**CHAPTER- I**

**INTRODUCTION**

Bangladesh is a densely populated country having about 165 millions of people in its 147570 sq. km of area. About 49.4 percent population of the country is female (BBS, 2011). Women are most important segment of human resources who need attention for their development. There is a close relationship between the status of women and the socio-economic development in any country.

The rate of literacy for women is very low in Bangladesh. It is only 25.5 percent for women compared to 38.9 percent for men. Bangladesh is one of the poorest countries in the world. To ensure a balance socio-economic development of the country, improvement status of women with a change in the status is a precondition. This may be achieved only when there is an increased participation of women in development activities. Women play the most dominant part in rearing goat. The role of women in goat keeping is very significant in the rural families and goat is the most important means through which rural women are able to contribute meaningfully to the cash needs for herself and their family members. Women who stay at home, goat rearing is the most useful way of their earning. However, livestock contribute about 2.79 percent to the GDP (Gross Domestic Product) of Bangladesh(DLS,2012) and there in total foreign exchange earning accounts for about 6.2 percent (Alam, 1995) in which share of goat is enormous.

In Asia and Africa goat is numerically, economically important and promising animal resources(Hussain,1999).Goats rank first position in terms of total livestock population in Bangladesh(FAO,1999). In Bangladesh Goat ranks second in terms of meat, milk and skin production representing about 28.0, 23.0 and 28.0 percent among the total contribution of livestock (FAO,1997). Goat production varies in different parts of the world. Since production cost of goat is much less than cattle and buffalo, goat farming requires small initial investment and as such low risk of loss due to individual death. On the other hand, this species can easily be managed by women and children. Black Bengal goat is developed in this country through natural selection without any intervention by man. Goat rearing requires a minimum investment and they are managed by household wastage. Also they graze on road sided grass. So no extra management cost is required for them. That’s why there is a traditional talk “Goat is poor men’s cow”.

In Bangladesh, total livestock population is estimated about 24.68, 0.64, 25.21, 3.12, 206.89 and 39.08 million cattle, buffalo, goat, sheep, chicken and duck, respectively (DLS,2012).

Among total goat population more than 90 % are Black Bangle goat (BBG). There are other some breeds like Jamunapari and Beetal numbering only around 27,552 (BBS, 1999). The BBG is originally black in color with white patches. However, BBGs with white, brown, gray are also found. On the other hand Jamunapari is different in color and give 1 kid per birth.(Azad, 2001). BBG are dwarf and famous for its adaptability, fertility, prolificacy, disease resistance and nutritional, delicious meat production. They are poor milk producers and unable to feed their kids. The skin of BBG is unique, because of the superiority of its finishes products (samad et. al 1998).

Bangladesh govt. has taken special attention to goat rearing with rural women. A very limited work and scientific research had been done on this topic .The present study is therefore under taken to assess the socioeconomic status of goat rearing rural women in Bangladesh.

**Objectives:**

1. To indentify the socio-economic characteristics of rural women of goat rearing.
2. To estimate the cost and return of goat rearing.
3. To evaluate the productive and reproductive performances of goat rearing.
4. To identify the problems related to goat rearing and makes some recommendation for improving the goat rearing.

**CHAPTER -II**

**REVIEW OF LITERATURE**

Ahmed (1991) identified some problem related to the production aspect were lack of feed resources, low genetic potential, disease and parasitic and lack of credit for livestock production. The study was not covered problems of marketing of milk in the study.

Alam (2001) studied Women’s participation in raising livestock in some selected areas of Bangladesh. The findings indicate that the average number of goat per farm was 1.94, 0.93, 1.19 and 1.22 for large, medium, small and landless farms, respectively and its correlation coefficient was found positive (0.059).

Islam *et al.* (1996) found that age and family size of participating women had no significant relationship with their extent of participation but education mass media exposure, contact with extension agent women respondent attitude and their husbands attitude were found to be significant associated with women’s extent of participation in agricultural activities.

Naher (2000) reported that time utilization of rural women in agricultural activities was highest in poultry raising (0.82 hour/person/day) followed by cattle rearing (0.75 hour/person/day) and goat rearing (0.62 hour/person/day).

Sardana (1988) observed that Indian farm women are playing dominant role in about eight agricultural activities. In descending order these are tending dairy cattle, collection fodder from the field, selling, livestock product, storage of farm produce, weeding operations, management of cattle treatment, harvesting the crops and making farm yard manure. Significantly, livestock related activities were more pronounced and the farm women had virtually monopolized the cattle are operations to extent of almost 95 percent.

Seema *et al.* (1998) in a study undertaken (year not given) to assess the participation of 100 tribal and non-tribal women of Hazaribagh district of Bihar in farm and home activities. The findings indicate that for tribal and non-tribal women household related tasks took precedent over agricultural tasks, livestock related tasks and forest based tasks. Involvement of tribal and non-tribal women in agricultural tasks was greater than that of their involvement in forests based, and livestock related tasks.

