# CHAPTER-1

# INTRODUCTION

Bangladesh is a developing over-populated country of South Asia with a population of 156.6 million (World Bank, United States Census Bureau, 2013) with 84% of the total population who live in rural area depending on the agricultural sector both productive and non-productive like livestock where of the agricultural GDP, the crop sub-sector contributes 71%, forest 10%, fisheries 10% and livestock 9% (The State of Food & Agriculture, 2005). Livestock sub-sector plays a crucial role in the traditional farming and contribute in national economy. According to Bangladesh Economic Review (2006), the per annum growth rate of 7.23% in GDP (Gross Domestic product) in 2004-2005 for livestock was the highest in all sub-sectors (Uddin, 2010).Last year, the contribution of livestock sub-sector to the GDP was 2.95 percent, which was estimated about 17.32 percent GDP to agriculture(Alam et al., 2011). The livestock sub-sector is contributed 13% of total foreign exchange earnings and generated 20% of full time employment in Bangladesh (BBS, 2004).

The total livestock population in Bangladesh is estimated about 24.4 million Cattle, 34.4 million Goats, 0.83 million Buffalos and 1.14 million Sheep (DLS, 2002) where the cattle population is about 1.79% of the world and 5.47% of Asia (FAO, 2004).In 24.4 million cattle population, 7 million are dairy cows(DLS, 2013) which ranks 12th in the world and 3rd in Asian countries (Alam et al., 1994). Among the dairy cattle, 92% are indigenous and 8% are crossbred cows (BBS, 2013), yearly milk production is about 50.67 lakh metric tons (DLS, 2012-13).Though about 64% milk in Bangladesh comes from cattle (FAO, 2004), it can fulfill only 13.6% of the total requirement in Bangladesh (BLRI, 2001). The requirements of a person are 92 kg/person/year as indicated by the World Health Organization (WHO), but the milk availability currently ranges from 14–18 kg/person/year indicating the gap between supply and demand.

The numbers of dairy farms are 1.4 million with an average small herd size of 1-3 cows (Hemme, 2010) which is an integral part of the mixed farming systems in Bangladesh (Saadullah, 2001) and a predominant source of income and nutrition (Haque, 2009).Smallholder livestock owners represent 70-80% of the total milk produced in the country (Jabbar et al*.,* 2005).Though good number of small and medium sized dairy farms with the main objectives to produce milk have been develop mostly in urban and semi-urban milk pocket areas like Pabna, Sirajganj, Manikganj, Munshiganj, Faridpur, Madaripur, Kishorganj, Rangpur and kushtia district (Amin, 1994), sustainable dairy farming is not possible with traditional breeds and feeding practices owing to their less productive performance.

Most of the cattle in Bangladesh are non-descriptive and low yielding and few crossbred with Shahiwal, Red Chittagong and pabna cattle. High yielding crossbred like Jersey and Holstein-Friesian are mainly found in commercial level, but they are becoming popular in small scale house-hold farming practices now-a-days.Cross-Breeding of local cows with Australian, Shahiwal, Holstein Frieisian, Jersy etc, are often seen in rural areas (Mondal et al., 2010). Thecrossbred cows are more productive in good nutrition and proper management and therefore, progeny have been taken to improve the genetic potential as well as productivity of non-descript indigenous cow through cross breeding since 1970s (Bhuiyan, 2006). The number of crossbred cattle is increasing day by day with the spread of artificial insemination (AI) practices throughout the country. The Milk production of indigenous cattle is low compared to improved breeds of cattle. (Rahman, et al, 1998). The local cattle yields 300 to 400 Liters of milk per lactation period of 180 to 240 days whereas the crossbred yields 600 to 800 Liters of milk per lactation of period of 210 to 240 days (Islam, 1992).

