**ABSTRACT**

The study was designed to investigate the socioeconomic characteristics of dairy farm owners and to assess the farm profitability of house hold dairying practices at some selected areas in Fatikchari upazila under Chittagong District. The focus of the present study was to quantify the cost, returns and net profitability per cow per lactation yield. The study was conducted in Chittagong district. In total, 30 farm families were randomly selected and determined per cow per year costs, returns and profitability of dairying practices. Primary data were collected from the selected farmers by interview method. Tabular and functional analyses were done to achieve the specific objectives. The study revealed that the selected farmers were relatively in age group of 30-40 years mostly with primary educated and occupied in agriculture. The rice bran as feed, labour and veterinary expenses significantly contributed in cattle rearing and the increasing returns to scale were observed. The per day total cost of raising a local dairy cow was estimated at Tk. 139.15. Feed cost was the largest single cost item of raising dairy cows. Feed cost constituted about 41.72 percent of total costs for dairy cows. Though the labour cost percent is 50.31 bt it is supplied by family, so after labour cost feed cost is the main cost. The average milk yield per day per cow was found 2.25 litres. The total returns per day were estimated at Tk 153 for a dairy cow. The value of milk production represented 97.72 percent of total returns. The respective net returns over variable cost per day were estimated at Tk 95.45. Per day Undiscounted BCR for dairy cow in the study area was found 2.64 over cash cost and 1.10 over total cost. The study also identified some problems and major constraints as reported by farmers which were: scarcity of feed and fodder, inadequate veterinary services, lack of extension services, lack of pure improved breed and artificial insemination, distant of artificial insemination center, lack of suitable marketing facilities, complex terms and condition for institutional credit. Finally, based on the findings of the study, some policy recommendations were made for the development of rural household cross-bred dairying practices sustainable and profitable in Bangladesh.

**CHAPTER-1**

**INTRODUCTION**

**1.1 : INTRODUCTION**

Bangladesh is a densely populated developing country and its economy mostly depends on agriculture. Agriculture contributes about 18.70 percent in Gross Domestic Product (GDP) (Economic Review 2014). About 47.33% of total human power of Bangladesh relates in agriculture (Economic Review 2014). Livestock is the prominent sector of agriculture and the contribution of this sector in GDP is 3.49% (Economic Review 2014). In Bangladesh cattle are reared by the rural households’ not on truly commercial basis but as a component of the mixed farming.

Cattle are the large domesticated bovine having a compound stomach, divided hoof which are raised for meat, milk, hides or for draft purpose.e.g ( cows, bulls or steer that are kept on a farm or ranch for meat or milk). Depending on the breed their weight varies. About 277 breeds are identified. Among these the beef and dairy breeds are more prominent. Beef cattle include-Angus, Hereford, Shorthorn and dairy cattle include- Jersey, holstein Frisian, Sindhi, Shahiwal, Red Chittagong etc. Cattle feed primarily by grazing on pasture but in modern farming their diet is ordinarily supplemented with prepared animal feeds.

Surprisingly, Bangladesh has one of the highest cattle densities: 145 large ruminants/km2 compared with 90 for India, 30 for Ethiopia, and 20 for Brazil. But most of them trace their origin to a poor genetic base. The average weight of local cattle ranges from 125 to 150 kg for cows and from 200 to 250 kg for bulls that falls 25-35% short of the average weight of all-purpose cattle in India. Milk yields are extremely low: 200-250 litre during a 10-month lactation period in contrast to 800 litre for Pakistan, 500 litre for India, and 700 litre for all Asia. Despite highest cattle densities in Bangladesh, the current production of milk, meat and eggs are inadequate to meet the current requirement and the deficits are 85.9, 77.4 and 73.1% respectively.Table1.1 shows number of cattle from 2006 to 2011 and Table 1.2 shows production of milk and meat from 2006 to 2011.

If 5% GDP growth rate is considered then the current production of these commodities need to be increase 2.5 to 3.0 times by the year 2020 to feed the growing population in the country. This illustrates how urgent is the need to increase the production of milk and meat.