Seetharraman and Velusamy (2000) observed relationship between socioeconomic characteristics of goat rearing beneficiaries with their extent of participation in poverty alleviation programmes. The study revealed that educational status of beneficiaries was an important factor influencing the extent of participation.

**REVIEW RELATED TO PRODUCTIVE AND REPRODUCTIVE PERFORMANCES OF BLACK BANGLE GOAT AND CROSS BRED GOAT**

**2.1 PRODUCTIVE PERFORMANCES**

**2.1. (1) Birth Weight:**

 The average birth weight for male and female BBG was reported to be 1.2 and 1.1 kg (Gupta *et al.*1989).The birth weight of BBGs and CBGs were 1.5 and 2.0 kg respectively under traditional farming condition of sub-continent (Banerjee, 2004).The av. birth weight of BBGs and CGBs were 1.6±5 kg and 1.9 ± .75 kg respectively ( Hassan *et al.* 2007).

**2.1(2) Mature Body Weight:**

 The mature body weight of BBG and CBG were 20.25±2.5 and 29.50±3.5 kg. (Hassan *et al.* 2007).

**2.1 (3) Milk Production:**

 Black bangle goat produces little amount of milk that only nourished it’s kids (Hussain *et al.* 1995; Banerjee, 2004). The av. milk production in CBG was 1.05±.5 liter /day, whereas, BBG only can nourish it’s kids.( Hassan *et al.* 2007).

**2.1(4) Lactation Periods:**

 Lactation period of CBG and BBG were 99.25±10 day and 65.50±.75 days respectively (Hassan *et al.* 2007).

**2.2 REPRODUCTIVE PERFORMANCES**

**2.2(1) Age at puberty:**

 Sexual maturity of BBGs were 222.3 days for male and 269.4 days for female (Panigrahi *et al.* 1997). BBG was reported early (200 days) maturing goats than CBGs (225 days) (Banerjee, 2004). The av. puberty of CBG and BBG were 222.5±5.5 and 196.5±7.5 days respectively (Hassan *et al.* 2007).

**2.2(2) Age at first kidding:**

 The av. age at first kidding was 360.5±10 days in case of BBGs, where as 411.5±15.5 day in CBGs ( Epstein and Hertz ,1964 ; Hassan *et al.* 2007).

**2.2 (3) Post partum heat period:**

 The av. post partum heat period of BBG and CBG were 38.75±10.5 and 121.75±15 days respectively (Hassan *et al*. 2007).

**2.2 (5) Kidding interval:**

 The av. Kidding interval in BBG and CBG were 179±20 and 270±22 days respectively (Hassan *et al.* 2007). The kidding interval of goats ranged from minimum166 days to maximum 1100 days (Shill *et al.* 2003).

**2.2 (6) Litter size:**

 Av. litter size of BBG was reported to be 1.10 whereas, in CBG was 1.5 respectively (Wilson , 1996).

**2.2 (7) Gestation period:**

 Goat carrying twins had a shorter gestation length than those carrying single (Ruvna *et al.* 1988). The gestation length for single birth 142.6, 143.1 and 142.4 days for BBG, BBG×Beetal and Beetal respectively and for twin birth 140.9, 141.0 and 139.3 days respectively ( Singh and singh , 1983).

**2.2 (8) Number of service per conception:**

 In BBG av. service per conception is 1.45 (Chowdhury *et al.* 2002).

**CHAPTER-III**

**MATERIAL AND METHODS**

Selection of a methodology is very essential to support any research in which one need sincere, careful and skill operation. Wrong selection causes erotic results. Therefore, the researchers should follow a scientific and logical methodology for carrying out research. This chapter describes the methodology used for study. First half includes the design and conduct of survey to collect data and second half includes analytical technique for calculating the data.

**3.1 Survey design and conduct**

 Survey methods are one of the several methods of data collection. The survey was designed to obtain necessary data of goat rearing. The survey method for the present study involved the following steps:

**3.2 Selection of the study area:**

The main purpose of this study was to assess participation of rural women in goat rearing. *Kazirbag, Dhormopur and Shoshordi* union under *Feni Sadar* upazila of Feni district was the location of the study. The entire rural goat rearing farm family women heads of those mentioned union constituted the population of the study. Data were collected from a sample of 30 women heads selected randomly during 15 may 2013 to 14 June, 2013 through a pre-tested interview schedule (*Appendix*).



**Figure : Location of Feni Sadar Upazila.**

**3.3 Selection of sample:**

There was a limitation of time and resources for researcher all goat rearing rural women of the study area. In this study the farmer having at least one goat was preferred. Farmers were purposively selected. Finally 30 farms were considered for collecting necessary data.

**3.4 Preparation of questionnaire:**

Questionnaire is very important for a successful survey. So the questionnaire should be prepared carefully with considering the objectives of the study. The preliminary questionnaires were prepared before conducting the final field survey. The researcher pre tested the draft schedule herself. Thus some parts of draft schedule were improved, rearranged and modified. Thus the schedule developed finally. The following points take in mind for making the questionnaire:

1. Socioeconomic condition of goat farmers.
2. Biological information about goat such as body weight, birth weight, age at puberty, service per conception, kidding interval, gestation length, litter size etc.
3. Cost and return of goat rearing.

