

**The management, production strategies of pig (*Sus scrofa domestica*) and socio-economic condition of pig farmers are observed at the different regions of Rangamati, Bangladesh**



A production report submitted in partial satisfaction of the requirements for the

Degree of

Doctor of Veterinary Medicine (DVM)

Submitted By:

**Mongchai Sing Marma**

Roll No: 18/65

Reg. No: 03029

Intern ID: 56

Session: 2017-2028

**Faculty of Veterinary Medicine**

**Chattogram Veterinary and Animal Sciences University**

**Khulshi, Chattogram-4225, Bangladesh**

**November 2023**

**The management, production strategies of pig (*Sus scrofa domestica*) and socio-economic condition of pig farmers are observed at the different regions of Rangamati, Bangladesh**



**Mongchai Sing Marma**

Roll No: 18/65

Reg. No: 03029

Intern ID: 56

Session: 2017-2018

Approved as to style and contents by

---

(Prof. Dr. M. A. Hossain)

**Professor**

Department of Dairy and Poultry

**Faculty of Veterinary Medicine**

**Chattogram Veterinary and Animal Sciences University**

**Khulshi, Chattogram-4225, Bangladesh**

**November 2023**

## Table of Contents

Acknowledgement .....	6
Abstract.....	7
Chapter 1: Introduction.....	8
Chapter 2: Materials and methods .....	10
2.1 Study area.....	10
2.2 Data collection.....	10
2.3 Selection of farms.....	11
2.4 Collection of piglets .....	11
2.5 Management systems of pigs .....	11
2.5.1 Housing and rearing systems.....	11
2.5.2 Sanitation .....	12
2.5.3 Feeding and watering.....	13
2.5.4 Common diseases and vaccines applied in the study area.....	13
2.6 Collection of data .....	13
2.6.1 Feed intake.....	14
2.6.2 Body weight of adult and piglets .....	14
2.6.3 Mortality rate .....	14
2.7 Data analysis .....	14
Chapter 3: Results and discussions .....	15
3.1 Socio-economic status of the farmers .....	15
3.1.1 Age of pig farmers .....	15
3.1.2 Gender .....	15
3.1.3 Literacy level .....	15
3.1.4 Marital status .....	16
3.1.5 Land .....	16
3.2 Management practices of pig farming.....	17
3.2.1 Collection of piglets.....	17
3.2.2 Breeds of pigs .....	17
3.2.3 Mortality rate in pig farms.....	18
3.2.4 Age, body weight and feed intake .....	19

3.2.5 Age, type of pig, live weight, feed intake and water consumption.....	20
3.2.6 Disease prevalence .....	20
3.2.7 Reproduction .....	21
3.2.8 Selling and marketing.....	21
3.2.9 Constraints in successful pig production.....	21
Chapter 4: Conclusion.....	23
Limitation.....	24
Recommendations.....	25
References.....	26
Appendix.....	27
Biography.....	29

## Figures

Figure 1: Study area of Rajasthali, Kaptai and Manikchori Upazilla.....	10
Figure 2: Housing system .....	12
Figure 3: Locally reared pig breeds - local (left) and cross breed (right).....	18
Figure 4: Breeds of pigs.....	18
Figure 5: Comparative mortality rates of 18 Pig farms .....	19

## Tables

Table 1: List of farms.....	10
Table 2: Analysis age of pig farmer .....	15
Table 3: Sex of pig farmers.....	15
Table 4: Literacy level of pig farmers.....	16
Table 5: Marital status of pig farmers.....	16
Table 6: Type of farm land.....	17
Table 7: Age, body and feed intake of pigs obtained from 18 different pig farms of Rangamati. 19	
Table 8: Age, type of pig, live weight, feed intake and water consumption of pig obtained from different pig farms of Rangamati.....	20

## Abbreviation

UVH	Upazilla Veterinary Hospital
Kg	Kilogram
L, li	Litter
A	Animal
%	Percentage
HS	Haemorrhagic septicemia
FMD	Foot and Mouth Disease
TK, tk	Taka

## **Acknowledgement**

*The author wishes to acknowledge the immeasurable grace and profound kindness of almighty “GOD” the supreme authority and supreme ruler of universe, who empowers the author to complete this task successfully.*

*The author feels proud in expressing his deep sense of gratitude and indebtedness to his internship supervisor, Professor Dr. Mohammad Abul Hossain, Department of Dairy and Poultry Science, Faculty of Veterinary Medicine, Chattogram Veterinary and Animal Sciences University for his trustworthy and scholastic supervision to make this report. The author also expresses his thanks and great respect to all of the pig farmers for their support throughout the study time. The author wishes to express his sincere gratitude and respect to Professor Dr. A. K. M. Saifuddin, Director of External Affairs, Chattogram Veterinary and Animal Sciences University and Professor Dr. Mohammad Lutfur Rahman, Dean, Faculty of Veterinary Medicine, Chattogram Veterinary & Animal Sciences University for allowing him to continue this internship program.*

