

STUDY ON TRADITIONAL CATTLE FATTENING
PROGRAM AT THREE UPAZILA'S OF RANGPUR
DISTRICT IN BANGLADESH

A THESIS
BY

HUMAYUN KABIR
Registration No. 1305166
Session: 2013-2014
Semester: July-December/2014

MASTER OF SCIENCE (MS)
IN
ANIMAL SCIENCE



DEPARTMENT OF ANIMAL SCIENCE AND
NUTRITION
HAJEE MOHAMMAD DANESH SCIENCE AND
TECHNOLOGY UNIVERSITY, DINAJPUR,
BANGLADESH

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ABSTRACT

The experiment was conducted to investigate the cattle fattening programs of rural farmers at three Upazila (Gongachora, Pirgacha, Kaunia) in Rangpur district of Bangladesh through field survey. Data were collected from randomly selected 75 farmers who involved in small scale cattle fattening through personal interview schedule during the period from 10th June to 10th July, 2015.. Out of the 75 respondents 57.3% are involved in agriculture, 25.3% in business, 12.1% in service and 5.8% in beef fattening. With a mean of 1.72 and standard deviation is 0.8. The total respondents were classified into four categories. The major category 43 of the respondents belongs to farmer categories which has also own land and 19 businessman, 9 service holder and 4 are directly related to cattle fattening. Most of the farmers (57.3%) who are directly related to Agriculture are more involved in fattening than those who are related to business (25.3%) or service sector (12.1%) respectively.

Most of the respondents (46.7%) fattened cattle for 6 months and rest fattened for a prolonged period. About 58.7% respondents used own capital for cattle fattening and 28.0 and 13.3% respondents took bank loan, NGO loan and lending for cattle fattening, respectively. About 31.6% respondents provided existing traditional cattle shed. About 38.6% did not have any training on cattle fattening whereas about 61.3% respondents had taken short training on cattle fattening. About 63.7% respondents used cattle fattening tablets, 12.7% respondents used urea molasses straw (UMS) and 31% followed conventional feeding. About 86.6% vaccinate the cattle by themselves and about 78.6% took help from veterinary surgeon for treatment of their cattle. About 94.6% reported shortages of animal feed, 88% reported lack of credit and 94.6% reported high cost of feed as the major problems of small scale cattle fattening. The results of this study will be useful for farmers and researchers to identify the overall problems and their

remedies on feeding, management and marketing related to small scale cattle fattening practices in Bangladesh.

The main problem in adopting cattle fattening was lack of money & knowledge. The Govt. should give subsidy in this sector as well as provides effective training to improve cattle fattening program.

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The Author

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ABBREVIATIONS AND ACRONYMS

BBS	:	Bangladesh Bureau of Statistics
DLS	:	Department of Livestock Services
FAO	:	Food and Agricultural Organization of the United
GDP	:	Nations
DAE	:	Gross Domestic Product
GO	:	Government Organization
IGA	:	Income Generating Activity
NGO	:	Non- Government Organization
SD	:	Standard Deviation
SPSS	:	Statistical Package for Social Sciences
GNP	:	Gross National Product

CHAPTER 1

INTRODUCTION

Livestock is recognized as an integral component of rice based agricultural production system in Bangladesh. The economy of the country largely depends on agriculture. Livestock being one of the four component's of agriculture. Bangladesh is a densely populated agro based developing country with an estimated population of about 160 million of which 50%, 31% and 3% are suffering from mild, moderate and severe malnutrition, respectively and due to these 1.2% people are died every year (BBS, 2005). Protein deficiency is a major problem in this regards. Livestock, especially Cattle is a potential tool for poverty eradication, supplying nutrition and creating job opportunities. Cattle of Bangladesh are an inseparable and integral part of the agricultural farming and agribusiness system. Beef fattening is an emerging sector for employment and income generation for the rural poor, especially landless, destitute and divorced women. Cattle fattening is an effective tool for poverty alleviation for the rural poor. Cattle fattening for beef production has become an important business of the small farmers in Bangladesh. One of the advantages of the cattle fattening by the rural farmers is that they use locally available cattle feed resources during the Eid festival. The information available in the literature on cattle fattening by small farmers in rural areas are few and sporadic (Hossain, 1986; Hossain *et al.*, 1996a; Huq *et al.* , 1997 and Hashem *et al.*, 1999). To develop a sustainable beef cattle production system in Bangladesh which starts at the farmers level for production and ending at consumers' level for consumption, it is necessary to find out the existing beef cattle production, marketing, processing systems and consumers' perceptions. For this it is prime important to find out the existing cattle fattening system and those factors which are directly related with cattle in Bangladesh. Therefore, the present study was undertaken with the following objectives:

