmers are used cage. Cage system in a room is used for pigeon rearing. Room is well constructed made by brick wall cement and sand tin shed. Floor is mosaics.

4.2.1 Height of house

The height of the pigeon house ranged from 8-16 fit. The average being 10.2 fit and standard deviation 2.78. Based on the height, pigeon house were classified into 3 categories (Table 4.1 and Graph. 4.1) namely minimum height (8-10 fit), medium height

(11-13 fit) and maximum height (14-16 fit). In the current study, maximum height of house was noted 16 fit and minimum was 8 fit for pigeon.

4.2.2 House construction cost

From Table 4.1, it is reported that maximum house construction cost of pigeon was Tk.50,000 minimum Tk. 25,000 and average Tk. 34,750. The standard deviation was 9385.74. The pigeon farmers were classified into 3 categories. Among them, 60.0% pigeon farmers involved low cost (Tk. 25,000-30,000), 20% involved medium cost (Tk.31,000-40,000) and rest 20% involved high cost (Tk.41,000-50,000) for construction of pigeon house (Table 4.1 and Graph. 4.1).

Levi (1957) recorded housing cost per pigeon only Tk. 14.00 when they used fish boxes which is much lower than the findings of the current study (Tk. 34,750). In the current study, pigeons are reared nests in room are used as shelter. For protection against predator, nest are made very strong with rod wire and placed at a reasonable height using strong support which may be the reasons for higher housing cost. In confinement, simple and cheaper nesting is possible because they are placed inside the confined house where predator problem is not prevalent. Construction materials used for pigeon house are bricks wall, tin shade.

4.2.3 Duration of house

From Table 4.1 and Graph. 4.1, it is observed that 40% pigeon farmers found duration of pigeon house 10-15 years, 20% found 16-20 years, 10% found 21-25 years and rest 30% found 26-30 years. In the present study, maximum duration of pigeon house was 30 years and minimum duration was 10 years. The mean and standard deviation were 18.3 and 9.28 respectively.

4.2.4 Space of the cage

Three types of cage are found for pigeon rearing small 24×24×18 inc.³, medium 24×26×20 inc.³ and large 30×28×20 inc.³. Eleven number of farmers used small size cage, five number of farmers used medium size cage and four number of farmers used large size cage from 20 farmers. The percentage is small, medium and large were 55%, 25% and 20%.

4.2.5 Cost of the cage

From Table 4.1, it is reported that maximum cage cost of pigeon was Tk.1600, minimum Tk.800 and average Tk. 1125. The standard deviation was 243.06. The pigeon farmers were classified into 3 categories. Among them, 25.0% pigeon farmers involved low cost (Tk. 800-1000), 55% involved medium cost (Tk.1100-1300) and rest 20% involved high cost (Tk.1400-1600) for construction of pigeon house (Table 4.1 and Graph. 4.1).

4.3 Feeding of pigeon and squab

4.3.1 Quantity of feed supplied to pigeon

From Table 4.2, it is shown that the quantity of feed supplied to pigeon ranged from 33g/day to 58g/day, with an average 42.1g/day. The standard deviation was 8.06. Feed quantity was classified into 3 categories on the basis of supply. Among the pigeon farmers, 50% supplied 33-39g/day, 20% supplied 40-49g/day and 30% supplied 50-58g/day feed to pigeon (Table 4.2 and Graph. 4.1).

Pigeon feed cost about Tk. 40.00 per kg. Therefore, spending on feed (42.1g/day) for each pigeon was Tk. 1.68 per day. So, for feeding one pair of pigeon about 84.2g of feed cost Tk. 3.37 per day. Monthly cost of feeding for one pair of pigeon stands at Tk. 101.10. Spending on feed for each pigeon was much higher (Tk.1.68/day) than that reported (Tk. 1.33/day) by Strand Magazine (1914) and Bretton (1914). They reported feed intake per pigeon per day 47.35g which is also higher than that obtained in the current study. The differences have possibly be arisen because in the current study, pigeons were reared in cage system and farmers only supplied supplementary feeding whereas, Strand Magazine and Bretton reported feed intake and feed cost of pigeon reared in confinement. However, in the current study, the feed are supplied by farmers.

4.4 Management of pigeon and squab

4.4.1 Number of male pigeon

Based on the population male pigeon range from 20 to 160 with an average and standard deviation were 69.3 and 51.97 respectively. On the basis of male number, the pigeon

farmers were classified into 3 categories. Majority (50% pigeon farmers were low category, 20% were medium and 30% were high category (Table 4.2 and Graph. 4.2).

4.4.2 Number of female pigeon

The number of female pigeon scores of the pigeon farmers ranged from 20 to 200, the average being 73.9 and the standard deviation 58.97. The pigeon farmers were classified into 3 categories: 40% reared 20-40 number of female low, 40% reared 50-100 number of female medium and rest 20% reared 150-200 numbers female pigeon high (Table 4.2 and Graph 4.2).

Usually, pigeons are reared as pairs. Therefore, male female ratio should be 1.0. In this study, the ratio appears to be different (0.80), male female ratio different from 1.0 obtained is supported by Cole and Kirkpatrick (1915) and Darwin (1874). Darwin reported more male squabs are produced than female in pigeon, whereas, Cole and Kirkpatrick documented male female ratio in pigeon was 1.05. However, Levi (1957) indicate (information from Palmetto Pigeon Plant, 1938) that male female ratio varied in different breed and varieties. The ratio was 0.97 in Red and Yellow Carneaux, 1.0 in White Carneaux, 1.01 in Homers and 0.92 in Silver Kings X White Carneaux. Some of this information closes with present study while some others contradict. Death, infertility or barren problem more in female than male, may be the reason why ratio differed from equity.