*The Author*

## Abstract

*The study was conducted to observe the management strategies, production performances of Pig and socio-economic condition of the pig farmers in the different areas of Rangamati, Bangladesh. The report was made as a part of internship program to fulfill the partial requirement of my graduation degree (DVM). In this regard, three Upazilas say Rajasthali, Kaptai, and Manikchori Upazilas were considered as a study area to collect data by surveying from a number of different pig farms (N=18) available within this district of Rangamati, Data on socio-economic condition of the farmers say age, land areas, farm size, sex or gender, topography of soil, marital status, type of farmers, livestock resources, education level or literacy % and so on were collected. Apart from these, pig's management strategies (e.g. breed, feeding, litter size, stocking density, piglet price, watering, housing, vaccination, disease incidences, rearing system, bio-security, mating system, marketing), and production performances say live weight, feed intake, mortality, selling price etc., were also recorded through a pre-formed questionnaire during the study period. Constraints of pig rearing by the household farmers were also noted under this study. The data of socio-economic or demographic showed that about 22% of farmers had completed their primary schooling. Approximately 61% of female farmers thought that selling piglets and adults, both alive or dead, to the nearby farmer and market were the farm's top priority. The majority of pigs were raised using a free-ranging system. 63% of farmers raise crossbred animals, and rest 37% raised local varieties. Litter size ranges from 8 to 12 and was produced using a natural breeding approach. The most prevalent diseases endangering pig productivity were diarrhoea, pneumonia, HS, and maggot infestation, and the majority of producers neglected to immunize their pigs against the serious illnesses. Piglets typically cost 2,500 Tk, whereas adults generally cost 25,000 Tk. Mortality rates for pigs ranged from 40 to 50%. The majority of farmers are aware that the biggest obstacles to pig production were a lack of financing, disease outbreaks, predator attacks, a lack of veterinary services, and marketing. If the limitations and difficulties of pig farming can be overcome or adequately addressed earlier, both commercial and backyard pig farmers could be profitable financially.*

**Keywords:** Pig production, Pig farm, management, marketing, reproduction, socio-economic status.

## Chapter 1: Introduction

Agriculture is the main industry in Bangladesh(Hossain *et al.*, 2012). One of the most significant livestock that contributes to raising the socioeconomic standing of the tribal and underprivileged sections of society is pig(Patra, Begum and Deka, 2014). Pigs are one of the fastest-growing and most productive animal breeds(Hossain *et al.*, 2012). They are genetically better than ruminants in turning feed into meat(Patra, Begum and Deka, 2014). They are said to be twice as efficient as ruminants(Patra, Begum and Deka, 2014). For those who eat pork, pig is regarded as the most abundant source of animal protein at the lowest cost(Hossain *et al.*, 2012; Patra, Begum and Deka, 2014). The majority of pork consumers and breeders in Bangladesh are native pigs (*Sus scrofa domestica*), which are raised by more than 45 distinct ethnic groups, including Christians and some Hindus(Ritchie *et al.*, 2013). Every ethnic group raises one or two pigs for domestic purposes (Dey *et al.*, 2014). According to some studies, raising pigs was mostly done to generate emergency funds or provide food for domestic consumption(Patra, Begum and Deka, 2014). Bangladesh has the potential to grow its pig business, increasing pork output for domestic commerce and consumption(Dey *et al.*, 2014). The small-scale pig industry appears to have more potential to combat poverty(Patra, Begum and Deka, 2014). Pig rearing plays a significant role in the farming system since it is intimately linked to the other agricultural activities carried out by the tribal people for survival(Patra, Begum and Deka, 2014). Pigs do not contribute to the loss of pasture land, thus they can be raised in enclosures their entire lives(Patra, Begum and Deka, 2014). Pigs were employed all across the world to produce meat and bristles(Hossain *et al.*, 2012). Western cultures rely heavily on pork as a source of protein(Hossain *et al.*, 2012). However, cultural and religious taboos have an impact on pig production in Bangladesh(Ausraful *et al.*, 2021). As a result, only non-Muslim minorities in Bangladesh raise pigs. (Ausraful *et al.*, 2021). The projected number of pigs raised in Bangladeshi households is 326,000, and they are raised by Christians, ethnic minorities, and lower caste Hindus/sweepers(Ausraful *et al.*, 2021). Minority ethnic groups make about 2% of the population of Bangladesh and live in both plain and hilly locations. They are vastly different from the "Bengali" dominant group in terms of social, cultural, and level of development(Ausraful *et al.*, 2021). Pig rearing is primarily carried out by underprivileged individuals in Rangamati districts who lack the resources and know-how to increase productivity(Hossain *et al.*, 2012). Due to their isolation and difficulty in reaching their land, the rural hill farmers in this area have developed a self-sustaining local resource-based



production system, in which pigs mostly depend on local plants, crop wastes, and kitchen waste(Hossain *et al.*, 2012; Patra, Begum and Deka, 2014). Due to the conventional production structure, there is still a significant imbalance between the supply and demand for pork(Patra, Begum and Deka, 2014). Families typically keep 1-2 native or crossbred pigs on average for fattening with little to no family labour and feeding inputs(Patra, Begum and Deka, 2014). Domestic breeds are not very productive(Hossain *et al.*, 2012). Due to their high growth potential, exotic breeds, particularly Yorkshire, Landrace, Hampshire, and Poland China, are becoming more and more popular(Hossain *et al.*, 2012). Pig farmers have a number of difficulties despite the prospects for pig-based businesses because of There is little information available about pig production in rural areas' housing, feeding, breeding, disease prevalence, vaccination, biosecurity, marketing, and restrictions(Hossain *et al.*, 2012). For any scientific intervention to further improve the current production system and turn subsistence agriculture into a lucrative business, a thorough analysis of the perspectives, convictions, perceptions, and limitations in traditional pig farming is necessary(Patra, Begum and Deka, 2014). Therefore, increasing productivity is necessary for this business to turn a profit.