- (i) To investigate the feeding, management and marketing system of

small scale cattle fattening.

- (ii) To identify the problems related to cattle fattening program and their potential solutions.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Concept of Cattle Fattening

Indigenous cattle (*Bos indicus*) are reared by the farmers of Bangladesh mainly getting draught power, milk and meat. Cattle contribute about 98% of draught requirement, 99% of milk Produce and 50% of meat sold in the market (BBS, 1991). Cattle fattening for beef production has become an important business of the small farmers in Bangladesh. Cattle fattening is the process in which high amount of meat is produced through extra feeding of UMB (Urea Molasses Block), urea treated straw or application of steroid hormone. It is the fact that rice straw is the major crop residue being used as sole feed for cattle and buffaloes in Bangladesh. The productivity of cattle especially beef cattle production largely depends upon the efficient utilization of poor quality rice straw with low nitrogen content and low digestibility due to high lignin and silica content. Cattle contribute about 95% of draught requirement, 98% of milk produced and 56% of meat sold in the market (BBS, 2001). Beef in Bangladesh, usually comes mostly from the unproductive old aged bullock, cows, culled animals of the farm and partly also from the imported animals from the Neighboring country.

2.2 Importance of Cattle rearing for beef

The Directorate of Livestock services (DLS) of the government of Bangladesh has been taken fattening as an action program to generate income for the rural poor farmer. Cattle are bought by the farmer usually

3-6 months before Eid-ul-Azha (Muslim festival) and then they are fattened and sold during the eid festival. Nearly about 10-12% of total beef comes from growing animal. During Eid-ul- Azha people generally prefer to sacrifice growing animal for their religious festival. However, cattle fattening for beef production has become an important business for the small farmers. The population of major livestock species has been increasing in accordance with rapid increase in demand for meat, although there are differences in growth rates of its population among countries. Cattle population is increasing in the Asian countries day by day. Table2.1 shows trend in cattle population in different countries of Asia.

Table- 2.1 Trends in Cattle Population in Asia

Country	1999	2000	2001	2002
India	214877.0	218800.0	219642.0	221900.0
Pakistan	21592.0	22004.0	22424.0	22857.0
Bangladesh	23652.0	23900.0	24000.0	24010.0
Philippines	2425.9	2478.9	2495.6	2547.8
Thailand	5677.1	4601.7	4640.0	4640.4
Rep. of Korea	2486.5	2133.7	1954.0	1951.0
Japan	4658.0	4588.0	4531.0	4564.0
Mongolia	3725.8	3824.7	3097.6	2053.7
China	101877.8	104582.1	106860.9	106165.0

Sri Lanka	1616.7	1557.0	1564.8	1565.0
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Source: FAO CORPORATE DOCUMENT REPOSITORY (2003)

Throughout the World, food requirement favors the use of cattle that can produce both milk and beef for human consumption. Prusasriet *et al.*, (1987) reported that a good resource was found on fattening cattle at two farms in Thailand. Each farmer raised two crossbred steers (Brahman x Charolais x to Native), 17 to 18 month old and weighing 200 kg to 250 kg .The steers were fed for 6 months with concentrate and fresh grass. The average daily gain was 1.09 kg/d/bull. Prucsasiet *et al.*, (1987) suggested that fattening cattle at the small farm level might be an opportunity to increase income. Catonet *et al.* (2000) reviewed the metabolic components of energy expenditure in growing beef cattle. Research focused on improving energetic efficient production of an edible product. Begum *et al.*, (2007) investigate the cattle fattening programs of rural farmers in Panchagarh district of Bangladesh through field survey. In this study 40% farmers had primary level of education and 20% had no education. About 56.7% farmers used cattle of 2-3 years of age and 36.7% farmers used cattle of 1-2 years age.