Table-1: Number of cattle in different year.

|  |  |
| --- | --- |
| Year | No. of Cattle(in lakh) |
| 2006 | 228.7 |
| 2007 | 228.7 |
| 2008 | 229.0 |
| 2009 | 229.76 |
| 2010 | 230.31 |
| 2011 | 231.21 |

 Source: BBS, (2011).

Table 2: Production of milk and meat in different year.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Production | Unit | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Milk | Million tons | 2.27 | 2.28 | 2.65 | 2.29 | 2.37 | 2.95 |
| Meat | Million tons | 1.13 | 1.04 | 1.04 | 1.08 | 1.26 | 1.99 |

 Source: BBS,(2011).

**1.2: Importance of Household Cattle Rearing to the Economy of Bangladesh**

Despite steady progress towards industrialization, agriculture remains the most Important sector in Bangladesh. About 18.70% of Gross Domestic Product (GDP) of the country comes from agriculture sector. Besides, it has indirect contribution to the overall growth of GDP. Many sectors included in broad service sector such as wholesale and retail trade, hotel and restaurants, transport and communication are strongly supported by the agriculture sector. This sector also provides employment for around 47.50% of the total labour force and seems to have managed to feed around 15.36 million people of the country. The development of agriculture sector is very much urgent for poverty reduction, food security and sustainable development of our country. The PRSP (Poverty Reduction Strategy Paper) stresses the importance of the livestock sub- sector in sustaining the acceleration of poverty reduction in the country. The dynamic potential of this emerging sub-sector thus requires critical policy attention. In the past, due importance was not given to the development of the livestock sub-sector despite its significant contribution to the national economy. In the Financial Year 2006-07 the livestock sub-sector received only about 1.0 percent of the total budget allocation, or only about 3.5 percent of the agricultural sector budget. Though production of animal protein has maintained an upward trend, per capita availability of animal protein presently stands at around 21 gm meat/day, 43 ml milk/day and 41 eggs/year vis-a-vis the recommended intakes of 120 gm meat/day, 250 ml milk/day and 104 eggs/year. Shortage of quality inputs, inadequate services and physical infrastructure, institutional weaknesses in terms of weak regulatory framework and enforcement, limited skilled manpower and resources, and inadequate research and technological advancement are all continuing to act as constraints to livestock development. The opportunity for development of large-scale dairy is limited in Bangladesh due to scarcity of land. However, the potential for development of household cattle rearing is high. Over the last few years, small- scale dairy farming has increased significantly with the support of credit, feed, veterinary services and provision of self-insurance systems.

Household cattle’s rearing provides employment for the poorer segments of the population. The availability of this form of traditional self-employment to rural dwellers, particularly women, is important where there is scarcity of alternative income generating opportunities. Household cattle rearing thus widen the scope for the poor with limited access to land to enhance their income. Dairy animals can play a crucial role in household food security, through improved income and nutrition of the low-income groups. Around 3.5 million cattle are slaughtered annually in the country of which 40 percent are imported through cross-border trade. Around 15 million goats are slaughtered annually mostly of local origin. Of the total slaughter of cattle and goats, around 40 percent is performed during Eid-ul-Azha. Increased demand for quality meat, beef production has become an important income generating activity for small farmers, and a potentially important tool for reducing poverty. Beef production is considered to have high income generating potential, but faces constraints such as lack of appropriate breeds, knowledge gaps of farmers, lack of proper veterinary services and quality feeds. Besides, the cattle dung as fuel is equivalent to about 20.0 percent of all energy supplied through the traditional systems and it adds another 10.0 percent of the total soil nutrition supply for agriculture (DLS, 1998). Haque (1991) estimated that animal dung supplied soil nutrition and 6.7 million tonnes of dried dung are use as fuel that is equivalent to 250 thousand tonnes of chemical fertilizer and which is Tk. 45 to 65 million in terms of firewood.