4.4.3 Marketing age of squab

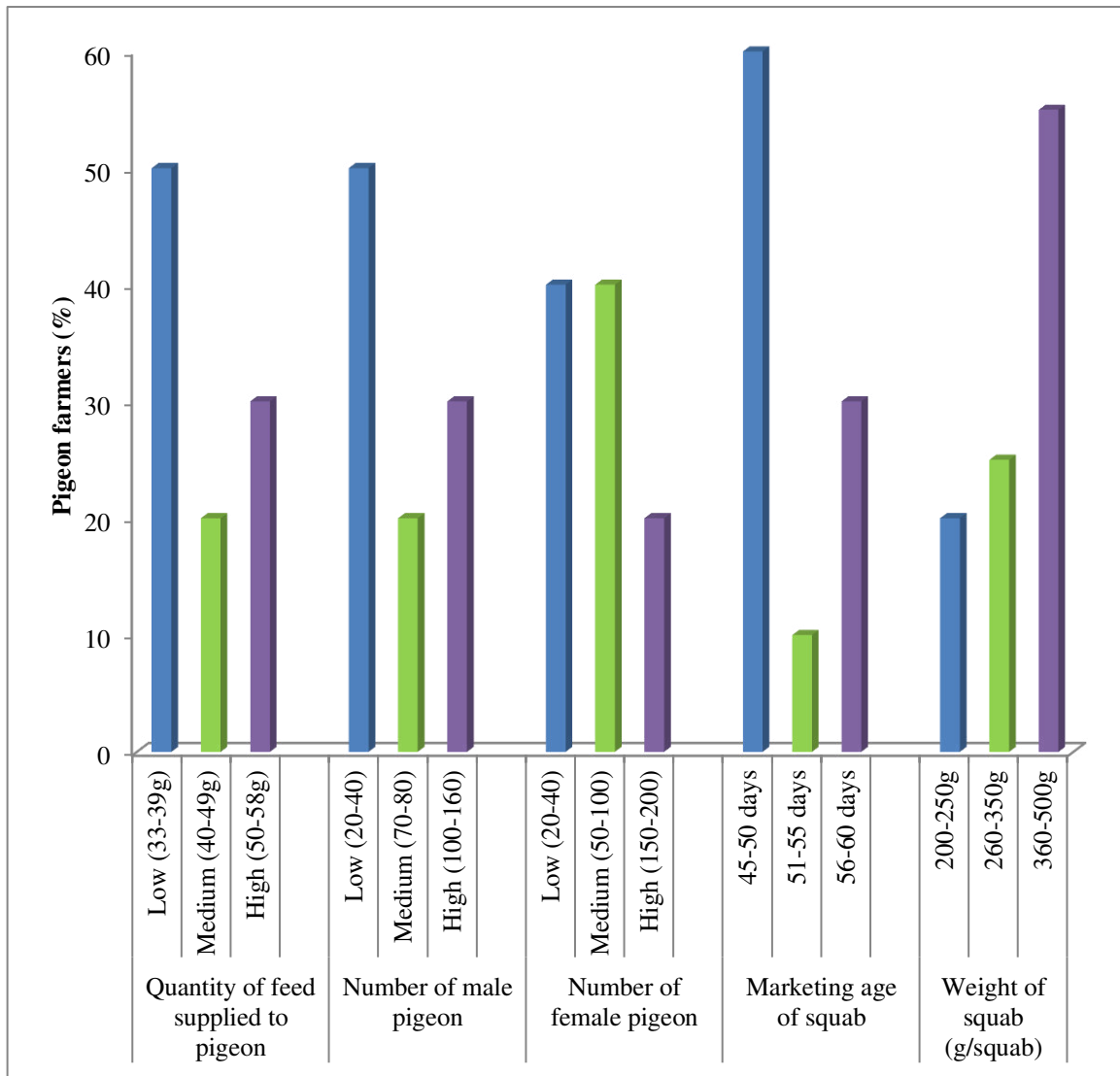
Marketing age of squab was grouped into 3 categories and those are 45-50 days, 51-55 days and 56-60 days. Most of the pigeon farmers (60%) sold their squab in 45-50 days, 10% sold in 51-55 days and rest 30% sold in 56-60 days (Table 4.2 and Graph. 4.2). The range of marketing age was 45-60 days. The average marketing age was 51.5 days with standard deviation of 6.51. As per definition, theoretically age of squab at marketing should be 28 days.

Practically, marketing age varied from 45 to 60 days with an average of 51.5. The current findings disagree with Levi (1957) and he reported marketing age varying from 25 to 35 days with an average of 30 days. People choice varied from country to country regarding squab age choice by consumers. Farmers attitude, variation of town market days, selling for emergency need of money and to entertain guest squabs are either sold or consumed

earlier or later. During marketing farmers carry their pigeon and squab in a special type of bamboo made cage called "pingira". Some others carry them in a banana tree made. "khol". Some other farmers carry their pigeon and squab wire made cage.

Table 4.2 Management of pigeon and squab

Categories	Pigeon farmers		Range (years)		Mean \pm SD
	No.	%	Maximum	Minimum	
Quantity of feed supplied to pigeon					
Low (33-39g)	10	50			
Medium (40-49g)	4	20	58	33	42.1 \pm 8.06
High (50-58g)	6	30			
Total	20	100			
Number of male pigeon					
Low (20-40)	10	50			
Medium (70-80)	4	20	160	20	69.3 \pm 51.97
High (100-160)	6	30			
Total	20	100			
Number of female pigeon					
Low (20-40)	8	40			
Medium (50-100)	8	40	200	20	73.9 \pm 58.97
High (150-200)	4	20			
Total	20	100			
Marketing age of squab					
45-50 days	12	60			
51-55 days	2	10	60	45	51.5 \pm 6.51
56-60 days	6	30			
Total	20	100			
Weight of squab (g/squab)					
200-250g	4	20			
260-350g	5	25	500	200	347.5 \pm 124.05
360-500g	11	55			
Total	20	100			



Graph. 4.2 Management of pigeon and squab

4.4.4 Weight of squab (g/squab)

From the Table 4.2, it is found that the squab weight ranged from 200 to 500g with an average 347.5g. On the basis of squab weight, the pigeon farmers were classified into 3 categories. Majority of pigeon farmers (55%) were 360-500g, 25% were 260-350g and 20% were 200-250g weight of squab (Table 4.2 and Graph. 4.2). The standard deviation was 124.05.

In the current study, average weight of squab is found 347.5g which very close with the findings of Levi (1957). He reported weight of squab is about 340.91g-454.55g. The difference in weight of squab may be due to variation in breed, variety and marketing age.

4.5 Marketing of pigeon and squab

4.5.1 Price of pigeon

In the surveyed area all the farmers are reared 20-25 number of varieties of pigeon named Rain, King, Bokhra, Portar, Bagdha, Homer, Giribazz, Siraji, Mukkhi, Fental, Lakkha, Zharna, Poka, Raser, Nan, Strachar, Jacpin, Short Face, Mondian and Helmet. So, their color, size, weight, price are different as well as their squab's color, size, weight, price are different from these seven types of pigeon price are calculated. Named King, Lakkha, Short Face, Siraji, Rain and Nan.

4.5.1.1 Price of pigeon (Rain)

Most of the pigeon farmers (45%) sold their pigeon at Tk. 5700-6000 /pigeon, 30% sold at Tk. 5000-5300/pigeon and 25% sold at Tk. 5400-5600/pigeon (Table 4.3 and Graph 4.3). From Table 4.3, it is shown that pigeon price, was minimum Tk. 5000 and maximum Tk.6000. Its mean and standard deviation were Tk.5585/pigeon and 396.40 respectively.