**3.5 Period of the study:**

The survey of this study was conducted for the period during 15 may 2013 to 14 June, 2013.

**3.6 Collection of data:**

Accurate data with necessary information were collected by the researcher himself. It was a risky task. The farmers were not interested to give data without any benefit for them. Also the goat farmers did not keep any written record. But the researcher tried his best to achieve the accurate data by knowing the farmers about the objectives of the study. Question was asked systematically and explanation was given wherever necessary.

**3.7 Processing of data and analysis:**

The collected data were analyzed with tabular and graphical method. The data were also analyzed using the concerned software Microsoft excels.

**3.8 BCR**

The BCR is obtained when the present worth of the benefit streams is divided by the present worth of costs streams. When BCR is greater than 1, then the project is accepted and when BCR is lesser than 1, then the project is rejected.

**3.9 Estimation of costs and returns:**

Costs and benefits were calculated by prevailing market price of items.

**3.9.1 Investment cost:**

 **a. Cost of goats:**

Goat purchasing is capital cost. The price varies with age and body weight of goat.

1. **Cost of housing:**

Most of the rural women kept goats in their own home. So no extra housing cost was required. But some straw, bamboo and rope were often used. It did not cost very large amount of money. The price of them was Tk.350.

1. **Cost of tools and equipment:**

The goat farmers used several tools and equipments such as feeding pot, milking pot, watering pot etc. The cost of this locally made tools and equipments were estimated at Tk.125.

 **3.9.2 Production cost:**

 **a. Feed cost:**

Grazing is the only mean of feeds for goats and they grazed in the fellow land, road sides and around the bushes and fields. They were also managed with kitchen waste. A negligible amount of purchased feed for example, wheat bran, black gram bran, rice, rice gruel and salt have also been used as feed in there goat farm. The feed cost was estimated at Tk. 440.00.

**b. Veterinary expenses:**

Due to financial inability, the farmers are not able to buy medicine for their sick goat. Rather the farmers went to local pharmacy for purchasing some common medicine. The cost of veterinary expenses was estimated at Tk.180.00.

**3.9.3 Return of goat rearing:**

 **a. Income by selling of goats:**

This includes the income received by selling goats within one year. The goats were sold at a given price.

**b. Value of milk:**

The quantity of milk was determined by per lactation period of a goat. Then it was multiplied by prevailing market price to determine the value of milk.

**CHAPTER- IV**

**RESULTS AND DISCUSSION**

**4.1 SOCIOECONOMIC STATUS OF THE RURAL WOMEN IN GOAT FARMING:**

Socio economic characteristics analyze is important to get a complete picture of goat farming. It includes the family size and composition, literacy level, occupational status, land ownership pattern, yearly cost and return of the farm owners. These are described here.

**4.1.1 Information of the members of goat farmers:**

The whole family members were classified in to 4 age groups. These were 0-10 years, 11-30 years, 31-50 years and 50 and above. Table-1 indicated that **6.667%** were 0-10 years, **36.667%** were 11-30 years, **46.67%** were 31-50 years and **10%** were more than 50 years age groups.

**Table-1: Information of the family members of the farm owners. (N=30)**

|  |  |  |
| --- | --- | --- |
| **Age group** | **Total no (n)** | **Percentage (%)** |
| 0-10 years | 2 | 6.67 |
| 11-30 years | 11 | 36.67 |
| 31-50 years | 14 | 46.67 |
| 50 and above | 3 | 10 |

**4.1.2 Literacy level:**

To examine the literacy level of the respondents, literacy levels were classified into 5 categories. These were Illiterate, Primary, Secondary, Higher secondary and Honors and above. Table-2 revealed that about **20%** of the members were illiterate, **36.67%** have passed primary, **26.67%** have passed secondary and **16.67%** have completed higher secondary.

**Table-2: Literacy level of family members. (N=30)**

|  |  |  |
| --- | --- | --- |
| **Literacy level** | **Total no (n)** | **Percentage (%)** |
| Illiterate | 6 | 20 |
| Primary | 11 | 36.67 |
| Secondary | 8 | 26.67 |
| Higher secondary | 5 | 16.67 |
| Honors and above | 0 | 0 |

**4.1.3 Occupational status:**

Occupation of goat farmers was classified into 4 categories. Table-3 showed that goat farming with service was about **26.67 %**, goat farming with business was about **6.67 %**, goat farming with cow farming was about **56.67%** and goat farming with other was **10 %.**

**Table-3: Occupational status of farm owners. (N=30)**

|  |  |  |
| --- | --- | --- |
| **Occupational status** | **Number of farm owners (n)** | **Percentage (%)** |
| Goat farming with service | 8 | 26.67 |
| Goat farming with business | 2 | 6.67 |
| Goat farming with cow farming | 17 | 56.67 |
| Goat farming with other | 3 | 10 |

**4.1.4 Land ownership pattern:**

The farm owners were classified into 4 groups, namely landless, small and marginal, medium and large farmers whose land holdings assumed to be ranged from 0-0.50 acres, 0.51-1.50 acres, 1.51-2.50 acres and above 2.50 acres respectively. Table-4 showed that about **36.67%** of farmers were landless, **30%**, **13.3%** and **20%** were small and marginal, medium sized and large farmers, respectively.

