Research Article

Breeds Distribution and Management Practices of Pigeon Farming in Sri Lanka

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ARTICLE INFO	ABSTRACT
  Correspondence Abdeen Sharfan Ahamed ✉: sharfan@seu.ac.lk OPEN ⊘ ACCESS	Pigeon farming is one of the growing poultry industries in Sri Lanka as it is a source of income for youths. The study was conducted to assess Pigeon farming activities, distribution of breeds, farm management practices, and challenges of farming in the five main veterinary Pigeon raising divisions of the Gampaha district. The survey was carried out from January 2020 to April 2020. Responses of 110 Pigeon farmers were gathered from the snowball sampling technique. Results were revealed that more than half of the farmers (56.4 %) reared between 50-200 birds. Thirty timer-types, 27 racing-types, and 24 fancy-types breeds were identified, among them, timer-type Pigeons were the most popular rearing breeds (87.9%) in Sri Lanka. Most of the farmers (72.7 %) provided mixed feed twice a day by using trays. On average 35.31g of mixed feed was taken by a bird per day. Application of the leg ring was the main identification method (61.8%) and wing edge cutting was practiced to control the flying of the birds during training. Farmers in this region earned USD 49.89 to USD 498.88 from Pigeon rearing as their monthly income. Lack of extension service (43.6%), predators' problem (32.7%), disease problem (29.1%) were the major constraints faced by the farmers. Demographic, institutional, and farm management factors significantly influenced the number of Pigeons on a farm. Practicing cross-breeding and higher mating frequency lead to more squabs' production. Therefore, it can be concluded that there was a huge potential to encourage Pigeon rearing in the country using locally available materials through proper marketing channels, the introduction of improved breeds and varieties, awareness, training, and extension programs which will ensure better conditions for revenue and employment among the middle-aged population in Sri Lanka.

Introduction

Pigeons are universal birds that can be found in nearly every town and city across the globe (Marques et al., 2007). Pigeon is regarded as an income source for people during times of hardship, particularly poor and unemployed families (El- Hanoun et al., 2008). Besides, they are kept for ornamental and utility purposes (Fekete et al., 1999). However, they have also been mainly reared for sports and fancy purposes (Asaduzzaman et al., 2009). People are eager to raise Pigeons because of their market demand for delicious meat supplies. Moreover, Pigeon meat is consumed for its high nutritional value, digestibility, and low-fat content compared to other meats (Bhuyan et al., 1999; Gontariu and Buculei, 2009). It is known as one of the alternative protein sources for people in Sri Lanka. However, Pigeon meat has not been fully used as food to satisfy the protein needs of the population, as birds are mainly used for religious ceremonies (Parkhurst and Mountuey, 2004).

Pigeon rearing is a relatively low-cost investment due to lower feed and housing costs, simple and economic farming, as it has fast reproductive cycles and low disease incidence (Maity et al., 2020). In Sri Lanka, Pigeon production systems are undergone at a backyard farming system thus, Pigeons are permitted to roam freely for feeding and allow to gather into the cage for laying and brooding. Profitable Pigeon production may also be a simple and effective means of employment and family labours are used for all most all farming activities. Though, Pigeon farming may bring a wide variety of opportunities and activities that will allow farmers to be an entertainable and safe activity (Adang, 2008).

Pigeon farming is growing from day to day in Sri Lanka, where it is one of the most beneficial sectors for both income and hobbies. Even though, the contribution of Pigeon production is not considered in livestock production statistics in Sri Lanka. Whereas, Pigeon production is significantly unidentified. There are limited studies have done on Pigeon farming in Sri Lanka. Thus, the current study was conducted to identify and record the Pigeon breeds and their management practices of Pigeon farming in Sri Lanka.

Materials and Methods

A survey was carried out in the five major veterinary regions of Pigeon raising divisions of Gampaha district (*7° 5' 14.3160'' N, 80° 0' 51.7176'' E*) in Sri Lanka from January 2020 (Figure 1). One hundred ten (110) Pigeon farmers from the five veterinary divisions involved 44 farmers from Gampaha (1979 Pigeons), 18 farmers from Mahara (1478 Pigeons), 10 farmers from Kadawatta (709 Pigeons), 26 farmers from Minuwangoda (254 Pigeons), and 12 farmers from Welisara (404 Pigeons).

Figure 1. Veterinary regions in Gampaha district

They were inquired through snowball sampling technique as the information statistic of Pigeon farmers were rarely existing in veterinary office in the study area (Bryman, 2012). Data were collected using direct observation and farmer interviews using a semi-structured questionnaire containing questions of socio-economic characteristics, Pigeon production, management practices, and challenges they facing. The frequencies of the various social-economic characteristics of Pigeon farmers, types of breeds, and management systems were analyzed using descriptive statistics of the IBM SPSS statistical package (Version 25). The multiple regression analysis was carried out to find the relationship between the demographic, institution, and farm management.

Results and Discussion

The socio-economic aspect of Pigeon farmers

Different variables and categories were used to describe the socio-economic status of the farmers enlisted in Table 1. The respondent's age was divided into three categories. All farmers were above 20 years of age. The majority of the Pigeon rearing farmers' (45.5%) age was ranged between 36-50 years. 21.9% and 14.6% of fewer farmers were fallen in the age categories of the 20-35 years and 50-70 years compared to 36-50 years ranged farmers respectively. The findings of our research were consistent with the results of Asaduzzaman et al*.,* (2009) who reported that 53.3% of farmers were falling into 36-50 years old in Gouripur Upazila of Mymensingh district in Bangladesh. Education is one of the most important socioeconomic factors in farming and it plays a vital role in the development and adoption of improved farming technologies and practices. Half of the sampled farmers (50.9%) had General Certificate of Education (G.C.E) Advanced Level qualification and 36.4% qualified G.C.E Ordinary Level (Table 1). The traditional method of the Pigeon rearing system was practiced by farmers who had a lower level of education. Therefore, the higher level of educated Pigeon farmers was a potential drawback to the large-scale commercialization of Pigeon production. Almost, the farmers in our studies were literate compared to the farmers in the study of Asaduzzaman et al*.,* (2009), who described that 53.3% were illiterate.

In general, socio-economic and management practices had a major effect on the scale of the flock owned by rural Pigeon farmers. The research found that more than 50 % of the owners were reared Pigeons on the medium-scale (50-200 birds) (Table 1). Greater flock sizes were expected to be found in households with a higher standard of living than their poorer counterparts (Aboe et al*.,* 2006).

The monthly income of Pigeon farming of the study area ranged from approximately USD 50 to USD 500. Furthermore, small-scale farmers' income was USD 193.14±30.04 while medium-scale and large-scale farmers' incomes were USD 171.78±15.52 and USD 249.44±44.39, respectively. Farmers sold the Pigeons mostly in pairs. The monthly income was dependent on the number of Pigeon pairs and the type of breed sold. For instance, farmers stated that at a certain time farmers could earn USD 498.88 of income by selling only two pairs, while some could earn the same amount by selling ten pairs. The price of the breed depended on the type of the breed and the level of performance of that breed. Buyers brought these Pigeons, depending on their characteristics, and sometimes they collect

them by observing their ability to fly (Kabir, 2015). Hossain (2019) and Hoque et al.*,* (2021) reported that the total average income of the month varied from USD 23.47 to USD 219.20 (1USD = 85.63 Tk) mainly by selling birds and squabs in Bangladesh. Table 2 shows, income generated via Pigeon farming activities in the study area. The highest income earned by farmers in Welisara veterinary range. This was due to the availability of high-performing breeds and pure line breeds.

Table 1. Socio-economic aspect of pigeon farmers

Variables	Pigeon farmers	
	Frequency	Percentage
Age		
Young 20 - 35	26	23.6%
Middle 36 - 50	50	45.5%
Old 50 - 70	34	30.9%
The education level of farmers		
Primary	0	0.0%
Secondary (Grade 6-10)	8	7.3%
G.C.E Ordinary Level	40	36.4%
G.C.E Advanced Level	56	50.9%
Tertiary	6	5.4%
Religion of farmer		
Buddhist	58	52.7%
Christian	28	25.5%
Islam	16	14.5%
Hindu	8	7.3%
Scale of Pigeon farming		
Small (<50birds)	40	36.4%
Medium (50-200 birds)	62	56.4%
Large (>200birds)	8	7.2%

G.C.E. – General Certificate of Education

Table 2. Distribution of monthly income

Veterinary ranges	Income (USD*) (Mean ± SE)	Minimum (USD*)	Maximum (USD*)	No of farmers	Percentage of farmers
Gampaha	179.14 ± 21.15	21.15	498.88	44	40.0%
Mahara	152.44 ± 16.34	99.78	249.44	18	16.4%
Welisara	290.18± 69.01	124.72	498.88	12	10.9%
Kadawatha	209.53± 56.68	149.66	299.33	10	9.1%
Minuwangoda	161.95 ± 32.70	49.89	498.88	26	23.6%

*$1USD=LKR 200.45

Type of breeds and population density
The population distribution of Pigeon in the study area is represented in Figure 2. Timer, racing and fancy types of Pigeons were identified in Sri Lanka and 30 breeds of timer-type, 27 breeds of racing-type and 24 breeds of fancy-type were identified in the study area. It was clear that most of the people in this region were willing to rear timer-type of the breed as for their hobbies and income. Timer-type Pigeons accounted for 89.7 % of the overall breed population in the chosen veterinary divisions. The Ash Indian, White Indian, Silver Indian, Mother Indian, and Bombay Indian breeds had the highest representation in the five veterinary divisions of the Gampaha district constituting 361, 380, 257, 249, and 214 of the sample, respectively. The Population distribution of timer-type breeds was presented in Appendix 1. Considerable fancy-type Pigeons such as White King, Crested Helmet, and German Beauty Homer breed were raised by the least number of farmers (Appendix 2). Blue Bar Racing Homer and Checker Racing Homer were the prominent racing bird found in the survey area (Appendix 3).
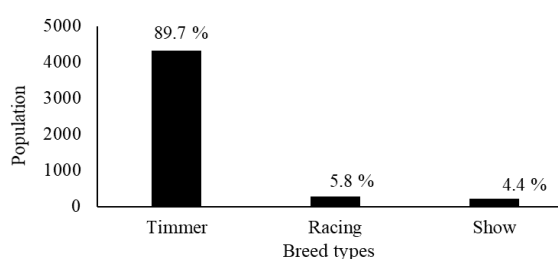

Figure 2. Population distribution of breed

Management practices of Pigeons

Two types of feeding methods were identified, namely, floor feeding and tray feeding. Almost 96 % of the farmers were practiced tray feeding inside the house or outside the house since it was easy to clean and maintain hygiene conditions. The majority of the farmers (72.7 %) used mixed feed as feeding materials. The mixed-feed included a range of grain types and mixtures, including chick starter, paddy, millet, red rice, Mysore dhal, wheat, cowpea, maize, groundnut, horse gram, green gram, green peas, oats, black gram, pigeon pea, sorghum and ground shell grits. Further, Hossain (2019) found that the ingredients of the feed given were mainly rice, wheat, maize, different types of pulse and mustered along with the different types of calcium, and vitamins also Akter et al., (2021) found that 82% of farmers used additional feed supplement to their Pigeon diet in Bangladesh. The present study found that farmers were given on average 35.31 g of feed per Pigeon per day. The minimum and maximum amount of feed consumed by a Pigeon per day varied from 11.67 g to 53.57 g, respectively. As a consequence, these results comply with Asaduzzaman et al. (2009), who reported that the quantity of feed supplied varied from 32-37g/day, with an average of 34.5g/day. Moreover, the feed intake of Pigeons varied from 30 to 60 g/day in Bangladesh (Hossain, 2019; Hoque et al., 2021). The broad difference in the amount of feed provided to Pigeons was due to the variation and the quality of feed management by various farmers. The frequency of feeding differed according to the preference of the farmer. Three-quarters of the farmers in the study area were fed their Pigeons twice a day, usually in the mornings and in the evenings. Our findings were in line with the study of Hossain (2019) who concluded that 70% of the households in the Chittagong metropolitan areas of Bangladesh were given two times feeds similarly in the morning and in the evening. The rest of the farmers practiced one-time feeding per day either in the morning or evening only. Pigeon normally finds their feed within a radius of 15 km, however, farmers need to feed several times per day the birds tend to remain in the region (Omar et al., 2014).

Table 3. Management practices of Pigeons

Variable	Frequency	Percentage
Two types of feeding		
Floor feeding	4	3.64%
Tray feeding	106	96.36%
Frequency of feeding		
One time feeding per day	28	25.46%
Two-time feeding per day	82	74.54%
Control the flying		
Cutting wing edges	32	29.10%
Scrubbing the wing ends	24	21.80%
Wearing a rubber band on the wing	14	12.70%
Adhesive taping on the wing	14	12.70%
None	26	23.70%
Method of identification		
Leg ring	68	61.80%
Wing tag	2	1.80%
Microchip	14	12.70%
Design cuts in the wing	6	5.50%
None	20	18.20%

The Pigeon is probably best known for its ability to return home from long distances. The farmers informed that different five methods were used to control the flying during the training. The majority of the farmers (29.1%) practiced cutting the wing edge of Pigeon to control the flying which was the most durable and safest method compared to others. However, around 20% of farmers in the study area did not practice any method to control the flying. Leg rings were used by the majority of the farmers (61.8 %) as a common identification method. Leg rings were placed on birds at 4 to 6 days after birth and it used for any type of Pigeon breeds (timers, racing, and fancy). Wing tag was mostly used to fancy breeds because they did not use to fly. The microchip was used for timer-type and racing-type breeds because of their high performance. Design cuts in the wing were one of the identification methods that farmers were practicing nowadays on any type of Pigeon breed. The market opportunities for Pigeons had not yet been started to develop in Sri Lanka, even though Pigeon farming is an emerging industry in Sri Lanka. There was no established market for squab or

bird sales. A considerable number of Pigeons were sold only in the pet shops. As the study revealed, most of the farmers sold Pigeons through social media, paper advertisements, friends, and other Pigeon sellers. Farmers reported that they had a wide range of constraints in Pigeon farming. According to their statement lack of extension service (43.6%), predators' problem (32.7%), disease (29.1%), insufficient proper medicines (21.8%), and lack of proper market (20.0%) were the major problems they faced. The most common predators of Pigeons were palm civet (*Paradoxuruf hermaphrodites*), weasels (*Herpestes edwardsi*) wild cat (*Felis chaus*), and sometimes domestic cats (*Felis domestica*) (Asaduzzaman et al., 2009). The most common diseases were seemed to be affected by Newcastle disease, Pox, Salmonellosis, Staphylococcosis, and Mineral deficiency (Hossain, 2019; Hoque et al., 2021).

The results from the multiple regression analysis revealed that the selected descriptive variables explained the variation in the dependent variable at 97.53% (Table 4). Thus, the chosen model was fitted with the data. Both the socio-economic, Pigeon managerial factors and institutional services significantly influenced the number of Pigeons reared by farmers. Considering the socio-economic characteristics of the farmer; the number of family labour involved in farming, the experience of the farmer in Pigeon farming were significantly (p<0.05) increased the capacity of farmers who reared more Pigeons on

their farms. In contrast, the education level of the farmer significantly (p<0.1) reduced the number of Pigeons. Because a farmer with a higher level of education would be involved in part-time farming. Therefore, the time allocation for Pigeon farming activities was short. Similar literature was reported by Mufeet et al. (2018), who reported that the time spent on backyard poultry farming caused more production. The number of selves per house, Pigeon house type, breeding type, and mating frequency were significant (p<0.05) farm managerial factors. It was obvious that those who had a higher number of birds required more selves per house. Further, the multiple tier housing type was an important Pigeon house design to manage their farmland efficiently where the higher number of Pigeons tends to be reared (Sharfan and Mufeeth, 2019). However, the cross-breeding technique was an important factor, which revealed that a farmer who practiced the cross-breeding technique was able to breed sixteen squabs more than pure breeding farmers at a 5 % significant level, where the cross-breeding in poultry improves the fertility in poultry (Phocas et al., 2016). Similarly, increasing one time per year in mating frequency significantly (p<0.1) caused to produce 5 more birds than lesser mating count. Institutional involvement in animal farming was an important factor. The results found that the farmers who received government veterinary and extension services were able to keep a higher number of Pigeons at a 10 % significant level.

Table 4. Relationship between the number of Pigeons and selected variable

Independent Variables	Coefficient	Standard Error	P-Value
Constant	15.52	8.94	0.066
Age	0.61**	0.287	0.041
Education level	-1.15*	0.617	0.077
No of family labour	11.39**	5.348	0.039
Experience in Pigeon farming (Years)	3.98**	1.555	0.014
Household monthly income (USD/month)	-0.00	0.000	0.326
Pigeon house type (Single = 1/ Multiple = 2)	6.74*	3.964	0.097
No of Pigeon houses	1.69	3.350	0.617
No of shelves per house	2.08***	0.175	0.000
Cost of feeding (Rs/month)	0.001	0.001	0.404
Breeding type (Cross=1/ Pure =2)	-16.07**	7.079	0.028
Mating frequency (times/year)	5.08*	2.605	0.057
Received government veterinary services (Received = 1, not received = 0)	10.06*	5.322	0.065
Received extension services (Received = 1, not received = 0)	5.23*	3.420	0.066

N = 110; R2 = 0.9753; df = 96, *** 1%, ** 5% * 10% level of significance

Conclusion

The present study was conducted to identify and document the Pigeon breeds and their management practices in Sri Lanka. Thirty types of timer breeds, 27

types of racing breeds, and 24 types of fancy were identified in the study area among that 4328 timer breeds, 282 racing breeds, and 214 fancy breeds were recorded. The majority of the Pigeon farmers in the

study area were willing to rear timer-type breeds on a medium scale. Most of the farmers were used locally available grains as feeding materials to feed their breeds. Moreover, the monthly income per farmer in the region was near equal to USD 174.61 and it was mainly depending on the type of breed. The number of Pigeons on a farm was considerably impacted by demographic, institutional, and farm management factors. Further, the supports from government institutions encouraged the farmers to rear more birds. Taken all together, it can be concluded there was a huge potential to encourage Pigeon rearing in the country using locally available materials through proper marketing intervention, the introduction of improved breeds and varieties, awareness, training, and extension programs which will ensure better conditions for revenue and employment among the middle-aged population in Sri Lanka.

Author Contribution

Abdeen Sharfan Ahamed: Design, formulation and supervision of experiment, and Performed the field experiments, collection of data. Noordeen Nusrathali: Writing of manuscript. Musthapha Mufeeth: Data arrangements and statistical analysis. Krishan Ranaweera: Writing of manuscript. Udduman Lebbe Abdul Majeed: Review of the manuscript.

Competing Interests

The authors have declared that no competing interests exist.

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Appendix 1. Population distribution of timer type breeds

Breed Name	Total	Most common eye color	Average timing hours	Average Price for a pair (USD)	No of farmers
Ash Indian	361	Yellow	5.4	32.91	52
White Indian	380	Yellow, White, Black	5.4	36.86	54
Silver Indian	249	Yellow	5.2	30.04	24
Black Indian	120	Yellow	5.2	40.26	28
Kiran Indian	202	Yellow	4.9	28.78	32
Cinnamon Indian	91	Yellow	5.1	27.51	26
Mother Indian	214	Yellow	4.9	34.85	42
Normal Pakistan	198	White	5.6	36.11	42
Black Mayn	165	Yellow, Black	5.2	34.28	32
Saaskin	122	Yellow	5.0	22.67	32
Makus	80	Yellow	5.4	30.89	26
Bombay Indian	257	Yellow, Black	6.0	47.04	42
Colon-Holland	33	Black	8.4	128.28	14
Pakistan-Teddy	75	White	8.4	137.90	14
Pakistan-Golden	85	Pink	8.3	141.56	16
Galkanda	141	Yellow, White	5.0	33.67	32
Chocolate-Indian	164	Yellow	4.7	31.97	26
Samara-Indian	108	Yellow	4.9	20.45	24
Lalsiri-Lachumin	155	Yellow	4.8	19.57	26
Sirima	105	Yellow	5.1	28.31	24
Ash Mayn	150	Yellow, Black	5.0	22.12	30
White Local	130	Yellow	5.0	25.54	20
Kaashin	60	Yellow	5.8	24.94	14
Ash Local	207	Yellow, White	5.3	26.53	22
Chocolate Local	69	Yellow	5.4	45.73	18
Thara	29	White	5.4	27.44	10
Thala pulli	31	Black	5.8	30.93	10
Tipler	41	Yellow, Black	7.0	79.82	12
Kiri white	16	Black	4.5	34.92	2
Red Pakistan	15	White	8.3	137.19	4

Appendix 2. Population distribution of fancy breeds

Breed Name	Total	Most common eye color	Average Price for a pair (USD)	No of Farmers
English Nun	10	White	107.26	4
White Indian Fantail	9	Black	104.76	6
Black Indian Fantail	9	Black	98.11	6
Ash Indian Fantail	11	Black	106.01	8
Archangel	11	Black	61.11	8
Crested Helmet	14	Black	87.80	10
Dutch Beauty Homer	8	Black	57.37	4
English Carrier	7	Black	56.54	6
German Beauty Homer	12	Black	58.62	8
White King	16	Black	20.95	10
Black King	10	Black	19.96	6
Brown King	9	Black	18.29	6
Brown Indian Fantail	10	Black	63.61	4
Magpie	8	Black	44.90	6
Saxon Monk	2	Black	124.72	2
South German Shield	2	Black	149.66	2
Scandaroon	4	Black	42.40	2
Lahore Grey	4	Black	94.79	4
Chinese Owl	6	Black	91.46	6
Lahore Black	6	Black	74.83	6
Australian Performing Tumbler	6	Black	27.44	6
Strasser	4	Black	34.92	2
Frill Back	10	Black	103.52	8
Jacobin	10	Black	108.51	8
Felegyaza Tumbler	4	Black	94.79	4
English Pouter	4	Black	94.79	4
Bohemian Fairy Swallow	6	Black	94.79	6

Appendix 3. Population distribution of racing breeds

Breed Name	Total	Most common eye color	Average Price for pair (USD)	No of 6Farmers had
German White Homer	9	Orange	229.48	6
German Ash Homer	7	Orange	236.97	4
German Checker Homer	8	Orange	236.97	4
Swiss Homer	7	Orange	236.97	4
Swedish Homer	12	Orange	246.11	6
German white*Swiss	5	Orange	249.44	2
German Ash*Swiss	9	Orange	261.91	4
German Checker*Swiss	5	Orange	249.44	2
Blue Bar Racing Homer	38	Orange	82.31	16
Red Bar Racing Homer	9	Orange	67.35	4
Checker Racing Homer	29	Orange	88.14	12
White Racing Homer	12	Black	94.79	6
Brown Bar Racing Homer	23	Orange	75.83	10
Black Racing Homer	11	Orange	81.48	6
Yellow Racing Homer	18	Orange	77.82	10
Black Checker White Racing Homer	14	Orange	79.82	4
Kite T Check	18	Orange	68.85	10
Opal Bar Pied	4	Orange	82.31	4
Recessive Opal	10	Orange	62.36	4
Brown Racing Homer	6	Orange	72.34	4
Andalusian	13	Orange	77.33	8
Opal check Pied	6	Orange	69.84	4
Ash Red Bar Racing Homer	4	Orange	82.31	2
British Racing Homer	3	Pearl	59.87	2

Appendix 4

Breeds Distribution and Management Practices of Pigeon Farming in Sri Lanka

Reference no:

Date:

A. General Description

1. Name of farmer/ household: ………………………………………………………………………………

1.1 Sex: 1. Male   2. Female   1.2 Age: …………………

2. Address

2.1 Province: …………………………………..

2.2 District: …………………………………….

2.3 Village Name: ………………………………

2.4 GS Division: ………………………………

2.5 Veterinary Surgeon Area: …………………….

3. Education level:

1. Primary   2. Secondary (grade 6 – 10)   3. Ordinary level   4. Advance level   5. Tertiary

4. Religion:

1. Buddhist   2. Hindu   3. Islam   4.Christian

5. Family members involved in farming:

1. 1   2. 2   3. 3   4. 4

6. Type of Pigeon:

1. Ornamental   2. Timers   3. Racing   4. Squab   5. All

7. Purpose of rearing:

1. Squab production   2. Bird sale   3. Other

8. Reasons for Pigeon rearing:

1. Main income   2. Hobby   3. Part-time   4. Home consumption

9. Pigeon farming experience

1. < 1 year   2. 1 - 10 years   3. 11-20 years   4. 20-30 years   5…………….

B. General information of the farm

1. Total No of Pigeon: ……………………………………………

1. <50 birds   2. 50-100 birds   3.100-200 birds   4.>200 birds

2. No of Breeder Pigeons:

Name of the Breed (…………………….)	Age			Colour of eyes	Remarks	Price of Pair	
	Mature Male	Mature Female	Squab			Offspring	Parent

C. Pigeon production System

1. Feeding Materials

Type of feed	Amount (Kg)	Unit price (Rs/Kg)	Cost of feed (Rs)
Paddy			
Imported feed: ………………………………			
Broiler finisher			
Broiler Starter			
Mixed feed (maize/ chicken pea/green gram/ black gram/………………………………………..)			

2. Amount of feed given per day: ……………………………………….
3. Frequency of Feeding:
1. One time per day   2. Two times per day   3. Three times per day
4. Feeding method:
1. Floor feeding   2. Tray feeding

D. Pigeon Health

1. Access to veterinary services
1. Government vet   2. Private vet   3. Veterinary drug Supplier   4. Extension Services
        5. None
2. Diseases and prevention

Name of the Disease	Prevention method / Treatment	Vaccines	Drugs	Comments
Ranikhet				
Fowl cholera				
Fowlpox				
Other:(specify)				

3. Parasites of Pigeons

Name of the Parasites	Treatment	Comments
Lice		
Pigeon Fly		
Ticks		

4. Predators of Pigeons
1. ……………………   2. …………………………

E. Other Management Practices

1. Control of flying
1. Cutting wing Edges   2. Scrub wing ends   3. Wearing rubber band
     4. Other: ………………………………………………
2. Method of identification
1. Leg ring   2. Wing tag   3. Microchip
3. Age at establishing identification method: ……………………….

F. Income generation/ Business Aspects

1. Participation in events/game
1.   How many events per month/ year:
2.   Is there any payment: Yes/ No
3.   If Yes, what is the payment:

G. Constraints in Pigeon farming

i.   ………………………………………………………………………………
ii.   ………………………………………………………………………………

H. Any suggestion for development / facilitating the Pigeon farming

i.   ………………………………………………………………………………
ii.   ………………………………………………………………………………

I. Organization

1. Do you a member of any Organization/Club: Yes / No
2. If yes, Name of the Organization/ Club: ………………………
3. Activities of the Organization/ Club: …………………………..