

# **A Study on Rearing and Management System of Backyard Rabbit Farming in Mymensingh, Bangladesh**



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# **A Study on Rearing and Management System of Backyard Rabbit Farming in Mymensingh, Bangladesh**



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### List of abbreviations

**BAU:** Bangladesh agricultural university.

**HSC:** Higher secondary certificate

**SSC:** Secondary school certificate

**JSC:** Junior school certificate

## **Abstract**

This study was conducted to understand strategies of rearing and management system of backyard rabbit in the Mymensingh district of Bangladesh. The study collected data from 22 backyard farms using a questionnaire over a period of 2 months from April 16 to June 8, 2023. The data focused on aspects such as breed, farm size, housing, feeding, sanitation, litter size, parity etc. It revealed that, backyard rabbit farming primarily involves under semi-intensive conditions. The study found that (81.81%) of participants rear rabbits as a hobby, most common breed is New Zealand white breed which is 72.72%, most rabbits were adults (72.72%), about 31.81% of people used cages, while 54.54% used semi-intensive housing. Most of the people fed their rabbit roadside grass which is 27.27%, alongside roughage and concentrate. The majority (72.72%) of farmer cleaned their rabbit housing regularly using detergent. These findings have the potential to enhance the management practices of backyard rabbit farming.

**Keywords:** Backyard rabbit farming, Management system, Mymensingh, Bangladesh.

# Chapter 1

## Introduction

Humans have tamed different animal species to serve their requirements. The domestication of rabbits has primarily been for the purpose of pets and games (Amin *et al.*, 2011). Small animals like rabbits, known as micro livestock, could potentially help reduce poverty among small-scale farmers in Bangladesh (Khatun *et al.*, 2012). Activities like poultry, goat, and cattle farming can contribute to raising the income and improving the diet of rural households. Unfortunately, rabbit farming has not gained popularity in our country as an alternative source of nutritious food and income (Amin *et al.*, 2011). In Australia and New Zealand, rabbit farming for meat production is creating new industry. In the case of rabbit farming less risk than cattle and poultry farming. But nowadays rabbit farming is getting popular. Non-government organizations (NGOs) and government organizations have taken initiative steps on rabbit farming. The Daily Star newspaper published a report that reveals the potential of rabbit farming and production in Bangladesh. Rabbit production is cost effective because it does not take many rabbits to start a farm, rabbits are excellent breeders and having the litter size of 8-12. Rabbit farming also beneficial because of its meat quality that contains higher protein and lower in fat than most common meat species. It can be fed to young children and elderly people as it is easy to digest. A female rabbit gives birth to babies about 7 times a year, that makes a lot of money every year.

To improve the nutritional status of the family diet, families should be encouraged to either regularly consume rabbit meat or sell rabbit as a cash crop (Lukefahr, 2007). Supporting rabbit production in Bangladesh involves considering climate conditions, commercial aspects, ecological surroundings, religious perspectives, social norms ,and technological expertise (MIDAS, 1992). Rabbit meat is popular all over the world and rabbit farming is done but in Bangladesh rabbit farming has not become popular yet. Rabbit farming has just started in some places, there may be many reasons for the decrease in farming such as people do not know about rabbit production. In addition, cattle goat and poultry rearing more profitable and there is religious disagreement about eating rabbit meat and also problems in marketing products. A rabbit calving 4/5 times in a year means 100 kg of meat per year from a doe, if farmer keeps 5 doe and one buck, he will get 500 kg meat per year (Amin *et al.*, 2011). Rabbits' meat value is like chicken, rabbit meat has 22.7% protein and 6.3% fat (Singh *et al.*, 2012). A report of

Bangladesh Agricultural University (BAU), Bangladesh reported that rabbits stool is known as cold fertilizer, which is used on land and as fish feed (Amin *et al.*, 2011).

Rabbit farming first started in 1997 in Muktagacha of Mymensingh (Amin *et al.*, 2011). Under the supervision of Dr. Abidur Reza of BAU and management on GNDP, farming became popular. Rabbit farming is more common in Muktagacha upazila, Mymensingh But excluding Muktagachha upazila other upazilas are far behind from rabbit farming. In other upazilas people rear rabbits as pet animals. Backyard Rabbit rearing is more common, but if they are raising rabbits commercially it can be a great source of income and smart way if employment. Backyard small scale farming refers to where some males and females are kept together and used for entertainment or meat purpose. Backyard rabbit farming has emerged as a promising agribusiness model in Bangladesh, offering individuals and small-scale farmers an opportunity to engage in sustainable animal husbandry. With its modest space requirements and relatively low investment, backyard rabbit farming provides a means of generating supplementary income and enhancing nutritional diversity. This introduction delves into the concept of backyard rabbit farming in the Bangladeshi context, exploring its advantages, feasibility, and the role it plays in addressing food security and socioeconomic upliftment at the community level. For example, rabbits small body size is easy to maintain in backyard, comes maturity at early stage and gives production at 6/7-month age, in backyard. Rabbits can eat kitchen waste and tree leaves. The present challenges are to take the rabbit to a higher level to where in a new era that involves formulation of new and improved models for development projects to provide even greater benefits for limited resources families, especially when initiated as vehicle to alleviate poverty (Lukefahr S.D. 2007). In Bangladesh there is no systematic studies yet done on their management system of backyard rabbit farming.