About 70% farmers used bulls and 70% farmers had an average of 1-4 cattle for fattening. Fattening period of 3-6 months and 7-12 months were reported by 60% and 30% farmers respectively. Separate houses for cattle were provided by 86.7% of the farmers. About 63.4% farmers washed their cattle in ponds and rivers regularly. About 76.7% farmers had taken short training on livestock rearing from Rangpur, Dinajpur Rural Service (RDRS) and Panchagarh Youth Training Centre and 80% farmers dewormed their cattle before starting the fattening program. About 96.6% of farmers reported shortages of animal feed and 86.6% reported lack of credit as the major problems of cattle fattening. Average buying and selling prices and net profit were Taka/cattle 7528, 9542 and 2055, respectively. Small scale cattle fattening programs could be

recommended as an income generating activity for the rural fainters of Bangladesh.

Cattle fattening for beef production has become an important business of the small farmers in Bangladesh. The Directorate of Livestock Services (DLS) of the Government of Bangladesh has taken beef fattening as an action program to generate income for the rural poor farmer. Cattle are bought by the farmers usually 3-6 months before Eid-ul-Azha (Muslim festival) and then they are fattened and sold during the Eid festival. All the farmers groomed their cattle in ponds and rivers. About 92% of the farmers did not have any training on cattle fattening, whereas only 8% farmers had taken training on livestock rearing from local youth training centers. About 61.2% farmers dewormed their cattle before starting fattening programs. About 72.8% farmers did not vaccinate against infectious diseases. For treatment of cattle, only 245 farmers had taken help from a veterinary surgeon. About 96.8% farmers reported the shortage of animal feed and 84% reported lack of credit as the major problems for cattle fattening. Halim (1998) conducted a study on agribusiness of beef and beef products in Dhaka City. He showed the sources of supply of beef, existing marketing system, cost and margin and beef marketing related problems and solutions. Recently in our country, the Government of Bangladesh has taken effort to produce beef cattle as per demand. The Department of Livestock Services (DLS) of the Government has already taken cattle fattening as an action program to generate income for poor rural farmers. Upazilla livestock offices are providing necessary information to the small scale farmers, training in this regard is being provided by the Govt. Youth training Centers.

2.3 Present status of small scale cattle fattening in Bangladesh

Cattle fattening for beef production has become an important business of

the small farmers in Bangladesh. The Directorate of Livestock Services (DLS) of the Government of Bangladesh has taken beef fattening as an action program to generate income for the rural poor farmer. Cattle are bought by the farmers usually 3-6 months before Eid-ul-Azha (Muslim festival) and then they are fattened and sold during the Eid festival. Hashem *et al*, (1999) investigated the cattle fattening programs of rural farmers in different districts of Bangladesh through field survey. About 51.2 % farmers were found having primary level education and 28% had no education. About 60.4% farmers used cattle of 2-3 years of age and 32.2% farmers used cattle of 1-2 years of age. About 70.4% farmers used bulls and only 5.2% used females. About 71.20% farmers had an average of 2 cattle for fattening and 28.8% farmers had an average of cattle fattening periods of 3-6 months and 7-12 months were reported by 42% and 30% farmers, respectively. About 86.40% farmers financed their cattle fattening business by themselves. Separate houses for cattle were provided by 86% of the farmers. All the farmers groomed their cattle in ponds and rivers. About 92% of the farmers did not have any training on cattle fattening, whereas only 8% farmers had taken training on livestock rearing from local youth training centers. About 61.2% farmers dewormed their cattle before starting fattening programs. About 72.8% farmers did not vaccinate against infectious diseases. For treatment of cattle, only 245 farmers had taken help from a veterinary surgeon. About 96.8% farmers reported the shortage of animal feed and 84% reported lack of credit as the major problems for cattle fattening, Cattle fattening by large scale commercial fattening farms in our country are few During 1999-2000 fiscal year, large scale fattening farms were started which were financed by Sonali Bank, Janata Bank, Agroni Bank and Bangladesh Krishi Bank. Table-2.3 shows some commercial cattle fattening farms and their location, recently established in Bangladesh.