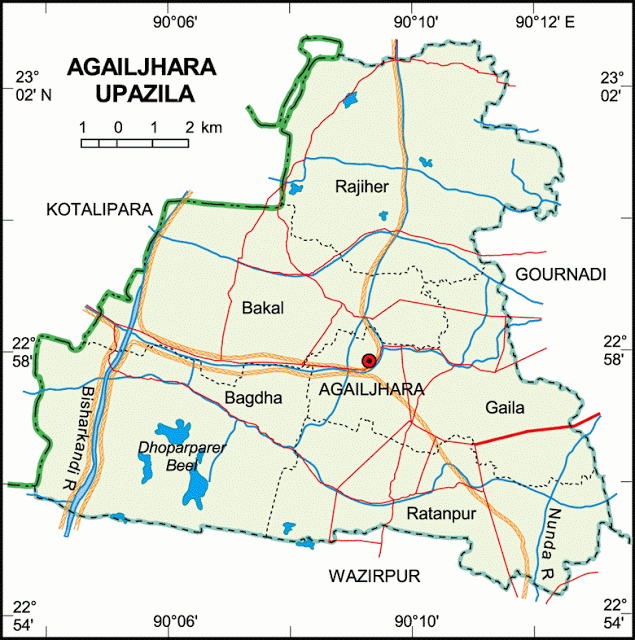
With a view to keen interest for internship report “A socio-economic study on cross breeddairy farming practices at rural household level” at some selected areas of Agailjhara Upazila at Barisal District in Bangladesh with a view to fulfillment of production report by setting the following specific objectives:

1. To describe the socio-economic profiles of the Cross-bred Dairy Enterprise owners and their families.
2. To estimate per lactation cost and return of rearing of Cross-bred Dairy in the study area.
3. To identify the problems of rearing of dairy cows and their remedial measures to overcome the problems in the study area.

# CHAPTER-2

# MATERIALS AND METHODS

## 2.1. Study area and duration

Five villages named Kathira, Jobsen, Gaila, West Sujankathi andKalurpar of Agailjhara Upazilla in Barisal district in Bangladesh were selected.The study was conducted for one and half months during the timeof 14thFebruary 2016 to 24thMarch 2016.******

**Source: Mapsofbangladesh.net**

## 2.2. Study population and sample farms:

The farmer who practices crossbred dairy farming at rural household level of some selected areas of Agailjhara Upazila at Barisal District in Bangladesh constituted the population of the study. House-hold farms having at least 1 dairy cattle were considered as the target farms of the study. In total, 73 cross-bred cows were in-depth studied under 73 farm families at the selected villages of the study areas.

## 2.3. Data collection

Randomly 73 farmers from 5 villages (17 from 3 villages, 12 and 10 from another two) of Agailjhara Upazilla having at least one cross-bred dairy cattle were selected. Data were collected by pre-tested interview of the farmers using separate questionnaires. The questionnaires included the following information of owner’s information, husbandry management, cost of rearing, profit, constrains, etc.

## 2.4. Entry of data

All the data obtained from the study areas were entered into Microsoft Excel 2007 according to the selective parameters.

## 2.5. Data analysis

The data exported to STATA-13 (Stata crop, 4905, Lakeway River, College Station, Texas 77845, USA) for statistical analysis. The results were expressed in frequency, number and percentage and *p* value. The probability level of significance was set at *p* ≤ 0.05.

# CHAPTER-3

# RESULTS AND DISCUSSIONS

## 3.1: Socio Economic Profiles of Cross-bred cattle Farmers:

### 3.1.1: Age

Members of the whole family were classified into 4 age groups of 0-15 years, 16-30 years, 31-45 years and 46 years and above. Considering all the age groups in Table-1 showed that, maximum male and female members were 16-30 years age groups and the lowest number of farm family members lies in 45 and above year’s age group.