**1.3: Shares of Livestock in GDP**

The dairy cows play a significant role in maintaining a strong agricultural economy of Bangladesh. It can play a leading role to reduce malnutrition of the country’s people, mostly the children. Livestock sector also play a crucial role in GDP. Table 3 shows the contribution of agricultural and its sub-sector to GDP.

Livestock sub sector generates a significant amount of foreign exchange through the export of hides and skins, leather products, bones, horns, hooves, meat, edible offal and live animals among different export items of livestock origin. Cattle and goats are the major skin and hide producing species followed by buffalo and sheep. Leather and leather products have the most important position in the total export earnings of the country. Hides and skins are mainly used as raw materials in different industries. The domestic supplies and the imported and smuggled hides and skins are the main sources of raw materials of leather and leather products. Bangladesh export livestock products and earns considerable amount of foreign exchange which is showed in Table 3.

**Table 3: Leather and leather manufacturing export earnings.**

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Total Export ($ Million) | Export of leather ($Million) | % of TotalExport |
| 2009 | 15565 | 177 | 1.14 |
| 2010 | 16597 | 226 | 1.36 |
| 2011 | 22928 | 298 | 1.30 |
| 2012 | 24288 | 330 | 1.36 |

 Source: Economic Review 2014

1.4 Justification of the Study:

Bangladesh is an agricultural country in which livestock playing a crucial role in the traditional subsistence economy of the country. Although this sectors nominal share of Gross Domestic Products (GDP) is estimated at 3.49% , the indirect contributions through draught, fuel and fertilizer are even larger. Though Bangladesh has one of the highest cattle densities, the cattle are poor in health, small in size and consequently less productive in terms of output. Everywhere in the world cattle rearing is a year round profitable business. A farmer by rearing five high yielding milk cattle could earn more than what he could earn by cultivating 5 acres of land. (Mannan, et al. 1992). Improved livestock rearing through appropriate planning and effective management is expected to solve the problem of unemployment and improve the living condition of the majority of our rural people.

The present study will generate baseline information on socio-demographic profiles of cattle reares, general features of cattle rearing, level of input use and its pricing, costs and returns, and the socioeconomic factors affecting the productivity of household cattle rearing in Bangladesh. In this regard, a few hard data are available for making any meaningful plan and suggestion, and taking appropriate measures for the overall development of cattle rearing. No comprehensive economic study of this type was conducted previously in this area. A study on household cattle rearing is therefore, urgently needed to acquire the relevant information on the profitability of household cattle rearing practices of Bangladesh which may help device effective national planning for the development of this sector.

**1.5: Objectives of the Study**

The main objectives of this research are to assess the economics of household cattle rearing and to assess the impact of cattle rearing on income of the rural poor. The specific objectives of the study are:

* To describe the major socio-economic characteristics of dairy farm family owners.
* To estimate and computation of costs, returns and per cow per year profitability of rural dairying practices.
* To identify problems of rearing rural dairy farming practices with remedial suggestive measures for policy guidelines/recommendation to make it sustainable.

 **CHAPTER-2**

**METHODS AND METHODOLOGY**

**2.1 Introduction**

A farm management research needs reliable data from individual farmers to fulfill the objectives and the researcher has to follow a systematic course of actions, which is termed as methodology. There have various methods of collecting data for farm management research. Selection of a particular method depends on many considerations such as, the nature of the research problems, provision of research funds, etc. The survey method was used in the present study because it was thought to have some advantage over other methods. The following steps were followed in conducting the present study.

**2.2 Selection of Study Area:**

According to Yang (1965) "The area in which a farm business survey is to be carried out depends on the particular purpose of the survey and the possible co- operation from the farmers". Chittagong district was selected purposively as the study area.

The reasons for selecting these areas for the present study are given below:

 i. Availability of household cattle;

 ii. The area was well communicated which helped involvement and data collection

 easier for the researcher;

iii. It was expected that co-operation from the farmers in this area would be high so that reliable data could be obtained.