Most people keep rabbits as a hobby, but they do not know much about rearing. In backyard farming Mymensingh district there is difference in management practices like housing, feeding and sanitation. Most of the farmer do not know standard practice of rabbit rearing, like sanitation which are paramount importance in rabbit farming. some people rear rabbit in cages, some made small houses and there is also difference in feeding most commonly they feed grass rice, carrot, sweet potato and they need feed an average of 120 to 150 gm per day and 15% roughage required (Singh *et al.*, 2011) but they do not note that food intake and nutritional requirement vary by age and breed of rabbit. They have less knowledge about mineral mixture and salt can be used as supplement. There exists a research gap concerning the scientific rearing of rabbits in both farm and backyard settings. While many individuals raise

rabbits for hobbies or commercial purposes, they lack knowledge about optimal conditions for rearing, including proper housing, disease management, and environmental factors such as temperature and light exposure. Despite some research on rabbit farming in Bangladesh, there is limited information on rabbits in backyard condition, addressing challenges, and improving management practices. This study aims to assess the management practices of rabbit owners in the Mymensingh district, focusing on feeding, housing, sanitation, and the purpose of raising rabbits, which will help identify gaps and potential opportunities for backyard rearing.

**Objectives of this study was-**

To understand the rearing and management practice of in backyard rabbit farming in Mymensingh district of Bangladesh.

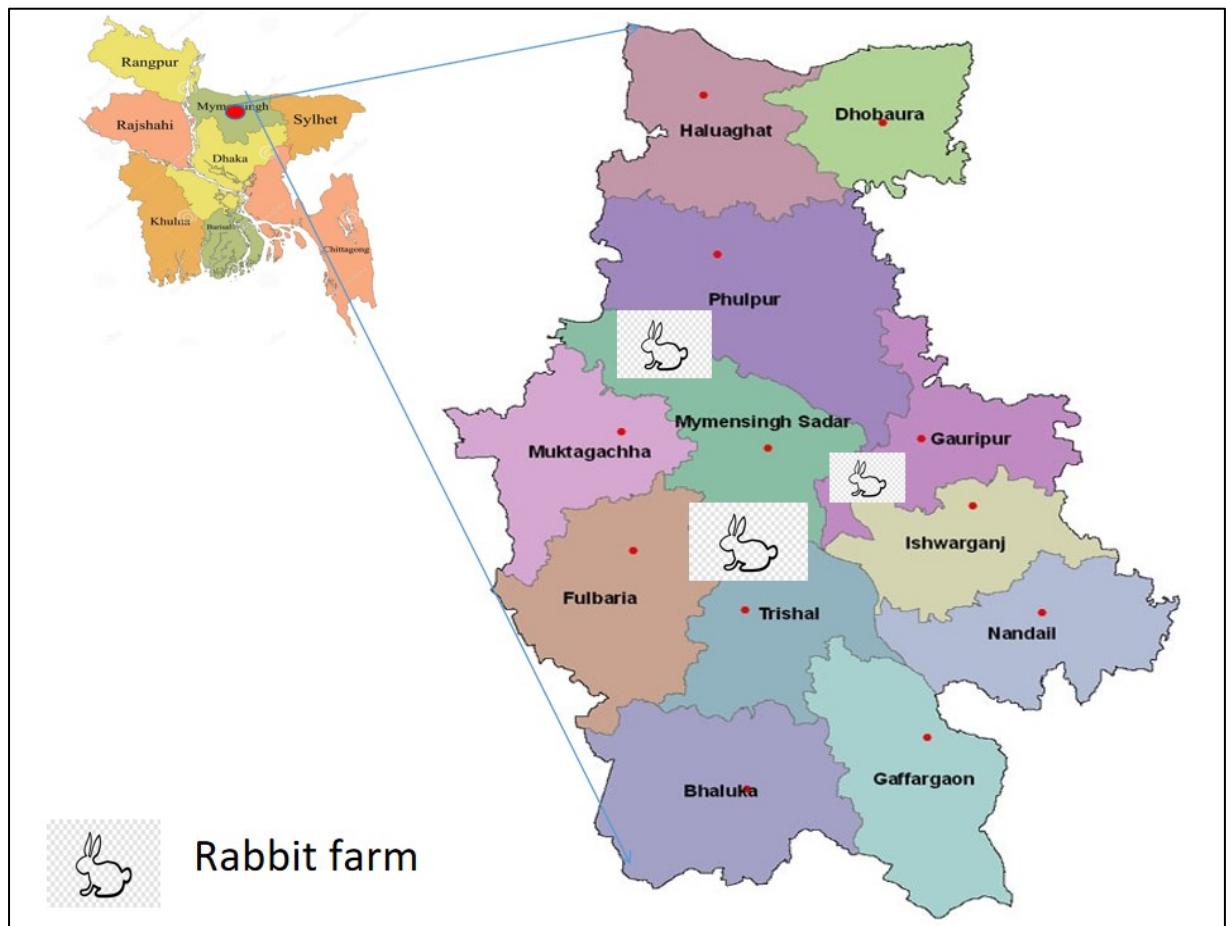


## Chapter 2

### Materials and Method

#### 2.1 Study area and period

The study was conducted in several Upazilas of Mymensingh like Sadar Mymensingh, Tarakanda Upazila and Trishal upazila. Many people of this area rear rabbit as backyard rearing system. The timeline of the study was 16 April 2023 to 08 June 2023 during my upazila livestock office and veterinary hospital internship placement.



**Figure 1:** The picture shows the study area

## 2.2 Data Collection

Data was collected from Upazila veterinary Hospital, Sadar Mymensingh and from Owner's house in Tarakanda upazila. Some data also collected through online survey, question were sent to farmers and they responded well with satisfactory answers. Information was collected by a predesigned questionnaire which was made through information related to this study such as owners information , animals data like age sex ,feeding, housing, sanitation parity and litter size. Both open ended & close ended data are used.



**Figure 2:** Data collection from rabbit farmer through face-to-face interview.

## 2.3 Statistical Analysis

Data was recorded in Microsoft excel 2016, Descriptive analysis was performed using Microsoft excel 2016.

## Chapter 3

### Results

#### 3.1 Demographic information of farmer

The education level of farmers, gender ratio and purpose of rearing farmers are shown in the Table 1 where highest qualification was HSC (45%) and lowest qualification was primary school level (13.63%). In gender ratio, male farmer was 68.18% and female was 31.81%. Most of the people rear rabbits as a hobby (81.81%).

**Table 1:** Demographic information of farmer (N=22)

Variable	Categories	Number	Percentage (%)
Education level	S.S.C	05	22.72
	H.S.C	10	45.00
	J.S.C	4	18.18
	Primary level	3	13.63
Gender	Male	15	68.18
	Female	7	31.81
Purpose of rearing	Hobby	18	81.81
	Business	4	18.18

#### 3.2 Farm size

**Table 2:** Farm size statistics for backyard rabbit farming in Mymensingh (N=22).

Variable	Categories	Number	Percentage (%)
Farm size	Small size (1-2 animals)	12	54.54
	Medium size (3-5 animals)	7	31.81
	Large size (> 5 animals)	3	13.63

The table includes the farm statistics for each farmer involved in backyard farming with small farms comprising the majority 54.54% and large farms accounting for 13.63%.

### 3.3 Breed and physiological status

**Table 3:** Breeds and physiological status of rabbits in backyard farming in Mymensingh (N=22).

<b>Variable</b>	<b>Categories</b>	<b>Number</b>	<b>Percentage (%)</b>
Physiological status	Adult	16	72.72
	Bunny	6	27.27
Breed	New Zealand White	17	77.27
	Cross	5	22.72

This Table 3 shows the breed variation where total animal is 22 and New Zealand white is 77.27% and cross breed is 22.72%. Considering age adult is 72.72% and bunny is 27.27%.

### 3.4 Management parameters in backyard rabbit farming

**Table 4:** Management (housing, stocking density, bedding material. cleaning agent) in backyard rabbit farming (N=22).

<b>Variable</b>	<b>Categories</b>	<b>Number</b>	<b>Percentage (%)</b>
Housing system	Intensive	10	45.45
	Semi intensive	12	54.54
Stocking density	Low	11	50.00
	Medium	7	31.81
	High	4	18.18
Bedding material	Straw	2	9.09
	Straw + paper	4	18.18
	Paper	3	13.64
	Cage	7	31.81
	Cloths	2	9.09
	Cloths + paper	1	4.55
	Straw + cloths	1	4.55
Cleaning agent	Detergent	16	72.72
	Detergent + soap	4	18.18
	Detergent + dettol	2	9.09

This Table 4 shows the comparison between management practices in housing system highest rearing percentage in semi-intensive house which is 54.54% and most people rear in cage 31. 31%. In Bedding material use of straw and paper is 4% and most people clean with detergent which is 72.72%. They regularly clean the house and mostly with detergent which is 72.72% and some of them use detergent with antiseptic which is 9.09%.