**Table-1: Distribution and Socio Economic Profiles of cross-breed cattle farm Families:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **General Characteristics** | **Categories** | | **Number** | **Percent** |
| Age | 0-15 years | Male | 7 | 9.58 |
| Female | 7 | 9.58 |
| 16-30 years | Male | 15 | 20.55 |
| Female | 13 | 17.81 |
| 31-45 years | Male | 11 | 15.07 |
| Female | 9 | 12.33 |
| 46 and above | Male | 6 | 8.23 |
| Female | 5 | 6.85 |
| **Total** | | **73** | **100.00** |
| Literacy level of farm family members | Illiterate | | 14 | 19.18 |
| Primary | | 33 | 45.20 |
| Secondary | | 20 | 27.40 |
| Higher Secondary | | 5 | 6.85 |
| Honors and Above | | 1 | 1.37 |
| **Total** | | **73** | **100.00** |

|  |  |  |  |
| --- | --- | --- | --- |
| Number of cow in the household farm | 1-3 (Small farm) | 43 | 58.90 |
| 4-6 (Moderate farm) | 24 | 32.88 |
| 7 or more (Large farm) | 6 | 8.22 |
| **Total** | **73** | **100** |
| Occupation of farm family members | Only Cross-bred cattle farming | 25 | 34.25 |
| Cross-bred cattle farming with crop agriculture | 29 | 39.72 |
| Cross-bred cattle farming with business | 8 | 10.96 |
| Cross-bred cattle farming and service | 5 | 6.85 |
| Cross-bred cattle farming and others | 6 | 8.22 |
| **Total** | **73** | **100.00** |
| Land Ownership of Farm owners | Land less farmers (0- 0.50 acres) | 11 | 18.03 |
| Small and marginal (0.51- 1.50 acres) | 24 | 39.35 |
| Medium sized (1.51-2.5acres) | 17 | 27.87 |
| Large farmers (above 2.50 acres) | 9 | 14.75 |
| **Total** | **61** | **100.00** |
| Yearly Income Level of Farm owners | Below Tk. 50,000 | 12 | 16.44 |
| Tk. 50,001- Tk.1,00000 | 20 | 27.40 |
| Tk. 1,00001- Tk.1,50000 | 27 | 36.98 |
| Above Tk. 150,000 | 14 | 19.18 |
| **Total** | **73** | **100.00** |

**Source: Field Survey, 2016**

### 3.1.2: Literacy level of farm family members:

Table-1 also showed the literacy level of the family members of the cross-bred cattle farm owners. Literacy level were classified into Illiterate, Primary, Secondary, Higher secondary, Honors and above respectively. Maximum 45.20 percent of the farmers lie in primary level and lowest 1.37 percent of the farmers lies in Honors and above level. This indicates there is lack of knowledge and education for proper farming management practices lagging the house-hold farming behind.

**3.1.3: Number of the Dairy cow in farm:**

The number of the dairy cow for small scale farm is 1-3, 4-6 for moderate farm, 7or more for large farm in case of household farming. In this study, the highest number of farms were small scale farms (58.90 percent) whereas the lowest number of farms were large scale farm (8.22 percent).

### 3.1.4: Occupation of farm family members:

Occupation of the cross-bred cattle farm family members was classified into five categories, which was also showed in the Table-1. It was showed that, highest 39.72% farmers involved in cross-bred cattle farming with crop agriculture and lowest 6.85% farmers involved in cross-bred cattle farming and services.

### 3.1.5: Land ownership:

According to the size of land holdings, the cross-bred cattle farm owners were classified into 4 groups.Table-3 shows that highest 39.35 % of the farm owners were small farmer and the lowest 14.75 % farm owners were large farm sized.

**Graph- 1: Land ownership of farm owner**

3.1.6: Yearly income level of the farm owner:

Yearly income level of cross-bred cattle farm owner’s is shown in the Table-1. It revealed that, maximum 36.98% of the farmer’s income Tk.150, 000 and the lowest 16.44% of the farmer’s income Below TK. 50,000.

**Graph- 2: Yearly income of farm owner**

## 3.2: Productive, Reproductive and Management Performance of Cross- bred Cows:

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The chance of milk production of age of first calving (>36 m) was 4.58 times higher than that age of first calving (≤ 36 m).The probability of milk production (> 2 liters) of lactation period (>8 m) was 20.65 times higher than that lactation period of (≤ 8 m).