This study aims to assess the pig farm system's production and management practices, production results, local market situation, economic situation, and obstacles.

## Chapter 2: Materials and methods

### 2.1 Study area

The study area was Rajasthali, Kaptai, and Manikchhari upazilla in Rangamati district to collect recent data on swine rearing systems and pig farmer profiles.

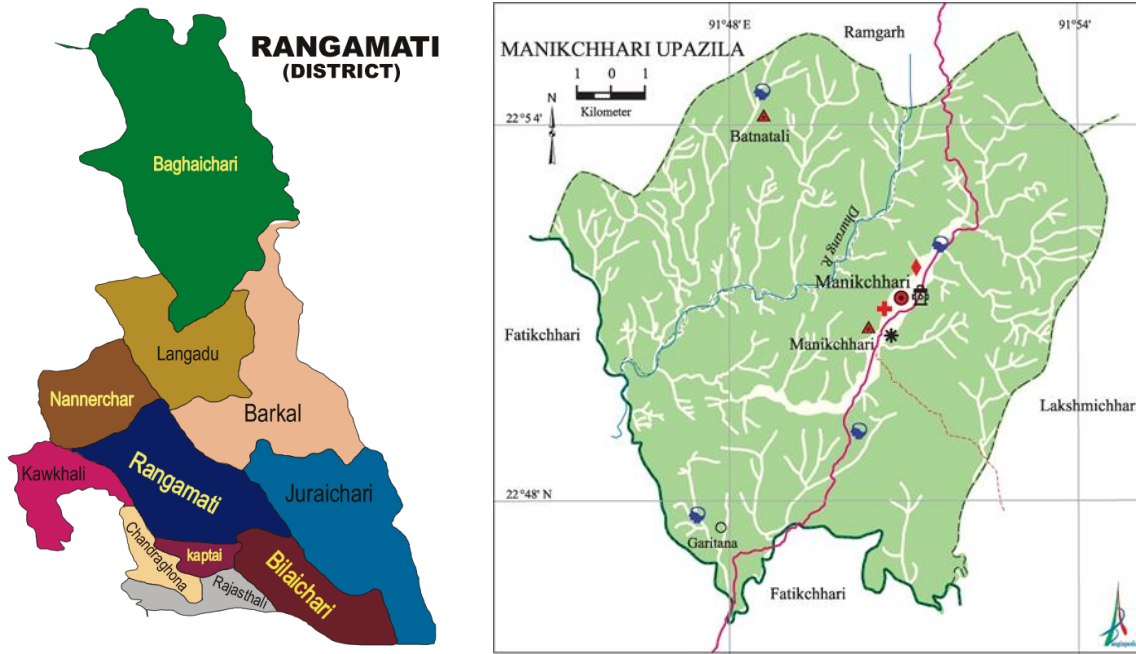


Figure 1: Study area of Rajasthali, Kaptai and Manikchhari Upazilla

### 2.2 Data collection

A questionnaire was created to gather information about the current pig farms, the nutritional status of the animals, and the socio-economic standing of the farmers in the study area. It was made to be straight forward so that farmers could provide correct information. The information was gathered by interviewing farmers between April 16 and May 1st, 2023, and having them complete questionnaires (attached in the appendix section). At the time of Upazilla Veterinary Hospital placement, all data was gathered.

Table 1: List of farms

<i>Farm no</i>	<i>Farmer name</i>	<i>Location</i>
1	Poshema Marma	Rajasthali, Rangamati
2	Maji Marma	Rajasthali, Rangamati
3	Uyesing marma	Rajasthali, Rangamati

4	<i>Suman Tanchangya</i>	<i>Manikchori, Rangamati</i>
5	<i>Opshori Chakma</i>	<i>Manikchori, Rangamati</i>
6	<i>Mising Marma</i>	<i>Rajasthali, Rangamati</i>
7	<i>Pochia Marma</i>	<i>Rajasthali, Rangamati</i>
8	<i>Manu Marma</i>	<i>Rajasthali, Rangamati</i>
9	<i>Umysang Marma</i>	<i>Kaptai, Rangamati</i>
10	<i>Aongcha Sing Marma</i>	<i>Kaptai, Rangamati</i>
11	<i>Shimul Tanchangya</i>	<i>Kaptai, Rangamati</i>
12	<i>Rasel Tanchangya</i>	<i>Kaptai, Rangamati</i>
13	<i>Unuching Marma</i>	<i>Kaptai, Rangamati</i>
14	<i>Maimay Pru Marma</i>	<i>Rajasthali, Rangamati</i>
15	<i>Samapru Marma</i>	<i>Rajasthali, Rangamati</i>
16	<i>Samau Marma</i>	<i>Rajasthali, Rangamati</i>
17	<i>Jacky Mong Marma</i>	<i>Rajasthali, Rangamati</i>
18	<i>Mya wong Marma</i>	<i>Kaptai, Rangamati</i>

### **2.3 Selection of farms**

The farms were chosen at random based on a variety of factors, including communication infrastructure, farm size, animal age, farms owner agreement, and ease of data collection.