4.5.1.2 Price of pigeon (King)

Most of the pigeon farmers (40%) sold their pigeon at Tk. 3000-3500 /pigeon, 30% sold at Tk. 3600-4000/pigeon and 30% sold at Tk. 4100-4500/pigeon (Table 4.3 and Graph 4.3). From Table 4.3, it is shown that pigeon price, was minimum Tk. 3000 and maximum Tk.4500. Its mean and standard deviation were Tk.3850/pigeon and 564.29 respectively.

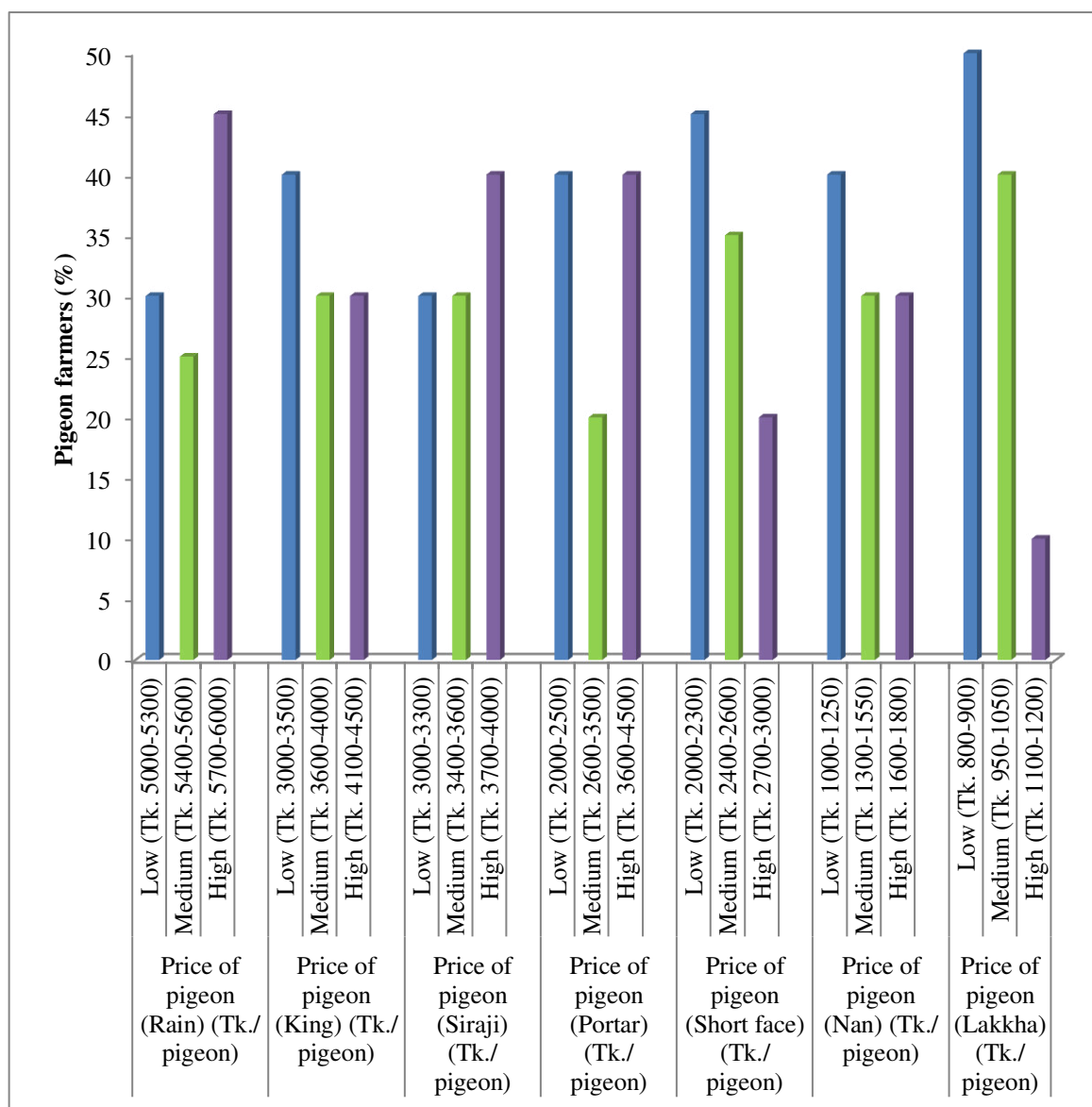
Rahman (1999) reported each loton pigeon was sold at Tk. 150-200, whereas, Levi (1957) observed the price of each commercial pigeon was Tk. 175.00 which is lower than that recorded in the present study (Tk. 3850). Higher price in the current study, may be for non-descriptive pigeon reared are much cheaper than the standard commercial variety.

4.5.1.3 Price of pigeon (Siraji)

Most of the pigeon farmers (40%) sold their pigeon at Tk. 3700-4000 /pigeon, 30% sold at Tk. 3400-3600/pigeon and 30% sold at Tk. 3000-3300/pigeon (Table 4.3 and Graph 4.3). From Table 4.3, it is shown that pigeon price, was minimum Tk. 3000 and maximum Tk.4000. Its mean and standard deviation were Tk.3570/pigeon and 402.75 respectively.

Table 4.3 Price of pigeon

Categories	Pigeon farmers		Range (years)		Mean \pm SD
	No.	%	Maximum	Minimum	
Price of pigeon (Rain) (Tk./ pigeon)					
Low (Tk. 5000-5300)	6	30			
Medium (Tk. 5400-5600)	5	25	6000	5000	5585 \pm 396.40
High (Tk. 5700-6000)	9	45			
Total	20	100			
Price of pigeon (King) (Tk./ pigeon)					
Low (Tk. 3000-3500)	8	40			
Medium (Tk. 3600-4000)	6	30	4500	3000	3850 \pm 564.29
High (Tk. 4100-4500)	6	30			
Total	20	100			
Price of pigeon (Siraji) (Tk./ pigeon)					
Low (Tk. 3000-3300)	6	30			
Medium (Tk. 3400-3600)	6	30	4000	3000	3570 \pm 402.75
High (Tk. 3700-4000)	8	40			
Total	20	100			
Price of pigeon (Portar) (Tk./ pigeon)					
Low (Tk. 2000-2500)	8	40			
Medium (Tk. 2600-3500)	4	20	4500	2000	3250 \pm 835.09
High (Tk. 3600-4500)	8	40			
Total	20	100			
Price of pigeon (Short face) (Tk./ pigeon)					
Low (Tk. 2000-2300)	9	45			
Medium (Tk. 2400-2600)	7	35	3000	2000	2390 \pm 330.71
High (Tk. 2700-3000)	4	20			
Total	20	100			
Price of pigeon (Nan) (Tk./ pigeon)					
Low (Tk. 1000-1250)	8	40			
Medium (Tk. 1300-1550)	6	30	1800	1000	1410 \pm 240.39
High (Tk. 1600-1800)	6	30			
Total	20	100			
Price of pigeon (Lakkha) (Tk./ pigeon)					
Low (Tk. 800-900)	10	50			
Medium (Tk. 950-1050)	8	40	1200	800	945 \pm 113.44
High (Tk. 1100-1200)	2	10			
Total	20	100			