The bar diagram shows the frequency percent distribution of each variable where 36(34.3%) and 34(32.4%) cows where in third and second parities respectively. The maximum frequency of milking daily once was found 87(82.9%), and 29(27.6%) owner collect milk by Gowala and remaining 76 (72.4%) by himself. The proportion of vitamin used during lactation period was only 29(27.6%). It was observed that 98(93.3%) owner used regular anthelmentics whereas anthrax and FMD vaccine were used 20(19%) and 23(21.9%) respectively and the remaining 62(59%) was not use vaccine.

**3.3: Assessing of Cost rearing of Cross-bred Dairy Cow:**

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The purpose of this section is to assess per cow per lactation costs, returns and profitability of cross-bred cows under rural conditions. The items of costs are included in this study were feeds, labour, veterinary, housing, capital invested and operating capital, The total costs per cow per lactation were classified into cash and non-cash costs. Cash costs were those cost which the dairy cow owners had to pay out of their pocket to acquire the inputs. On the other hand, non-cash costs were estimated for home supplied feeds, family labour, interests on the value of a dairy cows, interest on housing value, interest on operating capital and depreciations of hosing cots etc. On the returns side, gross returns, net returns above total costs and net returns above cash costs were determined and analyzed in this study.

**3.3.1: Per Cow per lactation rearing Costs:**

The costs per cow per year under rural semi-commercial dairying are presented in table-2. The total costs per cow per year were estimated at Tk.65525.00. It was found that the cash expenses shared the major part of the total costs and accounted for Tk. 45750.00 and shared in respective total cost are 70 percent. The non-cash expenses per lactation year per cow stood at Tk. 19875.00 which is accounted for 30.00 percent of the total costs. The item wise costs of rearing per dairy cows per year were estimated and analyzed as below:

**3.3.2: Feed Cost of Rearing per Dairy Cow:**

Feed Cost was one of the major cost item of rearing dairy cows, costs of feed included expenses on paddy straw, green grasses, concentrates salt etc. The purchased feeds were valued according to the supplied feeds were actually paid by the dairy farm owners. Home and own farm supplied feeds were also charged according to the average prices prevailing in the market. Feed cost covered Tk.40,000.00 which was accounted for 61.00 percent of the total cost per cow per lactation year (Table-2). The differences in the cash expenses on feeds were found moreover same for all the study villages. The cash expenses for concentrate feed per cow per lactation per year were found approximately Tk.30000.00. On the other hand, the non-cash costs for feed items per lactation per cow were accounted for about Tk.10000.00 which accounted for 25 percent of the total feed costs (tables–2) which was assessed almost same all the study areas. Among the various feed items, paddy straw, green grasses and concentrates including salts were the most important cost items. It was accounted per cow per year were attributed to paddy straw 10.00 percent, green grasses 27.51 percent and 73.49 percent to concentrates to the total feed costs.

**Table-2: Per cow per lactation per year rearing costs of cross–bred Dairy Cow at rural**

**areas**.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Particulars of items** | **Non cash** | **Cash** | **Total** | **% in Total Costs** |
| **1. Feed Costs:** |  |  |  |  |
| * Paddy Straw | 3500.00 | 2250.00 | 5500.00 | 8.38 |
| * Green Grass | 4500.00 | 1200.00 | 9500.00 | 14.48 |
| * Concentrates feeds including salt & premixes. | 2000.00 | 23000.00 | 25000.00 | 38.10 |
| **Sub-total (A)** | **10,000.00** | **30,000.00** | **40000.00** | 60.95 |
| 2. Labour | 6050.00 | 8500.00 | 14550.00 | 22.17 |
| 3. Cost of Housing | 2175.00 | 0 | 2175.005 | 3.31 |
| 4. Veterinary care and  Treatment | - | 3000.00 | 3000.00 | 4.57 |
| 1. Interest on Ave. value of dairy cows | 2500.00 | ­0 | 2500.00 | 3.81 |
| 1. Interest on operating cost | - | 2850.00 | 2850.00 | 4.34 |
| 1. Artificial   insemination  charges | - | 400.00 | 400.00 | 0.61 |
| 1. Others (Rent, Tax etc.) | **150.00** | **0** | **150.00** | 0.23 |
| **All** | **19,875.00** | **45,750.00** | **65,525.00** | **100.00** |

**Source: Field Survey, 2016**

**3.3.3.** **Labour Cost** **of Rearing Dairy Cows**

In order of importance, the labour cost came next to feed cost in Tables -2. It showed that the total labour costs per lactation year per cow were estimated at Tk. 14550.00 and which shared in respective total to total cost were found 22.17 percent for cross-rural dairy cow. The labour required for providing services for housing, grazing, feeding and management of cows of farm’s cows.