Table: 2.2. Some commercial cattle fattening farms of Bangladesh

Sl	Name	Location
1.	Affil Agro Limited.	Upazilla-Jhikargacha, Jessore. Mobile
2.	Bengal Meat Processing Industries	Kashinalhpur, Upazilla-Shathia,Pabna Head Office-House -25,Road-27,Block
3.	Beef Cattle Fattening Farm	Upazila-Gobindagonj, Gaibandha
4.	Bhasani Beef Cattle Fattening Farm	Upazilla-Sadar, Tangail
5.	Beef Cattle Fattening Farm	Shankhochora, Upazilla Setabgonj,
6.	Beef Cattle Fattening Farm	Dhontoly, Upazilla-Setabgonj, Dinajpur
7.	Beef Fattening and Layer Farm	Setabgonj, Dinajpur. Mobile no.-01716-
8.	Beef Cattle Fattening Farm	Islamic Relief Mission, Damdam Bazar,
9.	Harvestrich Beef Cattle	Upazilla-Rupgonj, Narayangonj.
10.	Superior Quality Meat	Maona, Upazilla- Sripur, Gazipur
11.	Slaughter House and Beef Cattle	Dharrnagore,Upazilla-Rani-shonkail,Thakurgaon.

Source: Personal communication

2.4 Feeding and management system of cattle rearing

1. Availability of rice straw for cattle fattening

It is obvious from the experience over generation in Bangladesh, that an almost exclusive diet of rice straw, with little or no supplementation covers the nutritional needs of livestock, but that stunts the growth. According to Tareque (1985), out of 29.1 million tons of available roughage for ruminants in Bangladesh rice straw alone contributes around 23.5 million (81 %) and green grasses only 1.6 million tons. Ali *et al.*, (1993) reported that Aman and Boro straw found to be used in almost all production system throughout the year. The amount of straw produced is usually calculated from grain production data are seldom measured directly. Such calculations are based on grain: straw ratios and with rice a ratio of 1:1 is generally assumed (Doyle *et al.*, 1986)

Table 2.3: Estimated rice straw production in Bangladesh

Year	Harvested area (1000 ha)	Grain yield (kg/ha)	Straw production (1000MT)
1994	9919	2552	25312
1995	9952	2653	26399
1996	10030	2792	28008
1997	10177	2769	28183
1998	10263	2757	28293

Source: FAO (1998)

The above Table 2.3 shows that the annual rice straw production in the country is increasing day by day and since the main roughage feed for ruminants is rice straw. Any attempt to improve its nutritive value digestibility needs encouraged. Seasonal effects on the types and quantity of feed offered peaks in the availability of straw alternated with peaks of green feeds.

2. Feeding of Urea treated straw for fattening

Recently in our country, the Government of Bangladesh has taken effort to produce beef cattle as per demand. The Department of Livestock Services (DLS) of the Government has already taken cattle fattening as an action program to generate income for poor rural farmers. Upazilla livestock offices are providing necessary information to the small scale farmers, training in this regard is being provided by the Govt. Youth training centers.

Rafiqet *al.*, (2002) concluded that medicated Urea-Molasses-Mineral block increase milk yield and live weight in dairy cows under village conditions in Bangladesh where balanced rations for dairy cows are scarce. Various concentrations of urea in blocks positively affect milk and serum urea levels of indigenous dairy cow it has been estimated that 44% of the dry matter, 26% of the crude protein and 17% of the energy requirements are met from the available feed resources (Saadullah, 1995). Concentrates consist of rice bran, wheat bran, oil cake, pulse bran; molasses and some cases fish meal contribute 6.8% of the total dry matter. Traditional grazing field is scarce except in some pockets at Pabna and Sylhet districts (in winter season only). These are also become deeply flooded for cropping in the monsoon and are used for the production of fodder during dry season.