Graph. 4.3 Price of pigeon

4.5.1.4 Price of pigeon (Portar)

Most of the pigeon farmers (40%) sold their pigeon at Tk. 2000-2500 /pigeon, 40% sold at Tk. 3600-4500/pigeon and 20% sold at Tk. 2600-3500/pigeon (Table 4.3 and Graph 4.3). From Table 4.3, it is shown that pigeon price, was minimum Tk. 2000 and maximum Tk.4500. Its mean and standard deviation were Tk.3250/pigeon and 835.09 respectively.

4.5.1.5 Price of pigeon (Short face)

Most of the pigeon farmers (45%) sold their pigeon at Tk. 2000-2300 /pigeon, 35% sold at Tk. 2400-2600/pigeon and 20% sold at Tk. 2700-3000/pigeon (Table 4.3 and Graph

4.3). From Table 4.3, it is shown that pigeon price, was minimum Tk. 2000 and maximum Tk.3000. Its mean and standard deviation were Tk.2390/pigeon and 330.71 respectively.

4.5.1.6 Price of pigeon (Nan)

Most of the pigeon farmers (40%) sold their pigeon at Tk. 1000-1250 /pigeon, 30% sold at Tk. 1300-1550/pigeon and 30% sold at Tk. 1600-1800/pigeon (Table 4.3 and Graph 4.3). From Table 4.3, it is shown that pigeon price, was minimum Tk. 1000 and maximum Tk.1800. Its mean and standard deviation were Tk.1410/pigeon and 240.39 respectively.

4.5.1.7 Price of pigeon (Lakkha)

Most of the pigeon farmers (50%) sold their pigeon at Tk. 800-900 /pigeon, 40% sold at Tk. 950-1050/pigeon and 10% sold at Tk. 1100-1200/pigeon (Table 4.3 and Graph 4.3). From Table 4.3, it is shown that pigeon price, was minimum Tk. 800 and maximum Tk.1200. Its mean and standard deviation were Tk.945/pigeon and 113.44 respectively.

4.5.2 Price of squab (Tk./squab)

Seven types of pigeon squab's price are calculated. Named Squab of King, Squab of Lakkha, Squab of Short Face, Squab of Siraji, Squab of Rain and Squab of Nan.

4.5.2.1 Price of squab (Rain)

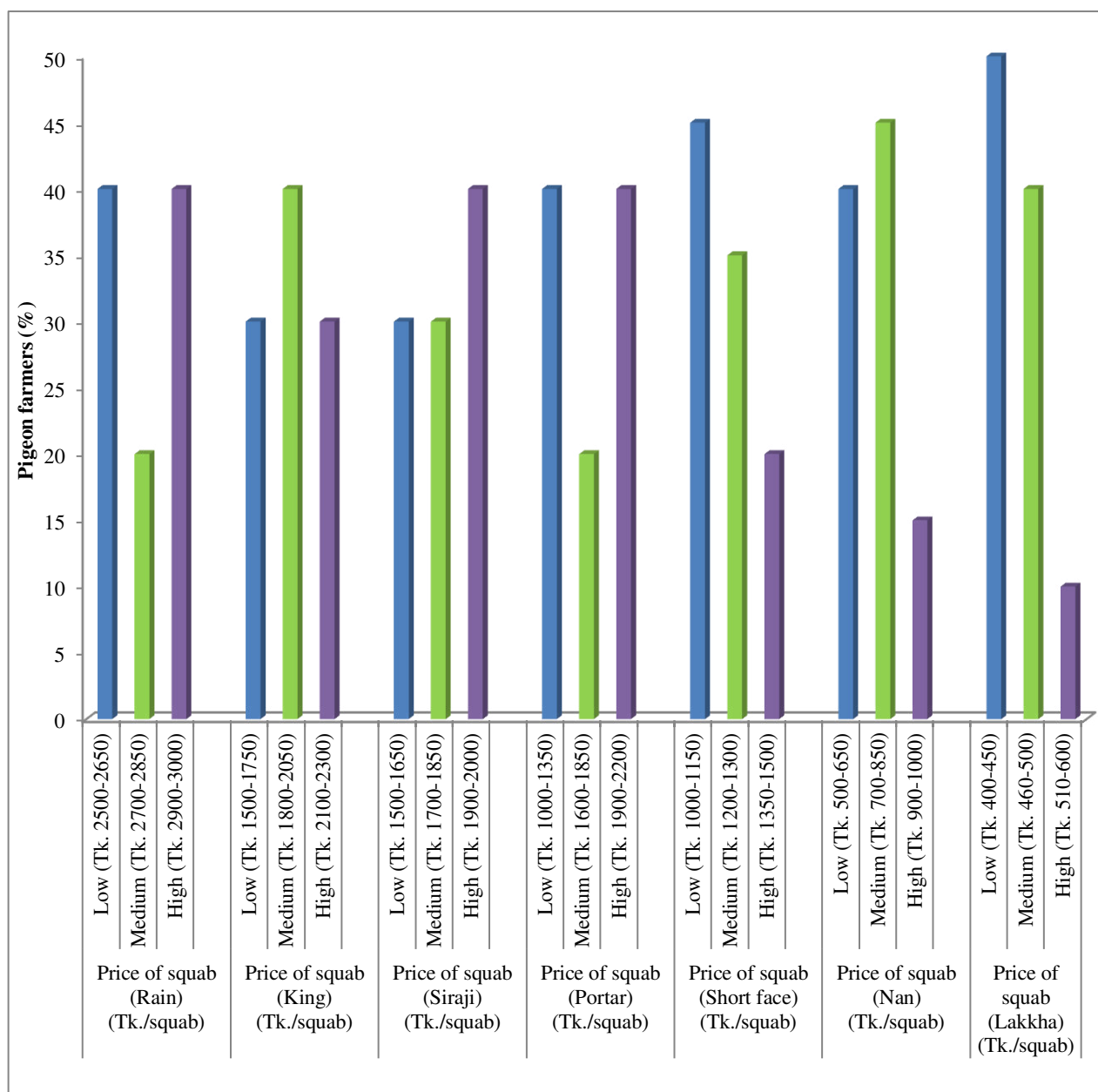
The pigeon farmers were categorized into 3 categories as low price (Tk. 2500-2650/squab), medium price (Tk. 2700-2850/squab) and high price (Tk. 2900-3000/squab) with 40%, 20% and 40% respectively (Table 4.4 and Graph. 4.4). The maximum, minimum, mean and standard deviation of squab price were Tk. 3000, Tk. 2500, Tk. 2765 and 200.07 respectively. (Table 4.4).