**3.3.4: Veterinary charges** of **Rearing Dairy Cows**

The costs of veterinary charges were calculated by taking into account the actual cost, incurred by the farm owners for a milch cow per lactation year. Doctor’s fees and medicines were the two major components of the total veterinary charges. The total veterinary charges per lactation per cow was amounted to be about Tk. 3000.00 which is covered about 4.57 percent of the total costs per lactation year per cow at study areas (table-2)

**3.3.5: Housing Cost of Rearing Dairy Cows:**

The costs of housing were calculated by taking into account the depreciation cost, repairing costs and interest on the average value of housing shed. Depreciation cost was measured by dividing the original value of housing by its total probable length of life (present age plus remaining life) of house. Interest rate was assumed to be 12.50 percent per annum. The amount of housing cost per cow per lactation year per cow stood at nearly Tk. 2175.00 and the housing costs covered about 3.31 percent of the total costs per location year per cow.

**3.3.6: Interest on average value of Dairy Cows and operating Costs:**

The costs of average value of dairy cows included in the present study were the interest on the average value of dairy cows and the interest on the operating capital. The interest on average value of cow was calculated by the following formula: Interest **= (begin value + end value) × rate of interest/2.** The average cost of dairy capital for Tk. 2500.00 and the interest on operating capital was computed by the following formula: **Interest = Operating Cost × rate of interest /2.** The average costs of operation capital per year per cow were estimated Tk. 2850.00 for cross-bred rural dairy cow per lactation which was estimated about 3.81 and 4.34 percent, respectively.

**3.3.7: Artificial Insemination charge of Rearing Dairy Cows:**

Most of the commercial dairy farms used Artificial Insemination techniques for conception of their reared dairy cows through high quality frozen semen from improved bull given by DLS or BRAC A.I. technicians. Some on gave the services for conception of cows naturally by their own bulls. The average artificial insemination cost per cow was found Tk.400.00. Thus, the above estimated results indicated that, the total costs per cow per lactation year was found higher in case of small and large dairy farms and lower for medium scale commercial dairy farms.

**3.4: Returns of Cross-bred dairy farming:**

The purpose of this section is to determine the gross and net returns of small scale dairy Farming system at the study areas. The returns from dairy cows consisted of selling of milk and milk products, value of consumed milk and milk products, average value of produced calf of cow, selling of cow dung, value used cow dung as fuel and manure of fodder land, selling others materials bags etc.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table-3: Per cow per year Returns of Rearing Small Scale Dairy Enterprises under**  **Different categories of dairy farms.**   |  |  | | --- | --- | | **Particulars of return item** | **Amount in Taka and Percent in TR** | | 1. Average income from direct selling of milk and milk products | 67500.00 (69.08) | | 1. Value of consumed milk and milk products | 10500.00 (10.75) | | 1. Ave. Value of calves of cows | 18500.00 (18.93) | | 1. Income from selling of dairy cow dung | 510.00 (0.52) | | 1. Value of used cow dung as fuel and fodder land | 550.00 (0.56) | | 1. Selling others materials (Bags, salvage materials etc.) | 150.00 (0.15) | | 1. Gross Return(in BDT) | **97710.00** | | 1. Gross Margin per cow per Year (in BDT) | **51960.00** | | 1. Net Return per cow per Year (in BDT) | **32085.00** | | 1. BCR over TC (un-discounted) | **1.49:1** |   **Source: Field Survey, 2016** |