Ahmed *et al.*, (2002) conducted an experiment for 105 days

with six indigenous bull calves to investigate the feasibility of cattle fattening as income generating activity by the farmers. Six bull calves were allocated into two treatments. Animals of control group were fed on untreated rice straw and green grass with concentrate and of treated group were fed on Urea Molasses Straw (UMS) and green grass with concentrate. Feed intake was recorded daily and live weight per week. Initial live weight of calves in control and treated groups were 134 kg and 159 kg, respectively. Final live weight of calves in control and treated groups were 189 kg and 226 kg, respectively. Socio-economic parameters, participation of family members and cost return from animals were measured. Problems and suggestions to farmers during cattle fattening were mentioned. Cattle fattening increased the uses of local feed resources, income and employment opportunity and income of the farmer. In an experiment Hague and Chowdhury (1995) used urea, molasses and straw in the ratio 3:15:82 in urea, molasses and straw and analyze the chemical composition. The results are shown in table.

Table 2.4: Chemical composition of dry straw and UMS

Diet	DM(g/kg)	Chemical Composition(g/kg DM)			
		OM	Ash	CP	Acid detergent
Dry straw	875	882	118	53.7	430
UMS	734	865	135	100.0	406

To know the effect of Urea Molasses Straw (UMS) feeding on feed intake and growth of the young bull at farmer's level, Hossain *et al.*, (2004)

conducted an experiment with 8 bulls of approximately 2.5 years of age, randomly allocated for two treatment groups having four replications in each, for 4.5 months. Control and treated groups received rice straw + green grass and UMS + green grass, respectively. Concentrate supplement (Rice polish +Wheat bran +soybean meal) was given @ 1.25 kg/day/bull for all of the treatment groups.

2.5 Housing and other management condition

Proper housing is important unsuccesful cattle fattening operation. Adequately protect animals against the adverse effects of weather when they are raised in relatively small areas. Animals in backyard cattle farming are usually tethered along roadsides and in backyards during the day and confined in a shed or corral at night. The permanent type of housing consisting of GI roofing, timber frames, concrete floor, feed trough and water troughs are used in most farms. The shelter is open-sided and is located near the farmer's house or under the shade trees. Building height ranges from 1.7 to 1.9 meters while the width varies from 2.1 to 2.7 meters. Each animal can be allocated with 1.5 to 4.5 sq. meters.(<http://www ldc da gov ph>.)

Management conditions of all the bulls were almost similar. Daily feed intake and weekly gain was recorded. Roughage intake was slightly higher in treated group than that of control group and significant at 1% level. Live weight at finishing was 153.50-L17.29 and 170.88+2.86 for the bulls of control and treated group which was significant at 1% level. Concentrate supplement (Rice polish +Wheat bran +soybean meal) was given @ 1.25 kg/day/bull for all of the treatment groups. Rahman *et al.*,(2001) conducted another experiment with six growing bulls (95.3 ± 0.14 kg live weight) of two years old to investigate the effect of urea molasses straw feeding on intake, growth and nutrient digestibility of bulls. Bulls were categorized into two treatment groups, each of which consists of three animals. Control group received rice straw + green grass and treated group received UMS + green grass, respectively. Concentrate supplements were given at the rate of 1.35 kg/bull/day for