4.5.2.2 Price of squab (King)

The pigeon farmers were categorized into 3 categories as low price (Tk. 1500-1750/squab), medium price (Tk. 1800-2050/squab) and high price (Tk. 2100-2300/squab) with 30%, 40% and 30% respectively (Table 4.4 and Graph. 4.4). The maximum, minimum, mean and standard deviation of squab price were Tk. 2300, Tk. 1500, Tk. 1920 and 278.38 respectively. (Table 4.4).

Table 4.4 Price of squab

Categories	Pigeon farmers		Range (years)		Mean \pm SD
	No.	%	Maximum	Minimum	
Price of squab (Rain) (Tk./squab)					
Low (Tk. 2500-2650)	8	40			
Medium (Tk. 2700-2850)	4	20	3000	2500	2765 \pm 200.07
High (Tk. 2900-3000)	8	40			
Total	20	100			
Price of squab (King) (Tk./squab)					
Low (Tk. 1500-1750)	6	30			
Medium (Tk. 1800-2050)	8	40	2300	1500	1920 \pm 278.38
High (Tk. 2100-2300)	6	30			
Total	20	100			
Price of squab (Siraji) (Tk./squab)					
Low (Tk. 1500-1650)	6	30			
Medium (Tk. 1700-1850)	6	30	2000	1500	1785 \pm 201.38
High (Tk. 1900-2000)	8	40			
Total	20	100			
Price of squab (Portar) (Tk./squab)					
Low (Tk. 1000-1350)	8	40			
Medium (Tk. 1600-1850)	4	20	2200	1000	1625 \pm 417.54
High (Tk. 1900-2200)	8	40			
Total	20	100			
Price of squab (Short face) (Tk./squab)					
Low (Tk. 1000-1150)	9	45			
Medium (Tk. 1200-1300)	7	35	1500	1000	1195 \pm 165.35
High (Tk. 1350-1500)	4	20			
Total	20	100			
Price of squab (Nan) (Tk./squab)					
Low (Tk. 500-650)	8	40			
Medium (Tk. 700-850)	9	45	1000	500	712.50 \pm 130.66
High (Tk. 900-1000)	3	15			
Total	20	100			
Price of squab (Lakkha) (Tk./squab)					
Low (Tk. 400-450)	10	50			
Medium (Tk. 460-500)	8	40	600	400	472.5 \pm 56.35
High (Tk. 510-600)	2	10			
Total	20	100			



Graph. 4.4 Price of squab

The price of squab is high because it is sold as fancy meat bird consumed as delicacy. As per record of this study squab is sold at a calculated price of Tk. 1920/squab approximately weight 5000g to 600g which appears to be too high in comparison with that of other poultry meat. Therefore, it appears that pigeons are purchased as a fancy meat producing bird considering their palatability, delicacy and taste.

4.5.2.3 Price of squab (Siraji)

The pigeon farmers were categorized into 3 categories as low price (Tk. 1500-1650/squab), medium price (Tk. 1700-1850/squab) and high price (Tk. 1900-

2000/squab) with 30%, 30% and 40% respectively (Table 4.4 and Graph 4.4). The maximum, minimum, mean and standard deviation of squab price were Tk. 2000, Tk. 1500, Tk. 1785 and 201.38 respectively. (Table 4.4).

4.5.2.4 Price of squab (Portar)

The pigeon farmers were categorized into 3 categories as low price (Tk. 1000-1350/squab), medium price (Tk. 1600-1850/squab) and high price (Tk. 1900-2200/squab) with 40%, 20% and 40% respectively (Table 4.4 and Graph. 4.4). The maximum, minimum, mean and standard deviation of squab price were Tk. 2200, Tk. 1000, Tk. 1625 and 417.54 respectively. (Table 4.4)

4.5.2.5 Price of squab (Short face)

The pigeon farmers were categorized into 3 categories as low price (Tk. 1000-1150/squab), medium price (Tk. 1200-1300/squab) and high price (Tk. 1350-1500/squab) with 45%, 35% and 20% respectively (Table 4.4 and Graph. 4.4). The maximum, minimum, mean and standard deviation of squab price were Tk. 1500, Tk. 1000, Tk.1195 and Tk.165.35 respectively. (Table 4.4).

4.5.2.6 Price of squab (Nan)

The pigeon farmers were categorized into 3 categories as low price (Tk. 500-650/squab), medium price (Tk. 700-850/squab) and high price (Tk. 900-1000/squab) with 40%, 45% and 15% respectively (Table 4.4 and Graph. 4.4). The maximum, minimum, mean and standard deviation of squab price were Tk. 1000, Tk. 500, Tk. 712.50 and 130.66 respectively. (Table 4.4).

4.5.2.7 Price of squab (Lakkha)

The pigeon farmers were categorized into 3 categories as low price (Tk. 400-450/squab), medium price (Tk. 460-500/squab) and high price (Tk. 510-600/squab) with 50%, 40% and 10% respectively (Table 4.4 and Graph 4.4). The maximum, minimum, mean and standard deviation of squab price were Tk. 600, Tk. 400, Tk. 472.5 and 56.35 respectively. (Table 4.4).

4.5.3 Production of squab/ year/pair of pigeon

Based on the production of squab/year/pair of pigeon, pigeon farmers were classified into 3 categories; low (6-9), medium (10-14) and high (15-18) with 30%, 45% and 25% respectively (Table 4.5 and Graph 4.5). Maximum production of squab was 18 numbers/year/pair of pigeon and minimum production was 6 numbers/year/pair of pigeon. Its mean and standard deviation were 12.1 and 3.81 respectively.

There is a belief that a good commercial pair of pigeon should produce 18 to 20 squabs/year (Levi, 1957). The number of squab produced in the survey area for each pair of pigeon was 12.1 which is very differ to the figure as per general belief (Levi, 1957) and also contradict the findings of Delhauer (1934) and Platt and Dare (1937). Delhauer (1934) documented 9.47 squabs per pair per year and he also reported 16+ squabs/pair/year from White Carneaux. Platt and Dare (1937) recorded 11.4 squabs/pair/year. They also found 15+ squabs/pair/year in White Kings. Pigeon are fairly prolific breeder. They are supposed to produce 24 squab/pair/year. Poor hatchability, homosexuality of pairs diseases has been reported by farmers as reasons to deplete prolificacy in pigeon.