The average sale proceeds of milk were calculated on the basis of the average lactation period, average quantity of milk produced per day per cow and the average price received by farm owners per litre of milk directly and value of consumed milk. It was assumed that the calves of dairy cows were sold out just after lactation period. The value of calf was estimated on the basis of the respondent’s expectation. The average values of cow dung and selling other material per cow are calculated by taking respondent’s opinion on this type of income as lump sum basis.Table-3 showed that, the gross return per lactation year per cow stood at Tk. **97710.00**. The average returns from direct selling of milk and milk products per cow per lactation year were found Tk. 67,500.00 and consumed milk opportunity costs Tk. 10500.00 which was accounted for 69.08 and 10.75 percent respectively. The average returns of produced calf were found Tk.18500.00 which was accounted for 18.93 percent. The other returns of selling of cow dung and selling others materials like as bags etc. were found Tk. 550.00 which was accounted for about 0.56 percent. The Gross margin per cow per lactation year over cash were estimated at Tk. **51960.00** and net return over total costs were also estimated in Tk. **32085.00**. The overall Benefit Cost Ratio (BCR) were accounted for **1.49:1** which indicates cross- bred dairying is a profitable farm business in the study areas at Barisal District in Bangladesh.

**Graphs of profitability Cross-bred rural dairying system**

## 3.5: Reasons for preference of rearing Cross-bred Dairye farming practices:

The Cross-bred Cattleare one of the improved and promising varieties of domestic animal and full of genetic resource found in every district of Bangladesh. It is very nice looking variety of cattle and good yielder. Cross-bred cow produce milk and beef of high quality. The farmers in the study area have been rearing Cross-bred cattle since many years. Data in the table-4 showed that the highest (95%) farmers preferring of rearing Cross-bred cattle for high fat percentage of milk. The next important reasons for preferring Cross-bred cattle are calving every year, high milk price, looking very nice, high adoptability in environment, low death of calf, high market price of cattle and less disease incidence.

**Table-4: Reasons for Preference of Rearing Cross-bred CattleFarming Practices.**

|  |  |  |
| --- | --- | --- |
| **Particulars of Preference** | **Number of farmers responds (N=73)** | **Percent**  **(%)** |
| Higher milk production | 71 | 97.26 |
| High lactation period | 70 | 95.89 |
| Calving every year | 68 | 93.15 |
| High conception rate | 65 | 89.04 |
| High Market Price of Cattle | 67 | 91.78 |
| High Milk Price | 63 | 86.30 |
| Cost saving farming | 63 | 86.30 |
| Low death rate of calf | 62 | 84.93 |
| Delicious of Milk | 65 | 89.04 |
| External appearance | 68 | 93.15 |

**Source: Field Survey, 2016**

## 3.6 Disease Incidence of Cross-bred cattle:

Cross-bred Cattle get affected some diseases like FMD, BQ, Foot Rot, Brucellosis, HS, Mastitis and different parasitic infestation. The incidence of the diseases are usually higher in cross-bred cows in comparison to indigenous cows. But proper vaccination and management practices can easily solve this problem.

# CHAPTER-4

# PROBLEMS RELATED TO REARING DAIRY COWS

There are a lot of challenges that have to be faced during farming specially in house-hold farming. The purposes of this section of the study is to identify the problems of raising dairy cows in the selected areas of Barisal district and to make suggestion with a view to solving these problems for expanding rearing of dairy cow to alleviation of poverty under back yard, semi-commercial and commercial farming system in Bangladesh. The problems are as follows-

* **Less resistance to diseases:** This is a serious problem of household rearing of cross-bred dairy cattle as they are prone to many diseases compared to indigenous cattle and a good hygienic and management practice is required for a successful farming with cross-bred.
* **High prices of feed**: This is the most important problem of rearing dairy cows. About 100% farm owners complained about this problem.
* **Scarcity of quality feeds and fodder**: It is also an important constraint of rearing dairy cows. This problem faced about 60% of the farm owners.
* **Low prices of milk:** The prices of milk in the study areas were low. The average price of milk per liter in the study areas was estimated at taka 46-50, which was lower than the prices prevailed in many other areas of Bangladesh.
* **Inadequate veterinary care and service**: It was the important problem of rising rearing dairy cows in the study area. About 40% of the farm owners mention this problem.
* **Distance of AI centre**: AI is one of the most important methods used for the improvement of breeds. It was found that 45% of dairy farm owners faced the problems of distance of AI centre.
* **Lack of credit**: It is one of the important constraints for improvement of dairy enterprises. About 70% farm owners could not developed their dairy farm due to the lack of credit.
* **Lack of technology**: This is also an important point for development of dairy farming in house-hold level as most of the farmers are illiterate. If proper technological knowledge spread among farmer the farming system will developed rapidly. About 60% farmer faced this problem.