### **2.4 Collection of piglets**

For the pig farming, the collection of pigs is very important. Pig raisers produced their own pig and other respondents collect piglets from their neighbors, middle men and local markets.

### **2.5 Management systems of pigs**

#### **2.5.1 Housing and rearing systems**

Pigs want a cosy, dry place to live where they can rest and sleep. Pigs require shade, too, in addition to shelter from the wind and rain(Hossain *et al.*, 2012). Pigs dislike draughts but require adequate ventilation. As long as the pigs can gather together for warmth and there is a comfortable straw bed, the cold is not a concern. A decent straw bed is necessary since pigs enjoy building nests. Cleaning up after pigs is seldom unpleasant because they often don't

defecate or urinate in their sleeping space. The straw can be easily swept outside and onto the ground in front of the house. This gives the pigs a place to wipe their trotters before going to bed, keeping the new straw clean. Pigs were raised in the research area using a free-range technique before being housed in tin sheds, fenced off, and girth-tethered. It was discovered that the most common and commonly used type of housing for pigs that allowed them to scavenge freely was free range. There was no standard measurement used in backyard farming. The sheds' roofs were constructed from chawn and tin. The farmers either raised the pigs in a semi-intensive or free-range environment. They were housed in the open with free range. Sows were allowed to roam freely and forage for food during the day. However, the pigs spend the night in the barn. This behaviour is primarily seen in rural settings. Spraying water helped to relieve heat exhaustion. Pigs were permitted to mud bathe in a neighboring clay region in the summer. The piggery was built in such a way that both sides were open to fully benefit from the prevailing breezes. Pigs were wrapped up in heavy blankets and gunny bags throughout the winter to keep them warm. Pigs actually benefit greatly from spending as much time as possible outside because they are natural browsers and grazers.



*Figure 2: Housing system*

### **2.5.2 Sanitation**

Disinfectants that are safe to handle, effective against a wide range of viruses, bacteria, and fungi, long-acting, non-irritating, non-staining, non-toxic, non-corrosive, coloured, safe and effective when used in water systems, and usable through pressure washers should be used for sanitation of pig houses. Phenols, chlorine-based compounds, iodine-based compounds, quaternary ammonia substances, aldehydes, and peroxygen formulations are the six types of

chemicals that can be employed for disinfection(Hossain *et al.*, 2012). Drain the water system and flush it with a detergent sterilizer before using it on bowls, nipples, water tanks, etc. Finally, a steam cleaner or hot water should be used to pressure wash the entire building. After delivery, the owner cut the piglets' navel cord and dipped the mucus from their mouths and nostrils. For washing the floor, they utilized Bioclean®, Dettol®, and bleaching powder. With the help of gunny bags, clothes, and dry straw, the farrowing room was kept warm and tidy. They used to wipe disinfectant on young, frail piglets. The sheds' floors were dry and there was good access to fresh air. In order to keep the pigs disease-free, sanitation is crucial. Any kind of pig housing needs a system for quick cleaning and waste collection. To make waste collection simple, some people employ slotted pen floors. It is advised to house animals in a barn and remove dung every day to maintain the floor dry and minimize odour. To get rid of ammonia (NH<sub>3</sub>), methane (CH<sub>4</sub>), and hydrogen sulphide (H<sub>2</sub>S) emissions, proper ventilation is necessary(Hossain *et al.*, 2012)

### **2.5.3 Feeding and watering**

Feeding and nutrition are crucial for their quick development and to get them to a productive level. Farmers in the research area used to feed their animals with boiling rice, rice polish, rice bran, rice husk, and fermented rice at rates of 4-5 kg/day/adult pigs, 2-3 kg/day/growing pigs, and 1- 2 kg/day/piglets. Pigs used to forage for food for the majority of the time in locations where they were allowed to roam free. Here, they would gather unusual feeds such as grass, boiled arum, cauliflower, or other vegetables. Water for pigs was provided via tube wells or by natural reservoirs. Farmers used to provide water at a rate of 3–4 L/day for adults, 2–2.5 L/day for growing pigs, and 1 L/day for piglets. Feed the pigs twice daily in the research area.

### **2.5.4 Common diseases and vaccines applied in the study area**

Every pig farm in the research region is frequently affected by illnesses. The most common of these illnesses are hemorrhagic septicemia, coccidiosis, pneumonia, and diarrhoea. In the area under research, some farmers have received vaccinations against the disease, while others barely use them.

## **2.6 Collection of data**

Data on socio-economic conditions of pig farmers say age, education level, marital status, gender, and land topography were collected. Besides, management systems, say breeds, sources of piglets, feeding, housing system, watering system, hygienic measures, rearing systems,

reproduction, disease incidences, selling and marketing process, and difficulties or challenges of the pig farmers etc., were recorded in this study.

### **2.6.1 Feed intake**

Feed intake is measured from the day piglets bring to the farm up to the last day of selling. It is calculated for one farm by total feed intake in farm is divided by total number of live animals (adult and piglet separately) and finally estimate as mean value for finding the average value.

### **2.6.2 Body weight of adult and piglets**

Body weight is collected from the pig farm during the selling time. Here only the mean value of pig weight is estimated for each farm.

### **2.6.3 Mortality rate**

Mortality rate is calculated as percentage of dead piglets among the total initial number of piglets.