**2.3 Sampling technique:**

It was not possible to make a survey covering all the farms. It is sometimes not wise to include too many farms in a survey because it needs additional time, effort and expenditure to complete the survey, According to Yang (1965) a sample of representative farms should be chosen in such a way that the information from it can meet the purpose of the survey. From each of the purposively selected areas a list of farmers who raised at least one cattle during the study period was prepared. Selction of the respondents was made randomly from the list. A 30 sample farmers were selected for the study.

**2.4: Period of Data Collection:**

Data were collected by the researcher herself during the month of January to March 2015. During the period of data collection the researcher stayed at the village, so that the cattle owners could give information at the time of their own conveniences.

**2.5 Preparation of the Survey Schedule:**

Preparation of survey schedule is of crucial importance in any survey. The first step in this direction was the development of a good questionnaire with questions suitably arranged and worded. Questionnaire or survey schedule was to be designed that the objectives of the study research are met. A survey schedule was prepared to record the desired information from the cattle owners. Before preparing the final schedule a draft schedule was developed. The draft schedule then pretested in the study area and then it was rearranged and modified. The schedule was developed in a simple manner to avoid misunderstanding and to get accurate answer in the questionnaire; items and questions were listed and grouped in logical sequence to facilitate the farmers’ recollections of the required facts. The schedule contained the following key items of information:

* Socioeconomic characteristics of the rural dairy farm owners.
* Estimation per cow per day costs, returns and net farm profitability.
* Identifying rural dairy farming problems and suggestive remedial measures for improvement of rural dairying practices.

**2.6. Methods of Data Collection:**

Data were collected from the selected farmers by face to face interview, with `a set of interview schedules designed for this study. Before actual interview, a brief introduction regarding the nature and purpose of the study was made to sample farmers. When they were convinced about the purpose of the study that was simply an academic exercise, they tried to co-operate with the researches. Question was asked systematically and explanation was made whenever it was necessary.

**2.7: Processing of Data**

After collection of data, they were classified, edited and coded for analysis. These data were verified to eliminate possible errors and inconsistencies. All the collected data were summarized and scrutinized carefully. It might be observed here that data were collected initially in local units and after checking the collected data, they were converted into standard international units. Finally relevant tables were prepared in accordance with the set objectives of the study.

**2.8 Analytical Technique:**

The tabular and normal statistical analytical tools are used for analysis of data. Tabular technique is the technique that is commonly followed to find out the crude association between variables. In this study tabular technique was followed to illustrate the whole picture of analysis The sum, mean, gross return, net return etc., were calculated by using the simple statistical measures to know milk production of dairy cows.

CHAPTER-3

**RESULTS AND DISCUSSION**

The socioeconomic characteristics of the sample farmers are discussed in this section. Decision making, enterprise combination, consumption pattern and employment status of different farm households would be influenced by their various characteristics. For this reason, to examine the socioeconomic characteristics of selected dairy farmers, various information relating to age, family size, level of education and occupation; have been taken into account in this study.

**3.1. Age of the Farmers**

The age groups of the farm family members were classified into five categories in this study. These were: (i) Below 30 year (ii) 30.01-40.00 years; (iii) Above 40 year.

Table 4 indicates that the highest number of cattle rearers 50.00 percent belonged to the age group of 30.01-40.00 years. About 16.0 percent of the cattle rearers were in the age group of below 30 years; 34.0 percent were in above 40.0 years.

**Table-4: Age Distribution of the Sample Farmers.**

|  |  |
| --- | --- |
| Age group(years) | Dairy farm owners |
| No. | Percent of total |
| ≥30 Years | 5 | 16.00 |
| Lies between 30 to 40 Years | 15 | 50.00 |
| 40 Years ≤ | 10 | 34.00 |
| ALL | 30 | 100 |

**4.2 Literacy Level of the Farmer**

Literacy has an important impact on decision making processes of agricultural production. It helps a person to make right decision regarding his farm business and to obtain new information of various production processes. It makes a man more capable to manage scare resources and hence to earn maximum profit.It is evident from Table 5 that 12.0 percent of the selected dairy farmers were illiterate. This implies that the majority of the cattle rears were literate. Educational status of selected cattle rearers are also shown in Table 5 respectively.