### 3.5 Feed Ingredients

**Table 5:** Feed Ingredients of Backyard farming (N=22).

<b>Variable</b>	<b>Categories</b>	<b>Number</b>	<b>Percentage (%)</b>
Feed type	Roughage +concentrate	22	100
Type of roughage	Roadside grass	6	27.27
	Grass +vegetables	11	50.00
	Grass +fruits	4	4.00
	Fruits+ vegetables	1	1.00
Type of concentrate	Rice	14	63.63
	Wheat	3	23.63
	Rice+ wheat	5	22.12
Vitamin supplement	Yes	0	0.00
	No	22	100

In this Table 5 all of the farmer use roughage and concentrate as feed. In roughage they prefer most of the time roadside grass which is 27.27% and in concentrate they prefer rice mostly, which is 63.63%. Use of vitamin supplements in backyard rabbit farming is 0%.

## **Chapter 4**

### **Discussion**

#### **4.1 Demographic information**

Data of Table 1 shows that male owner is 68.18% and females are 31.18%, there may be many factors such as personal experiences, cultural influences and individual personalities can play role in shaping this preference. A study says that the meows they produce, specifically intended for humans rather than other felines, share a pitch and tone reminiscent of a crying infant, which increases the likelihood of eliciting a response from women (Charles Joseph) that's why males are fonder of rabbits.

#### **4.2 Farm size**

In Table no 2 we measured farm size 1 to 2 is small farm and 3 to 5 is medium farm and more than 5 is large farm. Our results show that most of them have small farm about 13.63%. The reason behind this in backyard farming there is less space available, and they can easily manage them (Singh *et al.*, 2011). And as most of them rear rabbits for hobby purposes so small-scale farming are preferable. The data indicates that 12 farms are classified as small size (54.54%), 7 farms as medium size (31.81%), and 3 farms as large size (13.63%). They can be raised conveniently with minimal cost in residential areas (Singh *et al.*, 2011).

#### **4.3 Housing system**

This study shows 54.54% are semi-intensive housing and 45.45% is intensive housing and cage rearing percentage being 31.9%. Cage rearing is most common. Rabbit housing can be cage, semi-permanent and permanent shed. Bedding materials used Clean, bagged straw and also natural paper bedding or shredded paper, Vet bed, Dust-free and non-toxic wood shavings, old newspapers used as rabbits bedding material (Blue cross internet portal). And Using sawdust might not be advisable due to its tendency to generate a lot of dust, potentially leading to respiratory issues. In our study use of sawdust is 0%.

#### 4.4 Feeding Ingredients

In the Table 5 study shows that all of them use roughage and concentrate and in type of roughage most of time use roadside grass which is 27.27% and in concentrate use of rice is 63.63% .Avoid giving rice to your rabbit under any circumstances, it lacks nutritional value and creating discomfort and bloating ( Carter *et al .*, 2023). The nutritional needs of rabbits vary depending on their growth stage. They typically consume about 120-150 grams of balanced concentrate feed per day, divided into two servings - morning and evening. This pellet feed is enriched with minerals, vitamins, and salt, and can be supplemented with green fodder or hay. It's advisable to offer greens in the evening, as rabbits are most active then (Blue cross internet source). Incorporating fresh grasses or legumes into the ration at a level of maximum 70% can be given ([www.vuatkerala.org](http://www.vuatkerala.org)). In our study we also found vegetables used as food, but no vitamin or mineral supplements are used, and amount feed is not measured in this study.



## **Chapter 5**

### **Conclusion**

Improved management practices like feeding and sanitation may help to increase production under backyard farming. More studies on feeding of rabbit can improve the total scenario of rabbit production in Bangladesh. The study on rabbit backyard farming concluded that effective management practices, proper feeding, and appropriate housing are essential for the success of such an endeavor. Proper nutrition, access to clean water, and suitable shelter contribute to the rabbits' overall health and productivity. Implementing these measures can lead to a sustainable and thriving rabbit farming operation.

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## **Biography**

I am Tanzila Akther, daughter of Md Anwarul Haque and Nazma Akther. I have completed my secondary school certificate examination from Viddyamoyee govt girls' high school, Mymensingh in 2014 (G.P.A 5.00) and higher secondary school certificate examination from Royal media college Mymensingh in 2016 (G.P.A 5.00). I am an intern veterinarian at Chattogram Veterinary and Animal Sciences University, Bangladesh under the faculty of veterinary medicine. I am dedicated to simplifying and enhancing the welfare of animals in the veterinary sector.