all of the treatment groups. The experiment was conducted for five months. Management condition of all the bulls was all and they were stall-fed. Digestion trial was performed in the later part of the experiment and daily feed intake and weekly weight gain were recorded. The results show that roughage and total intake of the bulls of treated group were significantly ($P < 0.05$) higher than that of the bulls of control. The live weights at the end of the experiment were 150.2 ± 9.78 and 169 ± 3.06 kg for the bulls of control and treated group, respectively and there was a statistically significant difference between them ($P < 0.05$). It was also found that DCP of the treated group (9.25 ± 1.53) was significantly ($P < 0.05$) higher than that of the control group (5.2 ± 0.74). Parvez *et al.*, (2001) conducted an experiment to determine the effect of different levels of energy and protein on growth performance and nutrient utilization in bull calves. Three diets were formulated having different levels of energy and protein using rice straw, fodder maize, rice polish, wheat bran, soybean molasses urea, bone meal and common salt. Diet A was formulated to satisfy the energy and protein requirements according to NRC standard (1976). However, diets B and C were formulated to provide energy and protein, 10 and 20 per cent below the NRC standard. The animals were allocated at random to one of the three diets in a randomized block design according to live weight. The daily average intake was 5.01, 4.61 and 4.29 kg DM for diets A, B, C, respectively. The apparent digestibility of DM and OM was significantly ($P < 0.05$) higher for diet A than that for diet C but similar to diet B. The average of DCP, DOM and ME contents were almost similar in all diets. The average daily live weight gain recorded for diet A was found to be highest (0.39 kg) followed by 0.35 kg for both the diets B and C, however the difference was not significant. Feed conversion efficiency (DM/LWG) in bull calves given diet C (12.2) was better than those received diets A (12.9) and B (13.1). Protein conversion efficiency (CPI/LWG) in bull calves given diet C (1.22) was better than those received diets A (1.28) and B (1.3). Feed cost per kg live weight gain was lower in diet C (Tk. 42.9/-) than that in diets A (Tk. 49.9/-) and B (Tk. 49.2/-). The results

suggest that diet C containing energy and protein 20 per cent below NRC standard may be recommended for feeding local bull calves.

2.6 Marketing of cattle for beef

A marketing system includes all activities involved in the flow of goods from the point of initial production to the ultimate consumers. It includes the exchanges activities associated with transferring property rights to commodities, physically purchasing and allocating resources, handling products, disseminating information to participants, and making institutional arrangements for facilitating these activities (Amir and Knipscheer, 1989). Beef cattle marketing starts from the producers who sell the animals at their own homesteads or in the livestock selling market and ends with the consumers purchasing meat from the butchers.

Shamsuddin (1969) conducted a study on primary livestock markets in the districts of Mymensinghand observed that during winter season the assembling of livestock in the market was the highest. Marketing channels of livestock consisted of farmers, dealers, retail dealers and other non-farmers. It was also observed that most of the animals were moved by driving on foot, trains, trucks were also used for transporting livestock.

Wahiduzzaman (1981) conducted study on marketing of meat and its consumption pattern in Mymensingh town. He showed the sources- of supply of meat (beef and mutton), existing marketing system, cost and margins and consumption pattern of the people. In this study he found that cattle were mainly transported on foot.

Talukder (1994) conducted a study on "Cattle Market Structure in Meghalaya". He found that the seller concentration in the market was more unequal and wide, while buyers' concentration was more equal during the period of study. The prices in the market were controlled by

the sellers. Difference of prices according to breed and type was observed to vary widely in the market. Exotic crossbred cows fetched the highest prices.

Karemullah *et al.* (1994) conducted a study on economics of cattle marketing in Chittor district of Andhra Pradesh. They found that cattle marketing in Chittordistrict are renowned due to its location. The malpractices in the trade and the poor facilities at the markets demand greater attention of the marketing committees.

Halim (1998) conducted a study on agribusiness of beef and beef products in Dhaka City. He showed the sources of supply of beef, existing marketing system, cost and margin and beef marketing related problems and solutions.

2.7 Cost and benefit of cattle fattening

Hossain *et al.*, (1996b) reported the result of cattle fattening periods covering 4.5 months and 5.7 months respectively. Hossain *et al.*, (1986) showed that net income per cattle was Taka 7745/- and high cost in a period of 5.7 months. Individual record showed that two, out of these nine women earned an average net income of Tk. 650/- whereas the other four women had an average income of Tk.48, 000/- per season. On the other hand, the remaining three women earned a net income of Tk. 11,700/-16,500/- and 21,000/- per season, respectively. The reasons behind these increase amounts of income by these three women were that, their investment per animal was higher and the overall management of the fattening program was very good.

Hossain *et al.*, (1996b) investigated the relationship between land size and livestock, acceptance of improved feeding technology and the utilization of credit for the improvement of cattle. Eighty six (86) farmers were interviewed with a pre- tested questionnaire from four districts of Bangladesh. The farmers having land size of 1.6 acres to above were the owners of highest number of bullocks and cows. There is a statically

significant difference ($P < 0.01$) between total land size and number of livestock rearing. About 73% of the farmers adopted urea treated straw as the highest (48%) in number to rear livestock with loan from different sources. The urea treated rice straw and urea molasses block supplement is a profitable feeding technology for the improvement of cattle of the farmers. The farmers also expressed their views they need training on improved feeding technology.