# CHAPTER- 5

# CONCLUSION

From this study it may be concluded that The average gross margin, net returns and BCR per cow per lactation period was found at 51960.00; 32085.00 and 1.49:1. The study also revealed that, the rural farmers prefer Cross-bred cattle farming than other local breeds due to high conception rate, each year calving, disease resistance, high milk fat percent, low calf mortality, calf mortality, high demand of beef, looking very nice cost and cost effective farming etc.. We can say that the cross-bred dairy farming is to be expanded as a profitable farm business and as a sustainable self employment creative sector both GO’s and NGO’s to extend their livestock extension services at Barisal district in Bangladesh.

# CHAPTER- 6

# RECOMMENDATIONS

Some important recommendations were suggested for making CROSS-BRED dairy rearing enterprises at farmer’s level specially eastern part of Bangladesh are mentioned as under:

* The Directorate of Livestock Services should expand their veterinary services and other facilities. Veterinary treatment facilities should be extended up to union level and more veterinarians should be placed in this Upazilla.
* The shortage of feeds and fodder may partially overcome by introducing high yielding variety fodder cultivation. The government and non-government organizations should play a vital role in disseminating HYV fodder cultivation.
* The price of milk should increase and legal payment system should be established by estimating milk fat percentage in the root level.
* The training programmed concerning livestock management, health care and sanitation, artificial insemination and marketing techniques etc. should be initiated by the Directorate of Livestock Services in collaboration with the non-government organizations.
* The government should extend credit facilities to the farm owners at the low interest rate.

# CHAPTER- 7

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# CHAPTER- 8

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***The Author,***

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# BIOGRAPHY

The author is now an intern student of DVM (Doctor of Veterinary Medicine) faculty of Chittagong Veterinary and Animal Sciences University. She passed the Secondary School Certificate Examination in 2007 from Barisal Board followed by Higher Secondary Certificate in 2009 from Dhaka Board. She got admitted to Chittagong Veterinary and Animal Sciences University in the session of 2010-2011. As a Veterinarian, she wants to serve her nation as well as the world. She has great interest in research and wants to choose her carrier in this field. She finds her interest in working for the rights of animals and conservation of wildlife.

E

# Appendix-1

**Questionnaire for data collection**

1. a. Name of the farm............................................. b. Name of the owner.................................

c. Father’s name................................................... d. Address: .....................…………………

**2. Husbandry Practices:**

A. Housing: a. Open house b. Stanchion Burn (Face-in) c. Stanchion Burn (Face-out)

B. Feeding:

* Collection of feed...........................................
* Storage of feed …..........................................
* Types of feed...................................................
* How many times feed supplied daily.............

C. Watering:

* Source of water: a. Deep tube well b. Pond
* System of water storage: a. Water tank b. Water house
* Frequency of water supply: a. Adlibitum b. Insufficient

D. Feed materials........................................ E. Anthelmentics..........................................

F. Vaccination: a. Yes , b. NoG. Bio-security...............................................

H. AI source……………………………...

3. Number of sheds:

4. Drainage facility: a. sufficient b. insufficient.

5. Have electric fan? a. Yes b .No

6. Most common diseases prevalence in the farm:

7. Management of disease condition:

a. Self management b. Quack c. Veterinary doctor

8. Feature of Veterinary doctor calling:

a. Actively b. occasional c. In critical situation d. Not at all.

9. The farm is profitable or not......................................................

10. Main constraints……………………………………………...

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

Date.......... Date: ……………

Signature............. Signature ……………………