**Table 5: Literacy levels of the Sample Farmers**

|  |  |
| --- | --- |
| Literacy level | Sample Farmers |
| No. | Percent |
| Illiterate | 4 | 12.00 |
| Primary | 14 | 46.00 |
| Secondary | 5 | 16.00 |
| Higher secondary | 6 | 22.00 |
| Above | 1 | 4.00 |
| Total | 30 | 100 |

**3.3. Occupational Status of the Farmers**

The work in which a man engaged throughout the year is known as his main occupation of that person. In the study area agriculture was the main occupation of 30.00 percent of total farm owners in Table 6. Along with crop production the selected farmers were engaged in cattle farming. In contrast business, agriculure and service was the main occupation of 37.0, 47.00 and 16.00 percent of the sample farmers respectively, which is shown in table 6.

**Table -6: Occupational Status of the Farmers**

|  |  |
| --- | --- |
| Occupation |  Farmers |
| No | Percent |
| Dairy+ business | 11 | 37 |
| Dairy+service | 5 | 16 |
| Dairy+agricultue | 14 | 47 |
| Total | 30 | 100 |

**3.4. Land Distribution of Sample Farmers**

In this study, the land holding of the sample farmers was defined as the sum total of all types of land possessed by the farmers and having legal right on it. Land distribution of sample farmers is presented in Table -7. It is evident from the results presented in Table 7 that the average land holdings of the sample farm were 1.67 acre of which crops accounted for 1.53 acre ;0.01 acre occupied by ponds; 0.06 acre by homestead; and 0.07 acre by garden. It implies that most of the sample farmers were small farmers.

 **Table -7: Land Ownership Patterns of the Farmers**

|  |  |  |
| --- | --- | --- |
| Land type | Average size of land(acre) | Percent of total |
| Homestead area | 0.06 | 3.59% |
| Cropland | 1.53 | 91.61% |
| Garden | 0.07 | 4.19% |
| Area under pond | 0.01 | 0.3% |
| Total | 1.67 | 100% |

**3.5. Cost of Rearing Rural Dairying:**

Table -8 showed the total costs per cow. The total cost per cow per day was accounted for Tk. 139. The item was costs estimates were found as follows:

**3.5.1: Feed cost**

Feed cost was one of the major cost items of cattle rearing. An attempt was made to accounted for the feed cost for the cattle in the research. Cost of feed included expenses on paddy straw, green grass, oilcake, bran (rice, wheat and pulse) and salt etc.

Feed costs shared 41.72 percent of the total cost for cattle rearing. The total feed cost per day per cow was estimated at Tk 58.05 (Table 8). Among various feed items paddy straw green grass, oilcake and rice bran were the most important. For cattle the shares were 10.78, 12.58, 6.29, 10.78, and 1.29 percent for paddy straw, green grass, oilcake, rice bran and salt (Table -8).

**3.5.2: Labour cost**

Labour cost is an important cost in dairy raising and it has implication on income and employment generation. In order of importance, the labour cost came next to feed cost. It appeared from that total labour costs per day were estimated at Tk 70 for a cow and their respective share of total cost was 50.71 percent (Table 8).

**3.5.3: Housing cost**

In the study area, there were straw made and tin shade houses for dairy cows. The cost of housing was calculated by taking into account the deprecation cost, repairing cost and interest on the average value of housing shed and on repairs, respectively. Depreciation was measured by dividing the original value of the house during the time of construction by its total life in years. Interest rate was assumed to be 12 percent per annum. The housing cost comprised about 1.85 percent of total cost amounting to Tk 1.45 per cow per day (Table-8).