Ahmed *et al.*, (2002) carried out an experiment with 8 bulls of approximately 2.5 years of age where their average initial body weight was 152 kg/bull. They found that their final body weight were $153.5 \text{ kg} \pm 17.3$ and $170.9 \text{ kg} \pm 12.9$ for the control (rice straw + green grass) and treated group (Urea Molasses Straw + green grass), respectively. Cost and return from animals were measured. Cattle fattening increasing income of the farmer as well as it uplift the socio-economic condition of the farmers.

2.8 Cattle fattening for income generation and livelihood

Cattle fattening by large scale commercial fattening farms in our country are few During 1999-2000 fiscal year, large scale fattening farms were started which were financed by Sonali Bank, Janata Bank, Agroni Bank and Bangladesh Krishi Bank. Recently in our country, the Government of Bangladesh has taken effort to produce beef cattle as per demand. The Department of Livestock Services (DLS) of the Government has already taken cattle fattening as an action program to generate income for poor rural farmers. Upazilla livestock offices are providing necessary information to the small scale fanners, training in this regard is being provided by the Govt. Youth training Centers. A few NGOs namely BRAC (Bangladesh Rural Advancement Committee), Prosika, RDRS (Rangpur Dinajpur Rural Service) etc. have taken cattle fattening program commercially.

Ahmed *et al.*, (2002) conducted an experiment for 105 days with six indigenous bull calves to investigate the feasibility of cattle

fattening as income generating activity by the farmers. Six bull calves were allocated into two treatments. Animals of control group were fed on untreated rice straw and green grass with concentrate and of treated group were fed on Urea Molasses Straw (UMS) and green grass with concentrate. Feed intake was recorded daily and live weight per week. Initial live weight of calves in control and treated groups were 134 kg and 159 kg, respectively. Final live weight of calves in control and treated groups were 189 kg and 226 kg, respectively. Socio-economic parameters, participation of family members and cost return from animals were measured. Problems and suggestions to farmers during cattle fattening were mentioned. Cattle fattening increased the uses of local feed resources, income and employment opportunity and income of the farmer. Ahmed *et al.*, (2002) carried out an experiment with 8 bulls of approximately 2.5 years of age where their average initial body weight was 152 kg/bull. They found that their final body weight were $153.5 \text{ kg} \pm 17.3$ and $170.9 \text{ kg} \pm 12.9$ for the control (rice straw + green grass) and treated group (Urea Molasses Straw + green grass), respectively. Cost and return from animals were measured. Cattle fattening increasing income of the farmer as well as it uplift the socio-economic condition of the farmers.

A field based study was conducted (MUK, 1999-2001) with 20 selected poor women in Madaripur district. The report showed that the use of Urea Molasses Straw (UMS) was a low cost cattle feed for fattening. The income generated from that fattening program also influenced neighboring 30 farmers to start this program.

Hossain *et al.*, (1996b) investigated the relationship between land size and livestock, acceptance of improved feeding technology and the utilization of credit for the improvement of cattle. Eighty six (86) farmers were interviewed with a pre- tested questionnaire from four districts of Bangladesh. The farmers having land size of 1.6 acres to above were the owners of highest number of bullocks and cows. There is a statically significant difference ($P < 0.01$) between total land size and number of

livestock rearing. About 73% of the farmers adopted urea treated straw as the highest (48%) in number to rear livestock with loan from different sources. The urea treated rice straw and urea molasses block supplement is a profitable feeding technology for the improvement of cattle of the farmers.

CHAPTER 3

MATERIALS AND METHOD

Methodological issue is one of the prime considerations for conducting a research with valid and reliable findings. In fact it is the foundation on which the research process rests upon. Thus this chapter gives a scientific and logical methodology for different stages of carrying out the research and description of the design and conduct of a survey to collect necessary data. Methods and procedures that were followed in this piece of research were discussed below.