**Table-4: Land ownership pattern. (N=30)**

|  |  |  |
| --- | --- | --- |
| **Land holding sizes** | **Number of farm owners (n)** | **Percentage (%)** |
| Landless farmers (0-0.5 acres) | 11 | 36.67 |
| Small and marginal (0.51-1.50 acres) | 9 | 30 |
| Medium sized (1.51-2.5 acres) | 4 | 13.3 |
| Large farmers (above 2.5 acres) | 6 | 20 |

**4.1.5 Livestock population of farmers:**

Table-5 showed that about **6.09 %** of bull, **3.37 %** of cows, **1.6 %** of calf, **18.45 %** goat, **61.38 %** of poultry and **8.98 %** of duck in studied area.

**Table-5: Livestock population of farmers. (N=336)**

|  |  |  |
| --- | --- | --- |
| **Livestock species** | **Number of animals (n)** | **Percentage (%)** |
| **Bull:** |
| Cross bred | 17 | 5.06 |
| Local | 4 | 1.2 |
| **Cow:** |
| RCC | 0 |  |
| Cross bred | 7 | 2.08 |
| **Calf:** |
| RCC | 0 |  |
| Cross bred | 6 | 1.78 |
| **Goat:** |
| BBG | 38 | 11.31 |
| CBG | 44 | 13.09 |
| **Poultry:** | 198 | 58.92 |
| **Duck:** | 22 | 6.54 |

**4.1.6 Yearly income level of farmers:**

Table-6 showed that about **13.33%** of farmer’s income lies less than Tk. 50000, **26.67%**of the farm owners income level lies between Tk. 50001-100000, **16.67%**of farm owners income lies between Tk. 100001-150000 and **43.33%** of farm owners income were above Tk. 150000.

**Table-6: Yearly income level of farmers. (N=30)**

|  |  |  |
| --- | --- | --- |
| **Income level** | **Number of farm owners (n)** | **Percentage (%)** |
| > Tk. 50,000 | 4 | 13.33 |
| Tk.50,001-1,00,000 | 8 | 26.67 |
| Tk. 1,00,001- 1,50,000 | 5 | 16.67 |
| Tk. Above 1,50,000 | 13 | 43.33 |

**4.2. YEARLY COST AND RETURN OF GOAT FARMING:**

The yearly cost and return of goat farming were estimated from collected data discussed in 3 tables.

**Table-7: Per Year per Goat cost of goat rearing.**

|  |  |
| --- | --- |
| Particulars | Cost (Tk.) |
| **Investment cost** |
| Purchasing cost of goat  | 1450.00 |
| Housing cost | 350.00 |
| Tools and equipment | 120.00 |
| Sub-total | 1920.00 |
| **Production cost** |
| Feed cost | 500.00 |
| Veterinary expenses | 180.00 |
| Sub-total | 680.00 |
| **Total gross cost** | **2600.00** |

Table-7 showed that total gross cost of yearly goat rearing was **Tk. 2600.00.**

**Table-8: Per Year per Goat Return of goat farming.**

|  |  |
| --- | --- |
| **Item of returns**  | **Return (Tk.)** |
| Goats sale | 3000.00 |
| Value of milk | 250.00 |
| Gross return | 3250.00 |

Table-8 showed that gross return of goat rearing yearly was **Tk. 3250.00.**

**Table-9: Profitability of rearing goat:**

|  |  |
| --- | --- |
| **Particulars** | **Amount in BDT** |
| Total Gross cost | 2600.00 |
| Total Gross return | 3250.00 |
| Return over cost  | 650.00 |
| BCR | 1.25 |

**Graph-6: Graphical representation of cost and return of Goat farming.**

**4.3.1 PRODUCTIVE PERFORMANCES:**

**Table-10: Productive performances of BBG and CBG.**

|  |  |  |
| --- | --- | --- |
| **Productive traits** | **BBG** | **CBG** |
| Birth weight (kg) | 1.4±.35 | 1.7±.45 |
| Mature body weight (kg) | 17.75±2.5 | 27.25±3.5 |
| Milk production (lit/day) | Nourished only it’s kids | 1.0±.25 |
| Lactation period (day) | 95±5.5 | 60.5±10.5 |

**4.3.1 (1) Birth weight:**

In this study the av. birth weight of BBGs and CBGs were 1.4±3.5 kg and 1.7±.45 kg, respectively which agreed with Hassan *et al.* (2007). These two results of study were also agreed with Banerjee (2004). The results may vary. It might be due to birth weight depends on feeding, care and management of pregnant doe (Lamont,1964; Skinner and Hofmeyrs 1969). Also birth weight was negatively correlated with litter size (Epstein and Herifz,1964; Amoah and Bryant, 1983).