**Table-8: Cost and Return of Raising a Cross Breed Dairy Cow per Day at Household level.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particular** | **Unit** | **Quantity** | **Price/unit****Tk** | **Total** **Tk/cow/day** | **Percentage of total** |
| **Costs of Rearing Dairy Cows:** |
| Feed cost: |  | 58.05 | 41.72 |
| Paddy straw | Kg | 2.0 | 7.50 | 15.00 | 10.78 |
| Green grass | Kg | 5.0 | 3.50 | 17.50 | 12.58 |
| Oil cake | Kg | 0.250 | 35.00 | 8.75 | 6.29 |
| Rice bran | Kg | 0.500 | 30.00 | 15.00 | 10.78 |
| Salt | Kg | 0.10 | 18.0 | 1.80 | 1.29 |
| Labour cost  (Family Supplied) | man/day | 0.25 | 280.00 | 70.00 | 50.31 |
| Housing cost | LS | LS | LS | 1.45 | 1.04 |
| Veterinary cost | LS | LS | LS | 0.86 | 0.62 |
| Capital cost(IOC) | LS | LS | LS | 7.39 | 5.31 |
| Misc. Cost | LS | LS | LS | 1.40 | 1.01 |
| Total cost | 139.15 | 100 |
| **Returns of Rearing Dairy Cows:** |
| Milk Selling  | Liter | 3.0 | 50 | 150.00 | 97.72 |
| Cow dung | Kg | LS | LS | 3.50 | 2.28 |
| Total Return | Tk. | - | - | 153.50 | 100.00 |
| Return over variable cost | Tk. | - | - | 95.45 | - |
| Net Return over Full Cost | Tk. | - | - | 14.35 | - |
| BCR over variable cost **(un-discounted)** | Tk. | - | - | 2.64:1 | - |
| BCR over Full Cost**(un-discounted)** | - | - | - | 1.10: 1 | - |
|  |  |  |  |  |  |

**Source: Field survey, 2015**

**3.5.3: Veterinary cost**

Veterinary cost was calculated by taking into account the actual cost incurred by the farmers doctors fees and medicine were two major components of the total veterinary cost. The total veterinary cost per day per dairy cow amounted to Tk 0.86 and comprising 0.62 percent of total cost (Table -8).

**3.5.4: Capital cost**

Capital cost was measured in the present study as the interest on the average value of cattle. It was assumed that the cattle owners had purchased the cow just before calving and sold it after one year. The cost of capital was calculated by the following formula:

 Beginning value + Ending value

 Capital cost = x interest rate

 2

The average capital cost of a cow per day was Tk 7.39 (Table 8) and constituted

5.31 percent of total cost (Table-8).

**3.5. 5: Miscellaneous cost**

Miscellaneous cost included costs of some minor items like ropes, milking equipment, milk marketing, mosquito coil, chain, etc. Miscellaneous cost per day per cow was Tk 1.4 and shared 1.01 percent of total cost (Table -8).

**3.6: Returns from Rural Dairying Practices:**

The purpose of this section was to determine total returns and net returns from cattle rearing over total costs. The returns from cattle included returns from milk sale or consumed, cow-dung, and calf. The returns from milk were calculated on the basis of the average quantities of milk yield per cow and average price received per litre of milk.

Returns from cow-dung were found out by taking average price at which cow-dung was sold in the study areas. The return from milk per day was Tk 150 for a dairy cow which was 97.72 percent of total return. The average return from the cow-dung per cow per day was Tk 3.5 and 2.28 percent of total return (Table- 8).

**3.6.1: Net Returns from Dairy Cow:**

The total returns per day stood at Tk 153.50 for a dairy cow.Net returns were calculated by deducting the total costs from the total returns. The net returns over variable cost per day were estimated at Tk 95.45 for a diary cow and net return over full cost Tk.14.35 for a dairy cow.

**4.13. Benefit Cost Ratio (BCR):**

The BCR (undiscounted) is a relative measure which is used to compare benefits per unit of cost. The BCR of a dairy cow was calculated as a ratio of total Benefits and total Cost. Table -9 showed that benefit cost ratio of a dairy cow was emerged as 2.64:1 implying that Tk 2.64 would be earned by spending Tk. 1 investing in household dairying practices which revealed that household rural dairying farming practices with cross bred cows found profitable and opportunities to facilitated self employment facilities village level in Bangladesh.