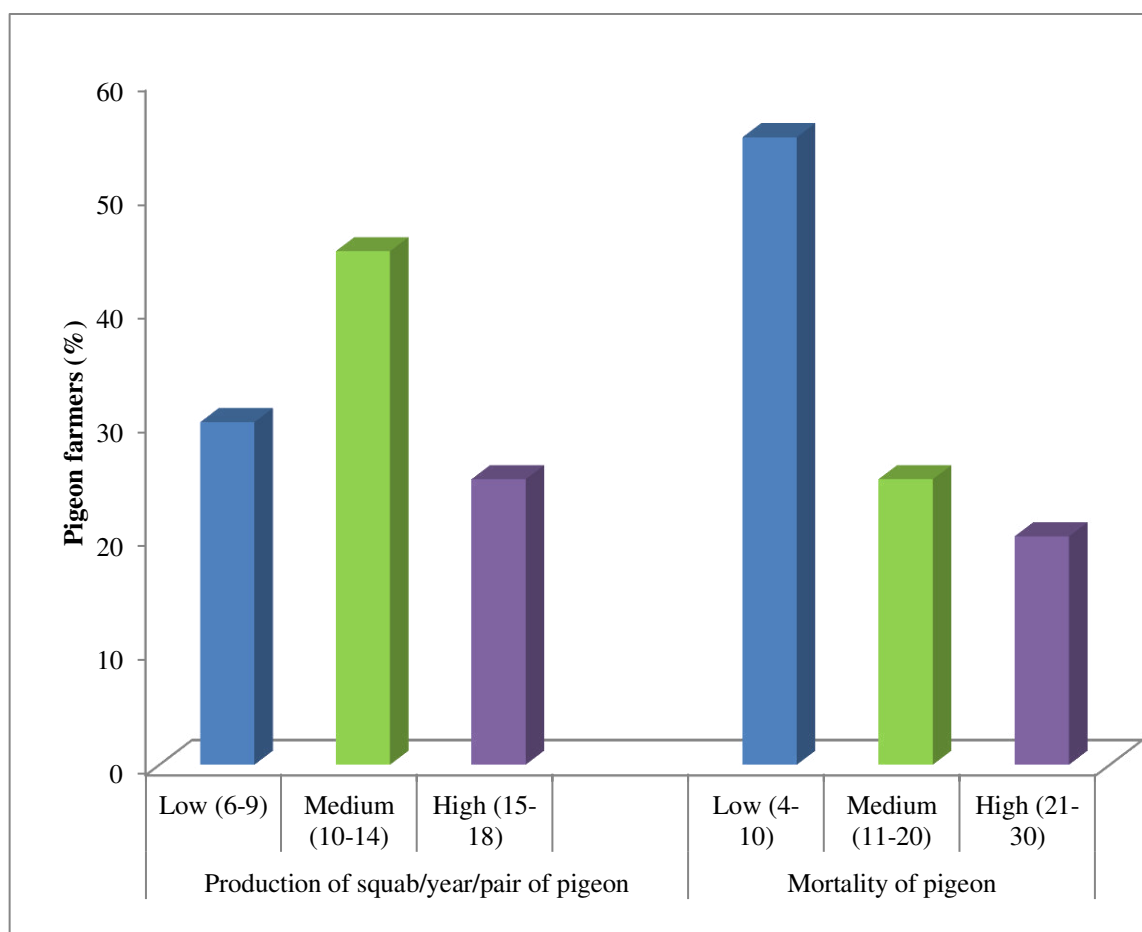
4.6 Mortality of pigeon

Mortality of pigeon ranged from 4 to 30. The total pigeon farmers were categorized in three groups as low (4-10) medium (11-20) and high (21-30). Among the pigeon farmers 55% reported low 25% medium and rest observed high 20% mortality in pigeon (Table 4.5 and Graph. 4.5). The mean and standard deviation were 13.6 and 7.90 respectively.

Most of the mortality occurs for the disease. Mean of mortality appeared to be 13.6. Usually the predator for pigeon and squab are palm civet (*Paradoxuru fhermaphrodites*), wissels (*Herpestes edwardsi*) and wild cat (*Felis chaus*). In rare cases, some squabs are killed by domestic house cats (*Felis domestica*). Transportation mortality is negligible incase of pigeon and squab. This may be an advantage over chicken. In broiler, 1-2 % mortality, was found during transportation by Veerkamp (1978).

Table 4.5 Production of squab and mortality of pigeon

Categories	Pigeon farmers		Range (years)		Mean \pm SD
	No.	%	Maximum	Minimum	
Production of squab/year/pair of pigeon					
Low (6-9)	6	30			
Medium (10-14)	9	45	18	6	12.1 \pm 3.81
High (15-18)	5	25			
Total	20	100			
Mortality of pigeon					
Low (4-10)	11	55			
Medium (11-20)	5	25	30	4	13.6 \pm 7.90
High (21-30)	4	20			
Total	20	100			



Graph. 4.5 Production of squab and mortality of pigeon

4.7 Problem faced during the data collection

The author had face number of problems in collection of data from the farmers:

1. A total of the pigeon farmers had no previous knowledge to respond to such study.
2. Most of the pigeon farmers hesitated to give their actual information about pigeon rearing. Because, they were afraid of tax imposition. They considered researcher as an officer of taxation.
3. In response to question, the pigeon farmers used local units of measurement which were often difficult to convert to standard units.
4. There was no written record kept by the household about pigeon rearing and they answered some questions from memory.
5. During data collection, the head of family was some time absent as a result, difficulties involved to collect information.
6. They were always anxious about the purpose of the study.
7. Sometimes the pigeon farmers did not co-operate willingly with the researcher because of no direct benefit from supplying information.
8. When they understood about survey work, they were willing to co-operate and to give accurate answer.

4.8 Some observations

1. Among the pigeon farmers, 83.3% like pigeon meat while 16.7% did not like pigeon meat. All the pigeon farmers are in opinion that pigeon meat is very costly and they prefer that only because it is tasty.
2. Some (4.7%) pigeon farmers did not like pigeon meat because many spices are added for cooking which is not good for health
3. Few pigeon farmers (9.4%) are in opinion that pregnant mother should not eat pigeon. They could not give any reason in favor of this opinion. Therefore, it appears to be a prejudice among the people.
4. About 80% pigeon farmers think that bronchial asthma and rheumatic fever patients should not eat pigeon meat. It is again a social believe and they fail to give any reason behind it.