**4.3.1 (2) Mature body weight:**

In study av. mature body weight of BBG and CBG were 17±2.5 kg and 27.25±3.5 kg which agreed with Banerjee (2004) and Hassan *et al.* (2007). The body weight depends on birth weight and balance feeding of goat (Lamont, 1962; Skinner and Hofmeyrs, 1964)

**4.3.1 (3) Milk production:**

From the table 10 it was found that the BBG produced a little amount of milk which only nourished it’s kids whereas in CBG it was 1.0±.25 kg which agreed with Hussain *et al* (1995), Banerjee(2004) and Hassan *et al.* (2007) . BBG produced very little amount of milk due to genetic factor. (Payne, 2000).

**4.3.1 (4) Lactation period:**

The table 10 showed lactation period of BBG and CBG were 95±5.5 day and 60.5±10.5 day, respectively. These result agreed with Shill *et al*. (2003) and Hassan *et al.* (2007).

**4.3.2 REPRODUCTIVE PERFORMANCES:**

**Table-11: Reproductive performances of BBG and CBG**.

|  |  |  |
| --- | --- | --- |
| **Reproductive traits** | **BBG (Mean±SD)** | **CBG (Mean±SD)** |
| Age at puberty (day) | 190±5.5 | 200±7.5 |
| Age at first kidding (day) | 345±10 | 360±15 |
| Kidding interval(day) | 175±15 | 250±15 |
| Service per conception (no) | 1.15±.25 | 2.5±.25 |
| Post partum heat period day) | 35.5±10 | 115.75±15 |
| Litter size(no) | 1.99±.5 | 1.5±.5 |
| Gestation period (day) | 142±2 | 146±5.5 |

**4.3.2 (1) Age at puberty:**

The av. age at puberty of BBG and CBG were 190±5.5 kg and 200±7.5 kg, respectively. The table also showed that the duration was greater in CBG than BBG. It was due to genetic cause. The result agreed with Banerjee, 2004 and Hassan et. al ,2007. Environmental factors eg. temperature which has great influence on puberty (Rajkonwar and Borgohain 1978). There were other several factors like presence of buck in the herd (Devendra and Burns, 1983) and plan of nutrition, availability of forage.

**4.3.2 (2) Age at first kidding:**

The table 10 showed that av. Age at first kidding of BBG and CBG were 345±10 day and 360±15 day, respectively. The result agreed with Hassan *et al*. 2007. Age at first kidding depends on puberty, environmental factors eg. Photoperiod, kidding season, nutritional status etc (Epstein and Hertz, 1964).

**4.3.2 (3) Kidding interval:**

From the table 10, it revealed that av. kidding interval of BBG, CBG were 175±15 day and 250±15 day, respectively. It showed that av. kidding interval of BBG was lower than that of CBG. So reproductive performances of BBG were better than that of CBG. The result agreed with Shill *et al.* 2003, Hassan *et al.* 2007.

**4.3.2 (4) Post partum Heat Period**:

The av. post partum heat period of BBG and CBG were 35.5±10 day and 115.75±15 day, respectively. Lower the post partum heat period higher the reproductive performances. So reproductive performance of BBG was better than that of CBG. The result agreed with Shill *et al*. 2003 and Hassan  *et al.* 2007.

**4.3.2 (5) Litter size:**

The table 10 showed that the av. Litter size of BBG and CBG were 1.15±.25 and 2.5±.25, respectively. The result agreed with Wilson (1996). Litter size of goat depends on various factors such as plane of nutrition and good body weight were found to improve litter size in mature goat.

**4.3.2 (6) Service per conception:**

In this study the av. no. of service per conception of BBG and CBG were 1.99±.5 and 1.5±.5, respectively. Thus the table also reported that BBG has better reproductive performances than CBG.

**4.3.2 (7) Gestation period:**

The table 10 showed that av. gestation period of BBG and CBG were 142±2.0 day and 146±5.5 day, respectively. It was seen that goat carrying twins had a shorter gestation period than those carrying single (Ruvna *et al.* 1988).

**CHAPTER-V**

**PROBLEMS RELATED TO GOAT REARING AND SUGGESTION**

Risk and uncertainty are quite common facts in livestock business. This section identified the major problems and constraints faced by the farmers in goat rearing and discussed about the possible solutions of these problems. The problems of goat rearing as reported by the farmers are presented in Table-12.

**Table-12: Problems faced by goat farmers. (N=30)**

|  |  |  |
| --- | --- | --- |
| **Nature of problems** | **Number of farmer (n)** | **Percentage (%)** |
| Lack of grazing land | 7 | 23.33 |
| Problem of rainy season | 1 | 3.35 |
| Lack of improved breed | 2 | 6.67 |
| Inadequate veterinary services | 7 | 23.33 |
| Lack of feed andgrass | 2 | 6.67 |
| Lack of credit facilities | 4 | 13.33 |
| Lack of extension services | 5 | 16.67 |
| Lack of money | 2 | 6.67 |

* **Lack of grazing land:**

Grazing facilities are very limited especially during cropping season, rainy season and during dry season. The grazing land has been decreasing day by day due to establishment of more industries and housing infrastructures for advanced population of this country. About 23.33 % of the selected farmers reported against this problem.