**CHAPTER-4**

**Summery, Conclusion and Recommendations**

4.1: **Summery and Conclusion**:

In the subsistence economy of Bangladesh, cattle as a part of livestock play a crucial role in the households. A majority of the rural people are directly engaged in livestock rearing. Cattle’s rearing in Bangladesh has been practiced for a long time at household level. Cattle has been used here the double purpose animal draught power and milk yielder. However, with the change of technology, farmers have been seen to reduce the use of cattle as draught power and increase the use of power tiller for land preparation etc. capital intensive farms have also come up.

Agriculture contributes about 18.70 percent in GDP (Economic Review 2015). About 47.33% of total human power of Bangladesh relates in agriculture (Economic Review 2014). Livestock is the prominent sector of agriculture and the contribution of this sector in GDP is 3.49% (Economic Review 2015).

The per day total cost of rearing cattle were estimated at Tk 139.15. Feed cost was the largest single cost item of raising dairy cows. The feed cost constituted about 41.72 percent of the total cost for cattle. In the case of cattle about 10.78, 12.58, 6.29, 10.78 and 1.01 percent of the total costs were represented by paddy straw, green gross, oilcake, bran, and salt. Labour cost was a very important cost item. The labour cost per day amounted to Tk. 70 which represented 50.31 percent of total cost of cattle. The contribution of housing cost, veterinary cost and capital cost were about 1.04, 0.62 and 5.31 percent of the total cost for a cattle.

The total returns per day were estimated at Tk 153.50 for cattle. The value of milk production represented 97.72 percent of total returns for cattle. The respectively net returns over variable cost were Tk 95.35 for a rural dairy.

Effect of milk yield of some contributing factors like paddy straw, green grass, bran, labour cost and veterinary cost etc. were analyzed. Tabular analysis showed that the major factors of yield variation in local-breed dairy cows were paddy straw, other things remaining the same. The average milk yield per day was 2.25 liters for dairy cows.

4.2: **Problems in Rearing Dairy Cows:**

Risks and uncertainty are quite common facts in dairy farming business. Apart from these, dairy farming practices have been facing a number of remarkable problems. The selected farm owners in the study areas have experienced in dairying since significant years and were confronting many serious production and marketing oriented problems. An attempt have been made in this chapter to identify the major constraints and problems faced by the farmers in dairying practices and to discuss the possible solutions of these problems so that the farmers can obtain better economic return from goat farming business. In order to identify various problems of rearing cows and the identified problems were found as High prices of feeds & fodder, Low prices of milk ,Scarcity of quality feeds & Fodders, Conception failure Variation in market demand of produced milk and inputs, Insufficient Vet. Care & services, Occurrences of diseases, Distance of A.I. point, Lack of training & extension work, Fraudulent practice by milk traders and daily labours, non availability of good bull / semen, and Lack of credit facilities.

**4.3: Recommendations:**

The following recommendations are made for sound development of household cattle rearing in the study area. Community-based veterinary service would be developed through special projects; Mobile veterinary services will be provided by DLS; Plants of processing Urea Molasses Block (UMB), specially in sugar mill area of the country should be established, proper marketing facilities should be ensured; The DLS and the non-government organizations should strengths their programme to train the dairy farmers on dairy management, animal health care, sanitation and marketing techniques on priority basis; In order to encourage rural people for household cattle rearing. Government should facilitate livestock loan at easy terms and conditions.

**4.4: Limitations of the Study**

There was a limitation of time. To get a satisfactory and reliable data sufficient time was needed. But data were collected and analyzed by the researcher within very short time. In the study areas, for collecting necessary data, the researcher had depended on the memory of the respondents because they did not keep written records. The study covered only 30 samples. This sample size was not sufficient for the study. If the study could cover more areas and more samples the results and conclusions of the study might be more meaningful and more useful. The findings of the study are based on the data from a specific area (Fatikchari upazila under Chittagong District) of Bangladesh. These findings should therefore be interpreted cautiously, if any greater generalizations are sought for different regions with distinct geophysical conditions of Bangladesh. The present study is dependent mainly on one year data and the results presented may vary from year to year.