5. In 20% cases house wife take care of pigeon, while in 20% cases both house owner male and housewife take care, others 60% cases all member take care.
6. Pigeon farmers supplied feed to pigeon on the long tray feederer and water supplied on the long tray waterer.

4.9 Problems of pigeon farming

1. Small size farm
2. Lack of scientific knowledge
3. Limited utility
4. No knowledge about disease prevention
5. Numbers of breed and variety are reared
6. Farmers have no training on pigeon farming
7. No organize counseling
8. Government has no planning and initiative to increase pigeon farming.

4.10 Prospects of pigeon farming

1. Pigeon farming is a profitable business.
2. It requires less cost involvement.
3. Huge demand of squab meat.
4. Farmers are interested in pigeon farming.
5. By providing training and loan, it is possible to increase farm size and finally pigeon farming can contribute more to poultry meat production.
6. Can create employment opportunities among the people.
7. Better utilization of family labor is possible.

A decorative graphic consisting of several overlapping, semi-transparent colored squares in shades of blue, red, and orange, intersected by two thin, light blue lines forming a cross shape.

CHAPTER V

SUMMARY AND CONCLUSION

CHAPTER V

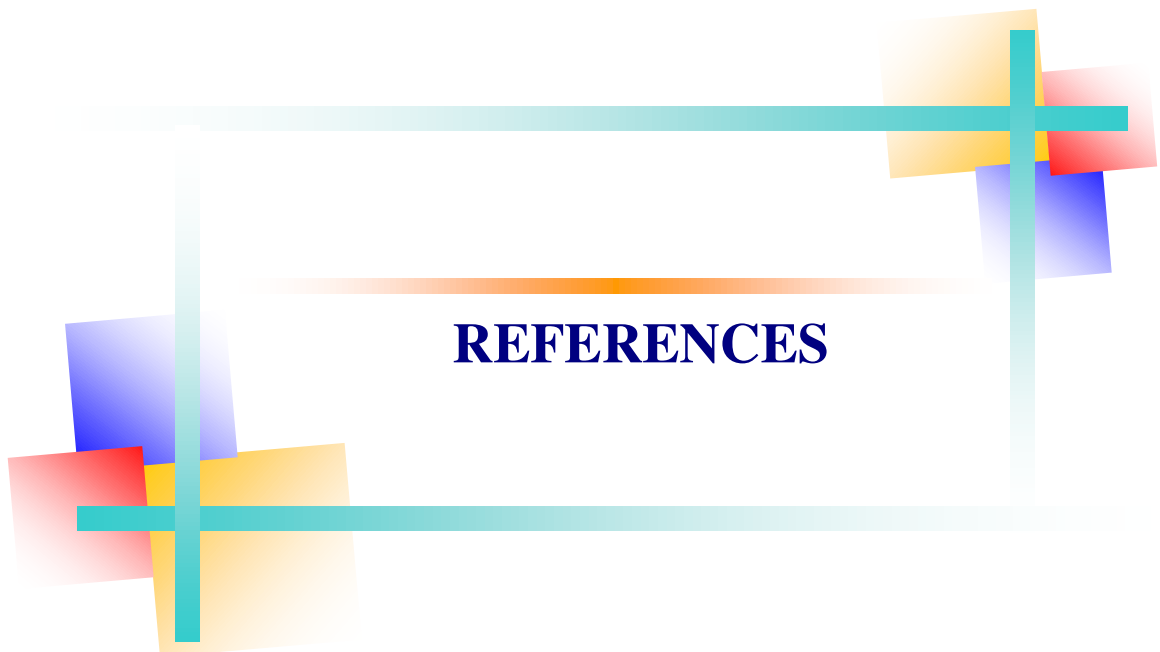
SUMMARY AND CONCLUSION

The study was conducted in the town of Lalbag, Patuapara, Ramnagar, Paharpur, Barabandhor under sador upazilla of Dinajpur district to record present status, to have some idea on pigeon management, to identify the problems and prospects and to formulate some suggestions about pigeon farming in the town areas of Bangladesh. In this study, data were collected from twenty pigeon farmers. Data were collected by the researcher himself using structural and pre-tested interview schedules. Results revealed from the study, most of the pigeon farmers were Young age (60%) and educated Hon's (50%). Pigeon farming in urban areas of Bangladesh is not well organized. Most of the pigeon farmers rear pigeon in small scale. They rear pigeon by the cage system and information was collected on supplied feeding. Most of the mortality of pigeon and squab occurs for the diseases. All the pigeon farmers mention that they rear around 20-25 number of breeds and varieties of pigeon. They have not clear idea about breed and variety of pigeon. Height of house, house construction cost, duration of house, space of the cage (maximum percentages small), cost of the cage were 10.2 ft., Tk. 34750, 18.3 years, 24×24×18 inc³, Tk. 1125, quantity of feed supplied to each pigeon/day was 42.1g, mean number of male pigeon, mean number of female pigeon were 69.3 and 73.9, marketing age of squab, weight of each squab were 51.5 days, 347.5 g, price of pigeon Rain, King, Siraji, Portar, Short face, Nan and Lakkha were Tk. 5585, Tk. 3850, Tk. 3570, Tk. 3250, Tk. 2390, Tk. 1410 and Tk. 945 price of each squab Rain, King, Siraji, Portar, Short face, Nan and Lakkha were Tk. 2765, Tk. 1920, Tk. 1785, Tk. 1625, Tk. 1195, Tk. 712 and Tk. 472.5 production of squab/year/pair of pigeon and mortality of pigeon were 12.1 and 13.6. In Bangladesh both rural and urban people are interested on pigeon meat. Pigeon's meat have huge demand on Hindu religious people.

There is a huge demand of pigeon meat in the market due to its delicacy and taste. It is a profitable business and pigeon meat price is high. Pigeon production can be increased in future provided:

- Government initiative to train farmers on management and extension of loans.
- Introduction of costly fancy meat breed.
- More breed and varieties need to be incorporated.
- Farm size should be increased for improving cash income.
- Supply balanced feed for pigeon and squab needed to be ensured for improving cash income and employment generation.