* **Problem of rainy season:**

It is another problem of goat rearing. About 3.33 % of farmer complained about this problem.

* **Lack of improved breed:**

Lack of improved breed increases the inbreeding problem due to use of some buck for more generation. This problem was reported by 6.66 % of goat farmers.

* **Inadequate veterinary services:**

It is an important problem. Most of the farmers reported that veterinary services were not adequate in the study area. About 23.33 % of farmers mentioned this problem.

* **Lack of feed and grass:**

Due to high price of feed and unavailability of grass, the farmers provide less amount feed to goat. About 6.66 % of farmers complained about this problem.

* **Lack of credit facilities:**

It is one of the main obstacles for goat farming. About 13.33 % of goat farmers mentioned this problem.

* **Lack of extension services:**

This is also an important problem of goat farming. About 16.66 % of farmers faced this problem.

* **Lack of money:**

Most of the farmers in the study area are poor. They have not enough money to manage their family. But most of them have one or two goats for rearing. It is not possible to rearing them with their little money. About 6.66 % of farmers mentioned this problem.

* To overcome the above problems the following recommendations are made for successful operation of goat farming:
* The govt. and non- govt. organizations should play an important role in overcoming the shortage of feed and grass problems by introducing the fodder cultivation techniques to the farmers.
* The adequate veterinary services and other training facilities should be offered to the rural people especially to women so that goat rearing would be profitable. The DLS should play a vital role in this regard.
* The govt. should provide improved breeds to the farmers from different govt. goat farms.
* The govt. should extend credit facilities to the farmers at low interest rate.
* The several extension works on animal health, disease control should be made available to goat farmers. The DLS and NGOs should expand their different training and extension programs to farmers which help in profitable goat rearing.

**CHAPTER-VI**

**CONCLUTION**

Goat rearing is a profitable business. If the problems related to it were solved and sufficient livestock loan and other modern technology were provided to rural people especially women, it would be able to earn money as a result it can play an important role in women empowerment and poverty alleviation. In present study, overall participation of rural women in goat rearing was low to medium. In fact, women in our country belongs to conservative society who face different sorts of social obstacle to rear goat which rightly been reflected in this study. So, there is a need for strengthening extension by GOs and NGOs to ensure a continuous flow of information and technical know-how to the rural women for enhancing their skills and knowledge in the respective areas. In present study, overall participation of rural women in goat rearing was low to medium. In fact, women in our country belongs to conservative society who face different sorts of social obstacle to rear goat which rightly been reflected in this study. So, there is a need for strengthening extension by GOs and NGOs to ensure a continuous flow of information and technical know-how to the rural women for enhancing their skills and knowledge in the respective areas.

**LIMITATIONS OF THE STUDY**

There are some limitations of the study. These are mentioned below:

1. In Bangladesh most of the farmers are illiterate and do not keep any records of farming. So it was very difficult to collect actual data from their memories and possibilities of data errors therefore cannot be ruled out.
2. The rural farmers were not interested to give necessary data which is essential for the study. Because they did not know the objectives of the study. So it was a difficult task knowing them the objectives of study.
3. The rural farmers are so conservative and did not agree to give actual information about the farm income. So it was very challenging for the researcher to make the farmers easy.

**ACKNOWLEDGEMENT**

The author is ever grateful and indebted to the **Almighty God** without whose grace it would have never been possible to pursue this study in this field of science and to complete this production report writing for the Degree of Doctor Of Veterinary Medicine (DVM).

The author would like to express his deep sense of gratitude and thanks to Professor **Dr. A. S. Mahfuzul Bari**, Vice Chancellor of Chittagong Veterinary And Animal Sciences University.

The author would like to express his deep sense of gratitude and heartfelt appreciation to Professor **Dr. Md. Kabirul Islam Khan**, Dean of Chittagong Veterinary and Animal Sciences University.

It is deemed as a proud privilege and extra terrestrial pleasure to express authors ever indebtedness, deepest sense of gratitude, sincere appreciation and profound regards to authors reverend and beloved teacher and Supervisor **Shahanaz Sultana**, Department of Agricultural Economics and Social Sciences, Chittagong Veterinary And Animal Sciences University for her scholastic guidance, uncompromising principles, sympathetic supervision, valuable advice, constant inspiration, affectionate feeling, radical investigation and constructive criticism in all phases of this study and preparing the manuscript also.

The author highly express his sincere gratitude and gratefulness to the internship Coordinator, **Bibek Chandra Sutradhar**, Associate professor, Department of Medicine and Surgery, Chittagong Veterinary And Animal Sciences University., for his constant inspiration, cordial co-operation, valuable suggestion for completion of the report work.