## **2.7 Data analysis**

All the collected data were entered into Microsoft Excel 2016 for the statistical analyses. Normal statistics say frequency, percentages, and means were used to interpret data.

## Chapter 3: Results and discussions

### 3.1 Socio-economic status of the farmers

#### 3.1.1 Age of pig farmers

The ages of the pig farmers ranged from 20 to 60. Table 1 displays the average age of the pig farmers. Farmers were separated into three age groups based on their chronological age: under 35, between 36 and 45, and over 45. On average, pig farmers were 38 years old.

*Table 2: Analysis age of pig farmer*

Age groups (Years)	Frequency(n)	Percentage (%)
Young: <35	9	50
Middle: 36 – 45	4	22
Old: >45	5	28

#### 3.1.2 Gender

One of the most significant elements in pig husbandry is gender. According to data analysis, 61% of pig farmers are women, compared to 39% of men who rear pigs. This is due to the fact that the majority of native women are housewives. In addition to taking care of their family, they raised 2 to 5 pigs for food and/or emergency funds.

*Table 3: Sex of pig farmers*

Sex	Frequency (n)	Percentage (%)
Male	7	39
Female	11	61

#### 3.1.3 Literacy level

Level of education is a key indicator for pig farming. According to data from Rajasthali, Kaptai, and Manikchori Upazilla, 28% of farmers lacked an education, 22% had a primary education, 39% had a secondary education, and the remaining 11% had a higher education (Table 4). Some farmers are still illiterate because of their ignorance and isolation. The financial status of their families caused many people to lose interest in continuing their studies. Many persons who fall

into this group have only finished elementary and secondary school and are unable to pursue further education. Very few farmers are able to complete higher education.

*Table 4: Literacy level of pig farmers*

<b>Literacy level</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Illiterate	5	28
Primary	4	22
Secondary	7	39
Higher secondary	2	11

### **3.1.4 Marital status**

Marital status has an impact on how many pigs are raised. Just 28% of single people work in pig farming. Contrarily, the bulk of the population under study—72% of married people—kept pigs. According to some studies, raising pigs was mostly done to earn income in an emergency and/or to provide the household's needs while completing higher secondary and higher education (Patra, Begum and Deka, 2014). However, singles do not keep pigs because they are students or have other jobs.

*Table 5: Marital status of pig farmers*

<b>Marital status</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<b>Married</b>	<b>13</b>	<b>72</b>
<b>Unmarried</b>	<b>5</b>	<b>28</b>

### **3.1.5 Land**

Pigs were typically raised by farmers in their backyards, which were often hilly or arable. Table 6 demonstrates that just 39% of the farms in the Rangamati district are on arable soil, despite the fact that 61% of the district is mountainous.



Table 6: Type of farm land

Land type	Frequency(n)	Percentage (%)
Arable	7	39
Hilly	11	61

### 3.2 Management practices of pig farming

#### 3.2.1 Collection of piglets

Pig raisers produced their own pigs, while respondents obtained their piglets from marketplaces, neighbors, and middlemen, among other sources. I noticed that pig farmers kept 1-4 sows, 1-4 boars, and 1-4 piglets each.

#### 3.2.2 Breeds of pigs

It was discovered that the majority of households raised pigs using a free-range scavenging approach, and the majority of them did so in their backyards. The majority of farmers (63%) preferred to raise crossbred pigs, however 37% continued to raise native pigs (Figure 3). The majority of people liked pigs with short snouts and a black coloration. According to reports, black-colored pigs were preferred because fewer skin illnesses plagued them (Patra, Begum and Deka, 2014). Popular breeds in the area were Large Black crosses, Burmese Black crosses, and Hampshire crosses. indigenous people in rural locations, respondents have access to local pigs. Only a small number of people pick up the piglets from any organized farm; most people buy the piglets from the local market.



Figure 3: Locally reared pig breeds - local (left) and cross breed (right)

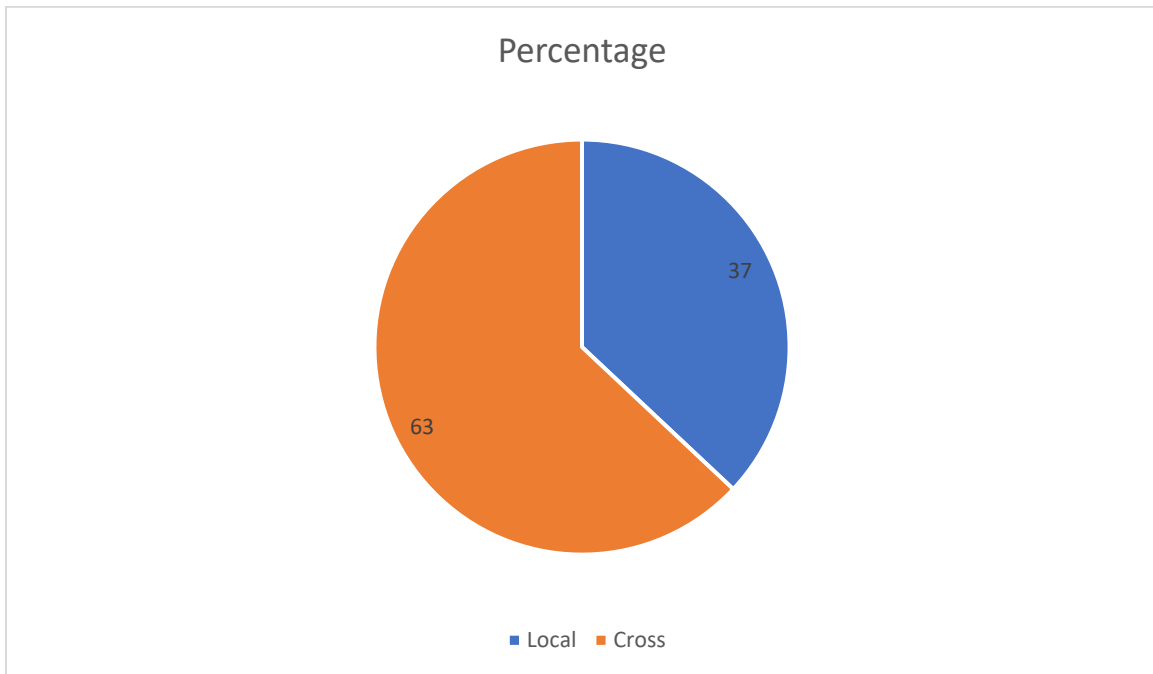


Figure 4: Breeds of pigs

### 3.2.3 Mortality rate in pig farms

The average mortality rate in the different pig farms is shown in figure 5. The highest mortality rate is 50% and the lowest mortality rate is 30%. The average mortality rate among those 18 farms is 39.7%. In farm mortality rate of piglets are high due to disease and killing of own piglets by mother.

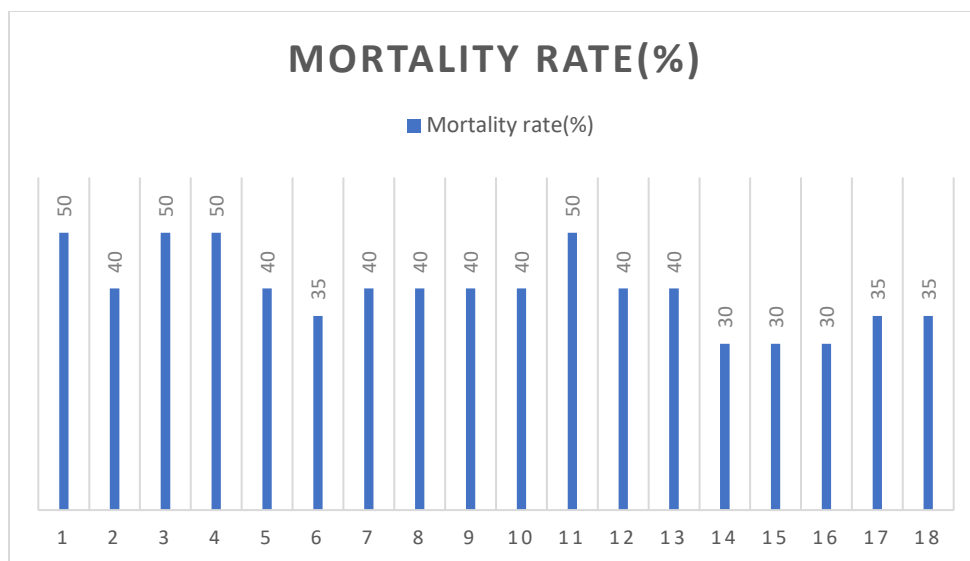


Figure 5: Comparative mortality rates of 18 Pig farms

### 3.2.4 Age, body weight and feed intake

Farmers in the research area purchase 2- to 3-month-old piglets and raise them for the next 5 to 6 months until they reach adulthood. Piglets consume 2 to 3 kg each animal while adults consume 7 to 9 kg per animal. They use to provide food twice a day. Piglets weight between 8 and 10 kg, while adults' weight between 70 and 80 kg when they are fully grown.

Table 7: Age, body and feed intake of pigs obtained from 18 different pig farms of Rangamati

Farm no	Animal	Age(months)	Body weight(kg/a)	Total Feed Intake(kg/a/day)	Frequency (Times)
1	Adult	5	55	4	2
	Piglet	2	7	1.5	2
2	Adult	7	80	7	2
3	Adult	6	72	7	2
4	Adult	6	68	7	2
5	Adult	7.2	90	7	3
6	Adult	6	70	6	2
7	Adult	7	85	7	2
8	Adult	7	95	8	3
	Piglet	3	10	2.5	3
9	Piglet	3	9	2	2
10	Piglet	2.5	8	2	2
11	Adult	6	70	7	2
	Piglet	2	8	2	2

12	Adult	7	85	8	2
13	Adult	5	55	6	2
	Piglet	3	11	3	2
14	Adult	8	95	8	2
	Piglet	3	9	2.5	2
15	Adult	6	65	6	2
	Piglet	3	14	3	2
16	Piglet	3	8	2	2
17	Piglet	3	8	2	2
18	Adult	8	90	9	2
	Piglet	3.5	15	3	2

### 3.2.5 Age, type of pig, live weight, feed intake and water consumption

The animals are categorized into three groups according to their age, such as piglet (2 – 3.5 months), growing adult (5 – 6 months) and full-grown adult (7 – 8 months). Here, we found that the average body weight of piglets in 11 farms is 9.80 kg where they intake 2.30 kg feed. Adult pigs which are 5 – 6 months of age average body weight gain in 7 farm is 65.0 kg where their average feed intake is 88.60 kg. However, again, 7 – 8 months of old age adult pigs gain 88.60 kg body weight and their average feed intake is 7.70 kg. They use to consume water at a rate of 3–4 L/day for adults, 2–2.5 L/day for growing pigs, and 1 L/day for piglets.