**REFERENCES**

BER 2013: *Bangladesh Economic Review*, Economic Advisers Wing, Finance Division, Ministry of Finance, Government of Peoples Republic of Bangladesh, Dhaka.

 BBS 2006: *Statistical Year Book of Bangladesh*, Bangladesh Bureau of Statistics,

Ministry in Planning, Government of the Peoples Republic of Bangladesh, Dhaka.

BBS 2007: *Statistical Year Book of Bangladesh*, Bangladesh Bureau of

 Statistics, Ministry in Planning, Government of the Peoples Republic of

 Bangladesh, Dhaka.

BBS 2009: *Statistical Year Book of Bangladesh*, Bangladesh Bureau of Statistics, Ministry in Planning, Government of the Peoples Republic of Bangladesh, Dhaka.

BBS 2010: *Statistical Year Book of Bangladesh*, Bangladesh Bureau of Statistics, Ministry in Planning, Government of the Peoples Republic of Bangladesh, Dhaka.

BBS 2011: *Statistical Year Book of Bangladesh*, Bangladesh Bureau of Statistics, Ministry in Planning, Government of the Peoples Republic of Bangladesh, Dhaka.

DLS 1998: Annual Report of Directorate of Livestock Services, Bangladesh. p.136.

Hoque QME 1991: A review of livestock and poultry sub-sectors in fourth five year plan, The 8th National Conference of the Bangladesh Agricultural Economist Association, 7-8 February, BARC, Dhaka.

Mannan, Miah and Raju, 1992: Some Aspects of milk production in Rural Area of Bangladesh, Impression From Five Villages, *The Jahangirnagar Economic Review*. 7(1), 121-129.

Akteruzzaman M 1993: A study on the economic impact of cattle distribution

programme of BRAC for the alleviation of rural poverty in some selected areas of Bangladesh, An unpublished MS thesis, Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh.

Alam J 1995: Economics of Mini Dairy Farms in Selected Area of Bangladesh, Asian Australian J Ani Sec. 80: 17-22 Cited from World Agricultural Economics and Rural Sociology Abstracts, 37 (6), 487.

Halim A 1992: A Comparative Economic Analysis of Local and Cross breed

Dairy Cows in a Selected Area of Dhaka District, An unpublished MS thesis, Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh.

Paul T K 1995: A Study on the Economics of Dairy Cows in Some Selected Areas of Kustia District, An unpublished MS thesis, Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh.

Rahman M M and Rahman M H 1991: An Economic Analysis of Dairy Enterprise in Four Selected Villages of Mymensingh District in Bangladesh, Research Report Submitted to the Bureau of Socio- Economic Research and Training, BAU, Mymensingh.

Talukder R K and Uddin 2000: Economics of Milk Production in Bangladesh, A Contract Research Report Submitted to Bangladesh Agricultural Research Council, Farmgate, Dhaka-1215.

Yang W Y 1965: Methods of farm management investigation for improving farm

productivity, FAO, Rome.

Willington H G and Rahman S M 1985: Livestock and poultry research in Bangladesh, Bangladesh Agricultural Research Council, Farmgate, Dhaka.

Sarker M A S 2003: A comparative economic analysis of local and cross breed

dairy cow rearing in some selected areas of Mymensingh district, An unpublished MS Thesis, Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh.

Goni M D , Miah A G , Khan M R S and Islam M N 2001: The performance of crossbred cows available in milk pocket area of Bangladesh, *Indian Journal of Animal Science*. 71(12): 1166-1168.

Chowdhury 2005: The profitability of dairy farming under Bangladesh Milk Producer Co-operative Union Limited in Sirajgong district, An unpublished MS Thesis, Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh.

Islam 2005: An Economic Study on Supplementary Feeding on Dairy Cattle of Small Holders in Selected Areas of Bangladesh, An unpublished MS Thesis, Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh.

 Shahinur 2009: An Economic analysis on dairy cow rearing in Selected Areas of

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 **Biography**

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