The author is a ever indebted to his father, mother, sisters, maternal uncles, and other relatives for their sacrifices, blessing and encouragement to get him in this position.

The Author

**REFERENCES**

**Adeschinwa, A.O.K. and Okunioa, J.O. (2000),** “Socioeconomic constrains of Ruminant Production on Ondho and Ekiti States” *Moor Journal of Agricultural Research* 1 (1), pp. 39-97.

**A1am, J. 1993**. The sector for more investment in Bangladesh. *Asian Livestock 7:* 77-78.

**Amin.R and Alam MR:** Utilization of native grass by goat Mase.Thesis, Depertment of Animal Science.

**Azad(2001)**, “Chagol Palon O Chagoler Rog Bedhi”, Khamar: A Monthly Magazine on Poultry, Livestock and Fisheries, Madda, Progati Soroni, Dhaka, November- December 2001,pp.33-35.

**Banerjee, G.C. 2004.** *A* *text book of Animal Husbandry.* Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi. 8th edition; pp: 933-961.

**BBS(1999),** Statistical Year Book of Bangladesh.Bangladesh Bureau of Stasistics, Ministry of Planning, Government of the People’s Republic of Bangladesh.

**Chowdhury *et al.*(2002):** Production of sheep and Goat.Elsevier Scientific Publishing Company.

**Das, P.M. 2004.** Role of Veterinary Sciences in Poverty Reduction and Employment Generation through livestock Production. *Keynote paper presented at BVA seminar. EIB Auditorium,* 04 May 2004.

**Devendra, C. 1992.** Studies in the nutrition of the indigenous goat at Malaya and requirement of liveweight gain. *Malaysian Agric.J.* 46:98-11 8.

**Devendra, C and Burns, M. 1983.** Goat production in the tropics. Commonwealth Agricultural Bureaux. Slough, U.K.

**DFID (Department of Foreign Integrated Development), 2000.** Halving World poverty by 2015, economic growth, equity and security. Strategies for achieving the international development targets. DFID strategic paper.

**DLS (Department of Livestock Services). 1998.** Karma Bikash O KarjaKram. An annual report. Livestock and poultry development activities. Government of Bangladesh, Dhaka.

**DLS (Departmant of Livestock Services). 2012.** An annual report . Livestock and poultry development activities. Government of Bangladesh, Dhaka.

**Epstein, H. and Hertz, A. 1964.** Fertility and birth weights of goats in a subtropical environment. *Journal, of Agric. Sci.* *UK* 62,237-244 (ABA 32, 3116).

**FAO (Food and Agricultural Organization of the United Nations). 1997.** *Production Year Book.* Rome, Italy 51: 189-228.

**FAO (Food and Agricultural Organization of the United Nations). 1999**. *Production Year Book.* Rome, Italy 53: 213-219.

**Faruk, A. (1980),** “Use of time by the individual: A survey in Bangladesh.” Rural household studies in Asia, Singapore university press, king Ridge Singapore 05-11.

**Fattah, K.A. 1999**. Poultry as a tool in poverty eradication and promotion of gender equity. *Proceeding o/' the workshop, March 22-26, organized by the Danish Agricultural and Rural Development Advisers' Forum.* pp: 16 -28.

**Gupta *et al.* (1989):** Goat production. Academic press, London, New York, Toronto Sanfrancisco and Sydney.

**Halim, A. and R,E. Mc Carthy (1985):** Women Labour in Rural Bangladesh: A Socioeconomic Analysis, Graduate Training Institute, Bangladesh Agricultural University, Mymensingh.

**Haq, M.E., Rahman, M.M. and Miah, M.A.M. (1988),** “A Study on the Relationship Between Management Practices Followed by the Goat raisers with Some of their selected Characteristics in a selected Area of Shatkhira upazila” *Bangladesh Journal of Animal Science.*19(1-2): 21-35.

**Hassan *et al.* (2007):** A comparative study on reproductive performance and productivity of the Black bengal and Crossbred goat at Atrai, Bangladesh.*Univ.j.zool.Rajshahi Univ.*Vol.26,2007. pp55-57.

**Hussain, S.S. 1999.** Sustainable genetic improvement of economic traits of Black Bengal goats through selective and cross breeding. *BAU Res. Pr-og. 10:* 72-80.

**Hussain, S.S. Horst, P and Islam,** [**A.B.M.M. 1995. Effects**](http://A.B.M.M.1995.Effects) of different factors on pre-weaning survivality of Black Bengle kids. *Small Ruminant Research* 18: 1-5.

**Islam, M.R, Asaduzzaman, M.U and Begum, N.J. 1992.** Women's Role in Livestock raising in Bangladesh. *Asian livestock.* ***XVII****(4):* 41-45.

**Jabber, M.A. 1985.** Bangladesh Poshusampad Nettio Kowshal. Bangladesh Agricultural Research Council, Dhaka and the Agricultural Development Council, New York, June. pp: 82-83.