*Table 8: Age, type of pig, live weight, feed intake and water consumption of pig obtained from different pig farms of Rangamati*

Age of the pig(months)	Type of pig	Average body weight(kg/animal)	Feed intake(kg/a/day)	Water intake (Liter/day)
2 – 3.5	Piglet (N = 11)	9.80	2.30	1
5 – 6	Adult (N = 7)	65.0	6.10	2 – 2.5
7 – 8	Adult (N = 7)	88.60	7.70	3 – 4

### 3.2.6 Disease prevalence

In the current study, diarrhoea, coccidiosis, pneumonia, and hemorrhagic septicemia were the most common illnesses. According to reports, pigs frequently contract abscesses, botulism, bovine viral diarrhoea, brucellosis, bursitis, coccidiosis, cystic ovaries, haematomas, lameness, listeriosis, mastitis, meningitis, and metritis. (Peter et al. 2007). Pigs with diseases could be separated and treated (Hossain et al. 2011). Deworming was a frequent practise among some farmers (12 out of 20 farms), however there were no immunisations applied. Anthrax, foot-and-

mouth disease, hemorrhagic septicemia, and other vaccines were rarely utilised. After 15 days from the initial dose, a booster dose may be administered in cases of hemorrhagic septicemia. Two immunisations should be spaced out by 15 days (Hossain et al. 2011). 40% of the workforce was devoted to deworming pigs. For deworming purposes, people have occasionally fed pigs' crabs, tea waste, and some sour fruits like tamarind or chalta. Pigs were dewormed using albendazole, triclabendazole, or levamisole.

### **3.2.7 Reproduction**

A method of natural breeding was employed for reproduction. In general, pigs reached sexual maturity at 8 and swine at 6 months. Cycles of ovulation lasted 18 to 24 days. Sows started going into estrus three to ten days after weaning the litter. Heat was indicated by the appearance of mucus, clear vaginal discharge, restlessness, lying down and getting back up, vulva enlargement and reddening, and mounting or attempting to mount other sows and boars. When the gilts were in heat, they were permitted to approach the boar in an open area within hearing, sight, and smell of the animal. According to the research, the size of the litter might range from 8 to 12. Compared to sows giving birth during other times of the year, those giving birth during the rainy season had heavier and larger litters. Piglets typically weighed about 7-8 kg after weaning. Piglets were weaned when they weighed a minimum of 8.5 kg and a maximum of 9 to 10 kg.

### **3.2.8 Selling and marketing**

In the research area, piglets are purchased by farmers when they are 2 to 2.5 months old, and their price can range from 2000 to 2300 Taka depending on the breed and their health. The average weight of the piglets is between 8 and 9 kg. They were raised for the next five to six months in order to attain adulthood. When they are fully grown adults, they weigh at least 70 to 85 kg. Then the farmers started selling both live and dead animals. When utilised for food or breeding, live animals are sold for between 20,000 and 30,000 Taka per kilogram. The price of meat is 300–400 Taka per kilogram.

### **3.2.9 Constraints in successful pig production**

- 1) Bangladesh is a prosperous Muslim country. Pork is prohibited in the Islamic religion. Muslims have no desire to have pigs as domestics. Due to religious prohibitions, there is no organized pork marketing structure, which normally lowers the amount of pork produced.

- 2) Pigs are omnivorous and hungry creatures. They require more food every day. Rural pig owners find it difficult to meet their feed needs. As a result, pigs in Rangamati are undernourished. The bulk of pig feeds available today are of low quality and do not support their capacity for reproduction and productivity.
- 3) The majority of the pigs in the study area were of the native breed, which has lower productivity than foreign varieties.
- 4) The high rate of piglet mortality was another limitation. Piglets who are unable of nursing from their mother gradually deteriorate till they die.
- 5) There is little immunisation knowledge among farm owners. Family farms are a common source of FMD, HS, and anthrax infections in pigs. Disease diagnosis is impossible in remote locations due to a lack of labs. Few post-mortem facilities are available for illness diagnosis. They lack knowledge about disease causes and available treatments as a result.
- 6) Particularly in small-scale, family farming, biosecurity is poor. Pigs frequently come into contact with migratory birds, various diseases, and other animals. Drug prices could be exorbitant.
- 7) Pig owners frequently refuse to take care of them. The typical farmer lacks literacy. Pigs frequently die as a result of inadequate husbandry practises.

## **Chapter 4: Conclusion**

The research region is ideal for pig farming due to its geographic location, which includes the availability of land and water supply. As a result, raising pigs is a business for some people in this area. In Rajasthali Upazilla, I discovered a number of problems with pig rearing, yet pig farming has a promising future. We exhibit a range of pig growing techniques in Rajasthali, Kaptai, and Manikchari Upazilla. I discovered the various pig breeds there. Farmers use cross breeds to enhance meat production quickly. This analysis has revealed that the sole method still in use for pig rearing is small-scale manufacturing. The production method is traditional, requires little to no involvement, and provides poor compensation. By using scientific management and healthcare practises, there are significant opportunities to boost production given the region's demand for pigs. Entrepreneurship development in crucial areas like feed formulation and supply, establishing pig breeding units, artificial insemination facilities, mobile vaccination services, pork processing, and use of pork by-products could make the businesses profitable for farmers and young people employed in the livestock industry. The government should support farmers in a variety of ways and seek to resolve their problems. Pig farming has become more popular in this area as a result and gives people a way to alter their future.