1



REFERENCES

REFERENCES

- Aggrey, S.E.; Cheng, K.M. (1993). "Genetic and Posthatch Parental Influences on Growth in Pigeon Squabs". *Journal of Heredity* 84(3): 184–187.
- Anonymous. (1901). The only pigeon ranch in the world, *The Strand Magazine*. April, 534-535.
- BBS (Bangladesh Bureau of Statistics). (1999-2002). *Statistical Yearbook of Bangladesh*. Statistics Division, Ministry of Planning. Government of the People's Republic of Bangladesh, Dhaka, Bangladesh.
- Blechman, AD. (2006). *Pigeons: The fascinating saga of the world's most revered and reviled bird*. Open city books. ISBN 0802118348.
- Bokhari, A. (2002). Bokhari Poultry and Squab Farm of California. E-mail: azhar@bokhari.com; Poultry Specialist.
- Bolla, G. (2007/a). New South Wales (NSW) Department of Primary Industries. ISSN 1832-6668. E-mail: www.dpi.nsw.gov.au/primefacts
- Bolla, G. (2007/b). "*Squab raising*" (PDF). New South Wales Department of Primary Industries. Retrieved 2009-09-03.
- Bretton, P. (1914). *Pigeons for profit*. London: C. Arthur Pearson Ltd.
- Castoro and Guhl. (2008). "Pairing Behavior of Pigeons Related To Aggressiveness and Territory" (Webarticle). *The Wilson Bulletin*.
<http://elibrary.unm.edu/sora/Wilson/v070n01/p0057-p0069.pdf>. Retrieved 2008-04-07.
- Cole, L. J. and Kirkpatrick, W. F. (1915). Sex ratios in pigeons, together with observations on laying, incubation and hatching of eggs. *Rhode Island Agric.*
- Darwin, C. (1874). *The descent of man and selection in relation to sex*: 2nd edition. Philadelphia: David Mckay. (First edition. Published in 1871).
- Delhauer, R. R. (1934). Chaffey union high school and junior college squab breeding station report for February, 1934 and three year summary. *American Pigeon Journal*. Vol. 23: 142-143.

- Ensminger (1992). Poultry Production (Animal Agriculture Series). 3rd Edition. Interstate Publishers. Denville. Illinois.
- Etches, R. J. (1996). Reproduction in Poultry. CAB International. Canada.
- Jane, C. (2005). Monuments to the birds: Dovecotes and pigeon eating in the land of fields. *Gastronomica*. 5(2): 50-59.
- Khan MMH (2008). Protected areas of Bangladesh A guide to wildlife. Nishorgo Program, Bangladesh Forest Department, Dhaka, Bangladesh.
- Khanum, H. (1997). Consumer attitude towards poultry and poultry products .M.S. thesis, Department of Poultry Science, Bangladesh Agricultural University, Mymensingh Bangladesh.
- Levi, W. M. (1957). The Pigeon. Sumter. S.C. Levi Publishing Company. Inc. p. 537. ISBN 0853900132.
- Levi, W. M. (1977). The Pigeon. Sumter. S.C. Levi Publishing Co. Inc. p. 507. ISBN 0853900132.
- Noor, R.R. (2008). Genetika Ternak. PT. Penebar Swadaya. Jakarta.
- Platt, C. S. and Dare, R. S. (1937). Squab production. New Jersey Agric. Exper.-Station Bull. 634.
- Rahman, M. A. (1999). Pigeon world, First published, Khatun, A.A, Savar, Dhaka, Bangladesh.
- Rasyaf, M. (1985). Pengelolaan Produksi Telur. Penerbit Kanisius. Jakarta.
- Samad, M.A. (1993). Poultry Palon O Chikitsabidda. 2nd edition. LEP, Bangladesh Agricultural University, Mymensingh. Bangladesh.
- Samad. M.A. (1988). Kabutarpalon. Pashu Palon O Chikitsavidya. 1st Pub., LEP Prokasoni, BAIJ Campus, Mymensingh.

Schiere, H. and van der Hoek, R. (2001). Livestock keeping in urban areas: a review of traditional technologies based on literature and field experiences. FAO animal production and health paper 151. Food and Agriculture Organization. p. 29. ISBN 978-92-5-104575-6.

Sturtevant, J. and Hollander, W.F. (1978). Breeding pigeons at the laboratory. Pigeon Science and Genetics Newsletter, 8(suppl.): 7.

Tegetmeier, William (1868). Pigeons: their structures, varieties, habits and management. London: George Rutledge and Sons. p. 38.

Veerkamp, C. H. (1978). The influence of fasting and transport on yields of broilers. Poultry Science. 57: 634-638.

A decorative graphic consisting of several overlapping, semi-transparent colored squares in shades of blue, red, orange, and yellow. Two thick, light teal lines cross each other in the center, forming a large 'X' shape that frames the text.

APPENDICES

APPENDICES

Appendix I: Some photograph of pigeon



Photo 1: Pigeon on wire rode cage



Photo 2: Pigeon on feeding



Photo 3: Pigeon on laying



Photo 4: Squab on the nest



Photo 5: Caring of squab on the nest



Photo 6: Pigeon in cage



Photo 7: Pigeon in cage



Photo 8: Pigeon in cage



Photo 9: Caring pigeon by farmer



Photo 10: Caring pigeon by farmer

Appendix II: Questionnaire

**AN INVESTIGATION ON PIGEON FARM ENTITLED “STUDY ON THE
PRESENT STATUS OF PIGEON FARMING IN SELECTED AREA OF
DINAJPUR DISTRICT”**

**Under the Department of Dairy and Poultry Science
Hajee Mohammad Danesh Science and Technology University,
Dinajpur-5200, Bangladesh.**

Name of the Farm:

Name of the Owner: Contact No.

Location of the Farm: Village:

Post Office:

Upazila:

District:

Farmer’s personal information:

Age of pigeon farmer:

Education level of pigeon farmer:

Occupation of pigeon farmer:

Numbers of Family Members:

Family status:

Family earning source:

Farm Information:

Date of introduction of pigeon farm:

Age of the Farm:

Total number of pigeon (Past): (Present):

Types of pigeon strain:

Housing of pigeon:

Types of Housing:

Materials of housing:

House construction costs:

Height of house:

Duration of house:

Nest space:

Nest cost:

Number of nest/pair of pigeon:

Feeding of pigeon and squab:

Quantity of feed supplied to pigeon (Scavenging system):

Quality of feed supplied to pigeon (Scavenging system):

Procedure of feed supplied to pigeon (Scavenging system):

.....

Quantity of feed supplied to pigeon (Cage system):

Quality of feed supplied to pigeon (Cage system):

Procedure of feed supplied to pigeon (Cage system):

.....

Number of male pigeon:

Number of female pigeon:

Number of squab:

Marketing of pigeon and squab:

Price of pigeon:

Production of squab/year/pair of pigeon:

Marketing age of squab:

Weight of squab (g/squab):

Price of squab (Tk/squab):

Carrying system of squab for marketing:

Problem confrontation:

Mortality of pigeon:

Diseases:

.....

Curing measures:

.....

Predator:

.....

Rearing problem:

.....

Social problem:

.....

Merits of pigeon rearing:

.....

.....

Demerits of pigeon rearing:

.....

.....

Cost and Benefit:

Total cost per year:

Total income per year:

Loss/Profit: