

MANAGING DUCKS FOR BETTER PRODUCTION IN AHMED ECOFARM, KESHURBARI, UNDER THE DISTRICT OF DINAJPUR, BANGLADESH

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ABSTRACT

Duck farming is not going equal to chicken farming in Bangladesh. Due to some superstitions, many people do not consume ducks' meat and egg. In this regard, this article will provide those positive pieces of information about successful duck farming to consume its meat and eggs. Being a riverine country, Bangladesh is suitable for rearing ducks, and natural feed is available. Khaki Campbell (laying breed) and Beijing (table breed) were kept as two study birds for qualitative analyses through the questionnaire method. The result suggested that 2-months aged per duck consumed 70 g feed and 6-months adult duck 140 g daily with the cost of 3.22 and 6.44 taka. The semi-intensive farm provided 336 kg of regular feed for 4000 ducks (3200 Khaki Campbell, 800 Beijing duck). 1000 square feet brooding room maintained 30-32°C temperature and 100 watts (60 pieces) bulbs and 200 watts (30 pieces). For egg-laying, only sand was used (100%). After sexing the day-old ducklings, 30% found male ducks during the rearing period. The owner provided snails and hyacinth occasionally with the conventional feed. Ahmed Eco- farm was established only for egg purposes, so out of 3200 Khaki Campbell, 400 ducks laid eggs daily (50-60%) when they reached 150 days with a bodyweight of 1.5 kg. Viral paralysis, kidney disease, and flu were the diseases, and vaccines, antibiotics, and overall hygiene helped control that situation. Ahmed Ecofarm in Dinajpur district is in profit by supplying eggs in the local markets. This study period was from January 2020 to April 2022.

1. INTRODUCTION

Poultry plays a significant role in the subsistence economy of Bangladesh and contributes 1.6% of gross domestic product (Saedf, 2008). Among the poultry species, the duck has gained ranks 2nd just after chicken in producing meat and eggs. Duck fulfills 24% of the total eggs in Bangladesh (Hossain & Chowdhury, 1989). Most of the people of Bangladesh suffer from malnutrition, particularly for the shortages of animal protein. Under a report by (BBS, 1998), the average per capita availability of meat is 12.51 g/day, whereas the per capita requirement of the flesh is 120 g/day. Poultry production is an effective way to fulfill this nutritional gap than the other sources. In poultry,

ducks are easy to breed, have no extra care, and show fewer diseases than the chicken (Modak, 1996). 'Food and Agriculture Organization' in 1989 mentioned about 33 million ducks in Bangladesh, and 95% of them were in the backyards. About one-ninth of the total land of Bangladesh is low land which is suitable for duck rearing. Ducks are hardy and can easily cope with different climates, and they are also relatively resistant to diseases (Holderread, 1998). These birds are excellent foragers and allowed to scavenge and can consume enough natural feed to cover most of their daily requirements. The scavenging venues of duck and chicken are different, so they are not competitors of each other. Water reservoirs contain weeds, fishes, snails, insects, and fallen grains which are natural feeds for ducks when reared under scavenging and semi-scavenging systems. Ducks have more resistance to diseases than chickens because of their higher scavenging ability (Rashid et al., 1995). Increased

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duck rearing would not interfere with chicken rearing due to different rearing and scavenging venue and would be a great supplement to total poultry production (Firdus, 1999). Duck-keeping is the possible means of breaking out of the poverty of poor and small holder families in low-income countries (Pym et al., 2002). The objective of this study allows enhancing duck farming in Bangladesh to fulfill the protein demand of all people.

2. MATERIALS AND METHODS

Polli Farm and Hatchery of Choumuhoni Saidpur supplied day-old ducklings (Khaki Campbell and Beijing duck) (Plate 1). Collected birds were disease-free and completed sexing by the experts. This observation was performed to know the present status and existing production system of ducks in the rural area of Parbatipur, Dinajpur (Figure 1a; Figure 1b). The data were collected by interviewing with a fill-up questionnaire (Appendix 1) on the owner's knowledge regarding duck rearing during 2020-2022.

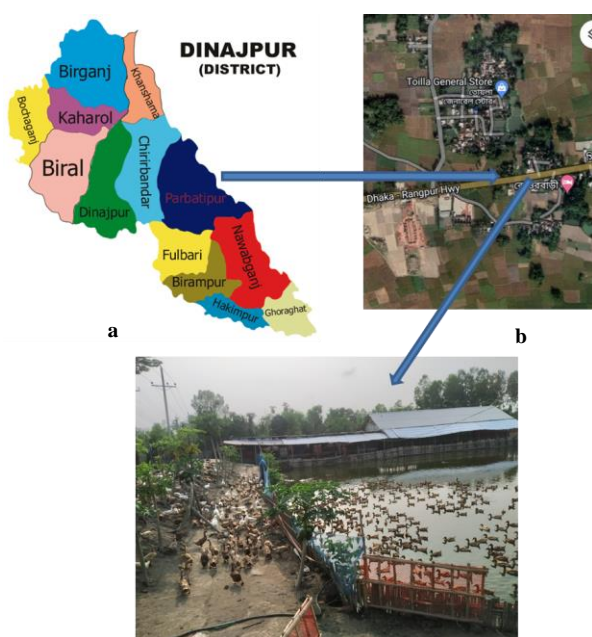


Figure 1. Ahmed Ecofarm, Parbatipur, Keshurbari
(a) Map of Dinajpur district, Bangladesh
(<https://bangleverything.blogspot.com/2014/03/bangladesh-dinajpur-district-map.html>)
(b) Location map (Google Maps)

3. RESULTS AND DISCUSSION

Khaki Campbell gets early maturity than the desi and crossbreds (Rashid et al., 1995). Hamid et al. (1988) suggested that Khaki Campbell may perform better than the Indian Runner under the Bangladeshi climate. An earlier sexual maturity in Khaki Campbell than

desi ducks and the intermediate position of their crossbred in the present study were supported by many other research works (Hamid et al., 1988; Hossain & Chowdhury, 1989; Mohiruddin, 1983; Mostageer et al., 1969). This study supports the better productivity of Khaki Campbell ducks. Supplementary feeding to the ducks in the free range may gain boost their growth and production performance (Hamid et al., 1988). At the time of this year-wise survey, all ducks (Khaki Campbell and Beijing) were good with their fitness after proving them supplementary feed with some natural ones (hyacinth, and snails).

The growth of Beijing ducks was remarkable (2.5-2.7 kg in 2 months) in this study and supports the work of Bachno et al. (1994) and Bhuiyan et al. (2005). About 22% and 13.5% of people did not consume duck meat and egg because of odor, asthma, and some allergic reactions (Islam et al., 2016). Since the above percentages were not possible to find out on this one farm but a survey in the open market proved this. Most of the farmers (81.25%) stated that duck farming is decreasing day by day due to the lack of scavenging areas, ponds, and complaints of the neighbors (Islam et al., 2016). This study mentioned that this type of farm is increasing in a slow-motion and complaints from the neighbors were true when birds were grazing. Rearing knowledge of the farmers such as breeding, feeding, housing, prevention, and control of diseases was not satisfactory but study on this farm under the above-mentioned criteria was satisfactory. 52% of farmers reared deshi, 18% Khaki Campbell, and 10% of farmers reared only jinding. 80% of wives of the villages were responsible to take care of ducks in the semi-scavenging system (Islam et al., 2016).

Studied semi-scavenging duck farm had 4000 ducks where 3200 were Khaki Campbell (80%) for egg-laying. Most of the supplied feed was corn (850 kg out of 2000 kg) then soymeal (500 kg) and wheat (400 kg). The amount of supplied feed to immature duck (2 months) and adult duck (6 months) was on average 70 g and 140 g/day with costs of 3.22 and 6.44 taka/day. Among the farmers, 78% obtained the first egg of duck at 180-189 days and agrees with Islam et al. (2003) and Sarker (2005). Khaki Campbell duck of the observed farm laid eggs at 150 days is more or less similar to the study of Eswaran et al. (1985) who observed age at the first egg in 138 days. About 52% of farmers stated that their ducks were affected by cholera, 26% plague, and the rest 8% did not undergo any diseases (Islam et al., 2016). Baki et al. (1986) mentioned that duck plague and duck cholera is the common diseases of epidemic nature in Bangladesh. Haque and Hossain, (1994) reported that the mortality rate of Khaki Campbell was 58%. Viral paralysis, kidney disease, and flu were the

diseases in the study area at the very beginning. Most of the farmers (52%) controlled their duck disease with medication, only 14% of farmers used a vaccine to prevent duck disease, and the rest 12% did nothing for controlling diseases (Islam et al., 2016). This study supports the above parameters for controlling diseases during raising ducks.

4. CONCLUSION

Most of the lands of Bangladesh are low land which is remarkably suitable for duck rearing. Ducks have high adaptation power and are effective for controlling crop pests. In addition, this duck farming is an excellent example of composite culture (duck-cum-fish culture and duck-cum-paddy culture). These birds do not exhibit fighting each other. Duck farming creates employment opportunities among people, especially for the rural community. The farmers have limited knowledge about the production performance of breeds of duck. They do not know about the scientific feeding and management system of ducks. In addition, they do not know about vaccination and its advantages in preventing various types of diseases. They are facing the limitations of improved varieties of ducklings. Most of the farmers do not have training in duck farm management. Scavenging habitats are decreasing for urbanization, and protests are common because they damage seedlings and crops. Protected areas need to be strongly recommended mainly for a semi-scavenging rearing system. Duck farming will be upgraded more if government minimizes the feed cost and ensures quality ducklings according to the demand.

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6. CONFLICT OF INTEREST

Author has declared that there is no conflict of interests regarding the publication of this article.

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Appendix 1

Following questions were supplied in the Ahmed Ecofarm

Questions	Answers
Total area	133 decimals
Established year	2020
Education/Training	Yes
Farming experience	1 year 4 months
Total manpower	4 (Owner, Manager, 2 workers)
Breeds of duck and numbers	Khaki Campbell 3200 Beijing duck 800
Rearing system	Semi-intensive
Adult shed measurements and number	2500 sq ft (2, 1 is used alternatively)
Brooding room measurement and number	1000 sq ft (1)
Brooding room management	200-watt bulbs (36 pieces) and 100 watt (60 pieces)
Brooding room temperature	30-32° C
Egg laying materials (percentage)	Sand (100%)
Daily feed cost/duck (2 months)	3.22 taka
Daily feed cost/adult duck (6 months)	6.44 taka
Daily amount of feed/duck (2 months)	70 g
Daily amount of feed/adult duck (6 months)	140 g
Feeding times	3 times in a day (10 am, 1.5 pm, 5-5.30 pm)
Feed items and amount	Wheat 400 kg Corn 850 kg Soymeal 500 kg Lyme stone/Oyster dust 150 kg Amino acid and vitamin 1 kg Others (premix, DCP powder, toxin powder, glucose, E-Sel, salt, molasses, protein) 99 kg Water (as need) = Total 2000 kg
Do you provide natural feed?	Snails, and hyacinth (sometimes)
Age of 1 st egg laying with live weight	5 months with 1.5 kg
Average egg weight	60 g

Previous diseases and controlling measures	Viral paralysis, kidney disease, flu Died, then flumeal 20% (antibiotic) was administered
Mortality rate	5-6%
Demand of eggs in the local markets	High
Per egg price	Tk. 10-13
Source of ducklings	Polli Farm and Hatchery, Choumuhoni, Saidpur, Bangladesh
Price of per ducklings	Tk. 25-32
Opinion for duck farming	Increasing
Faced problems	Lack of proper Training; Feed cost is high; Lack of quality ducklings; Disease incidents
Future plan	Hatching unit; Quality ducklings for supplying in the country