## **Limitation**

Some of the statistics were speculative because backyard farmers and small-scale farmers in the reporting area did not maintain record books.



## **Recommendations**

1. Introduce improved pig breeds in the rural areas.
2. To get better production, training on pig farming should be provided to the farmers.
3. Vaccination against common diseases of pigs should be ensured.
4. Good quality of piglets, vaccine, medicine should be available.
5. The government should take proper steps to give financial and technical support to farmers.
6. Pig rearing in the rural areas could be a good source of income, employment generation, especially for the unemployed youth, rural women and the small-marginal farmer.
7. Create a suitable marketing channel for pigs.

## References

- Ausraful, I. *et al.* (2021) 'Pig raising practices by unprivileged, ethnic people in Bangladesh', *Insights in Veterinary Science*, 5(1), pp. 001–005. Available at: <https://doi.org/10.29328/journal.ivs.1001028>.
- Dey, T.R. *et al.* (2014) 'Prevalence of end parasites of pig at Mymensingh, Bangladesh', *IOSR Journal of Agriculture and Veterinary Science*, 7(4), pp. 31–38. Available at: <https://doi.org/10.9790/2380-07433138>.
- Hossain, M. *et al.* (2012) 'Production systems of swine in the rural areas of Rangamati and Khagrachari districts of Bangladesh', *Bangladesh Journal of Animal Science*, 40(1–2), pp. 28–33. Available at: <https://doi.org/10.3329/bjas.v40i1-2.10787>.
- Patra, M.K., Begum, S. and Deka, B.C. (2014) *Problems and Prospects of Traditional Pig Farming for Tribal Livelihood in Nagaland*, *Indian Res. J. Ext. Edu.*
- Ritchil, C.H. *et al.* (2013) 'Socio-economic status of pig rearers and management system of native pigs in Bangladesh', *Indian Journal of Animal Sciences*, 83(11), pp. 1226–1228.

## Appendix

### QUESTIONNAIRE

Farm No: -----;

Date: -----

Data from the Pig Farm of Rajasthali, Kaptai and Manikchori Upazilla, Rangamati District in Bangladesh:

- 1) Farmer's name: \_\_\_\_\_
- 2) Address: \_\_\_\_\_
- 3) Location: \_\_\_\_\_
- 4) Type \_\_\_\_\_ of \_\_\_\_\_ Farm: \_\_\_\_\_ Farming \_\_\_\_\_ size: \_\_\_\_\_
- 5) Socio-economic status of the farmer: a) Age-----b) Sex----- --c) Education level-----  
-d) Marital status----- f) Type of land and size: arable/fallow/housing/garden
- 6) Type/breed of Pig: \_\_\_\_\_
- 7) Price of adult pig and piglet \_\_\_\_\_
- 8) Adult body weight pig and market price: \_\_\_\_\_
- 9) Piglet Production /year and market price: \_\_\_\_\_
- 10) Supplied feed to animal/day \_\_\_\_\_
- 11) Vaccine given or not, if so, give details: \_\_\_\_\_
- 12) Any vitamin supplement supplied the pig----- a. Yes b. No
- 13) If supply, which types of vitamins are supplies? Along with their dose, date, age, generic name, trade name, price and volume
- 14) Disease incidences: a. Yes b. No
- 15) If yes, what type of diseases are found? -----
- 16) Diagnosis of disease done? --by a. Clinical signs and symptoms b. Post mortem finding
- 17) Treatment given by farmer \_\_\_\_\_
- 18) Mortality rate (%): \_\_\_\_\_
- 19) Housing type/system: (Direction) \_\_\_\_\_
- 20) Any bio-security measures taken: \_\_\_\_\_

- 21) Any disinfectant used: a. Yes b. No
- 22) If used, what types of disinfectant are used?
- 23) Length of rearing pig \_\_\_\_\_
- 24) Rearing system----floor/slat/cage/ scavenging/ free-range/night shelter \_\_\_\_\_?
- 25) Litter used? \_\_\_\_\_ rice husk/saw dust/sand/ash/treated litter?
- 26) Type of housing \_\_\_\_\_ open/close/others?
- 27) Selling system of vitamins/dressed/processed?
- 28) Yearly income from selling piglet or meat:
- 29) Available market of pig or pork or not ----
- 30) Gestation period of pig? number of piglets or litter size per year-----
- 31) Any constraints faced by the pig farmers----

.....

(Signature of the Surveyor/researcher/Reporter)

## **Biography**

I am Mongchai Sing Marma. I am the student of 23th Batch and an intern veterinarian under faculty of veterinary medicine in Chattogram Veterinary and Animal Sciences University. I have passed Secondary School Certificate (SSC) in 2015 followed by Higher Secondary Certificate (HSC) in 2017. I come from Dolia Para, Rajasthali, Rangamati. In the future, I would like to work as a veterinary practitioner and do research on clinical animal diseases in Bangladesh.