**Kader, M.F. 2006.** Khuddra rin pradankari prathistan: Daridra bimusanay pratistanic puji. The Daily Prothom Alo, February 5.

**Lamont(1964); Skinner and Hofmeyr (1969)** Effect of feeding in kids small Ruminant Research 6: 151-157.

**L.H.Dossa *et al.* (2008):** Socioeconomic determinants of keeping goats and sheep by rural people in Southern Benin. *Agric. Hum Values* 25:pp 581-592

**Panigrahi and Mohapatra (1997):** Performance of feedlot kids on Different Dietary Regiment.*Indian Journal of Animal Science* 54.pp. 130-131

**Payne,** [**W.J.A. 2000.** *Milk*](http://W.J.A.2000.Milk) *production of goat in temperate region.* Blackwell Science, Oxford, UK. pp: 1.2-25.

**Raghavan(1988)**: Effect of Management system on the performance of Black Bengal kids Under Semi intensive condition. *Indian Journal of Animal Science* 57(8): 990-993.

**Reun,i. 1982;** Devendra 1980:Goat Production in Tropics.Common Wealth Bureau of Animal and Genetics.Edinburg Technical Communication NO 19 SAB England. Pp88-119.

**Samad *et al.*(1988):** Investigation of Milk and Meat potential of Indian goats. Final technical Report, Rajr Balwant Singh College, Bichpur, Agra, India 259.

**Shill, B.K., Chowdhury, S.A. and Hossain,** [**S.M.J. 2003.** *Chagol*](http://S.M.J.2003.Chagol) *Palon Manual:* Bangladesh Livestock Research Institute. 2nd edition; pp: 5-7; 150.

**Singh and Singh (1983):** Studies on feed conversion Efficiency of pure and crossbred Black Bengal kids. *Indian vet. Journal* 65: 505-508.

**Wilson (1996):** The Digestibility of Voluntary intake of Leaves and Shrubs by Sheep and Goat. *Australian Journal of Agriculture* 14: 470-476.

***Appendix***

**QUESTIONNAIRE ON SOCIOECONOMIC STATUS OF GOAT REARING RURAL WOMEN IN SADAR UPZILA OF FENI DISTRICT OF BANGLADESH**

1. **Farmer’s data:**
	1. Name:
	2. Address:
	3. Educational status:
2. Days of goat rearing:
3. No. of goat reared:
4. **Age and no. of different goat:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Types of goat** | **Total no.** | **BBG** | **CBG** |
| a. Doe  |  |  |  |
| b. Buck |  |  |  |
| c. Kid |  |  |  |

 **5. Family information:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl. no.** | **Name** | **Relation with farmer** | **Age** | **Educational status** | **Occupation** |
| **0-10 y** | **11-30 y** | **31-50 y** | **Above 50** | **Illiterate** | **Primary** | **Secondary** | **Higher secondary** | **Honors above** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

 **6. Family size:** Boys: ……….. Girls: …………

 **7. Assets:**

|  |  |
| --- | --- |
| **Types** | **Amount** |
| Cultivable land |  |
| House |  |
| Pond |  |
| Lease |  |
| Garden |  |

 **8. Information about rearing animals:**

 Type: No. of animal:

1. Bull
2. Cow
3. Goat
4. Sheep
5. Chicken
6. Duck

**9. Cost of goat rearing (Per goat per year):**

|  |  |
| --- | --- |
| **Items** | **Cost** |
| 1. Goat purchase
 |  |
| 1. Feed cost
 |  |
| 1. Housing cost
 |  |
| 1. Veterinary expenses
 |  |
|  |  |

**10. Return of Goat rearing (Per goat per year):**

|  |  |
| --- | --- |
| **Items:** | **Return:** |
| 1. Goats sale
 |  |
| 1. Value of milk
 |  |
|  |  |
|  |  |
|  |  |

 **11. Reproductive and Productive information about goat:**

|  |  |  |
| --- | --- | --- |
|  | **Black Bengal goat** | **Crossbred goat** |
| Age at puberty:( Day) |  |  |
| Age at first kidding: ( Day) |  |  |
| Kidding interval: (Day) |  |  |
| Post partum heat period: (Day) |  |  |
| Service per conception: (No.) |  |  |
| Litter size: (No.) |  |  |
| Gestation period: (Day) |  |  |
| Birth weight: (Kg) |  |  |
| Body weight: (kg) |  |  |
| Milk production: (lit/day) |  |  |
| Lactation period: (day) |  |  |

**12. Problem of goat rearing:**

|  |  |  |
| --- | --- | --- |
| **Nature of problems** | **Black Bengal goat** | **Crossbred goat** |
| Lack of grazing land |  |  |
| Problem of rainy season |  |  |
| Lack of improved breed |  |  |
| Inadequate veterinary services |  |  |
| Lack of feed and grass |  |  |
| Lack of credit facilities |  |  |
| Lack of extension services |  |  |
| Lack of money |  |  |

Name of the interviewee...............

Date..........

Signature.............

Name of the interviewer...........

Date: ……………

Signature ……………………