3.1 Experimental Location and Duration

For selecting study area preliminary visits were made and finally the study was conducted in three Upazilla namely Gongachora, Pirgacha and Kaunia under Rangpur district. The data was collected through an interview schedule during the period from 10th June to 10th July involving 75 respondents of three upazilla under Rangpur District who were involved in cattle fattening before Eid-ul-Azha in the September, 2015.

3.2 Selection of farmers

The farmers were selected who rear cattle or bought cattle for fattening and were able to give information when necessary. Farmers were randomly chosen from each upazilla. Therefore, in total 75 farmers were chosen for collecting data to satisfy the objectives.

3.3 The Research Instrument

3.3.1 Preparation of interview schedule

In order to collect relevant data for the study, a structured interview schedule was carefully prepared keeping the objectives of the study in mind. The questions and statements contained in the schedule were simple, direct and easily understandable by the respondents. To prepare

the interview schedule and secure in-depth information, focus group discussion (FGD) was also conducted.

The schedule contained closed and open form of questions. Some scales were included in the schedule, wherever necessary. The draft interview schedule was pre-tested in the study area. The pre-test facilitated the researcher to identify faulty questions in the draft schedule and necessary corrections and modifications were made on the basis of the pre-test results. An English version of the interview schedule has been presented in *Appendix-A*.

3.3.2 Methods of data collection

Data were collected by face-to-face interview method with respondents.

3.3.3 Data Collection

Data were collected by the researcher herself during 10th June to 10th July, 2015. The researcher first established rapport with the respondents and clearly explained the objectives of the study by using local language as far as possible. As a result, the respondents furnished proper responses to the questions and statements without any hesitation. Excellent cooperation was received from the respondents and other people of the study area.

3.3.4 Processing of the Primary Data

At the end of data collection, the collected data were coded, compiled, tabulated and analyzed. The local units were converted into standard units. The qualitative data were transferred into quantitative data by appropriate scoring technique. The responses of the respondents that were recorded in the interview schedule were transferred into a master sheet for entering the data into the computer.

3.4 Measurement of some important variables

3.4.1 Age

The age of a respondent was measured in terms of actual years from his birth to the time of interview on the basis of farmers' statement. A score of one (1) was assigned for each year of his age. Question on this characteristics appears in item no. 1 in the interview schedule (*Appendix-A*). The similar methodology was followed by Zafrin 2012.

3.4.2 Level of education

The Years of Schooling or level of education of a respondent was measured by the years of schooling completed as indicated by his response to item no. 2 of the interview schedule (*Appendix-A*). A score 1 for Primary School, 2 for up to SSC level and so on. The similar methodology was followed by Sheheli, 2003.

3.4.3 Household size

The household size of a respondent was measured in terms of actual number of members in his family including himself, his wife, children, brothers, sisters, parents and the person who jointly live and eat together during interviewing. This characteristics appears in item no. 3 in interview schedule (*Appendix-A*). The similar methodology was followed by Biswas, 2009.

3.4.4 Income from livestock

Income from livestock of a respondent was measured by computing an annual family income score on the basis of total yearly earnings in Taka from livestock by himself and other members of his family. They were asked to indicate the total earnings of his family from cattle rearing, and animal by-product.

3.4.5 Training experience

Training experience was determined by total number of days of training received by the farmers from any organization in their entire lifetime. If a respondent took 3 days training on any aspect from GO's, NGO's or any other organization then his training experience score was 3 and so on.

The instrument of this variable appears in the item no. 8 of the interview schedule presented in *Appendix-A*. The similar methodology was followed by Mandal, 2007.

3.5 Computing and analysis of data

Data were carefully analyzed with a view to fulfill the objectives of the study. The collected data were first transferred to master sheets and compiled to facilitate the needed tabulation. Tabular technique was applied for the analysis of data using simple statistical tools like average and percentages as well as Chi- square through SPSS software.

CHAPTER 4

RESULTS AND DISCUSSION

In this chapter findings of the study and their logical interpretations have been presented according to the objectives of the study. Findings have been discussed in relation to other similar studies.

4.1 Characteristics of the Farmers

In this study 75 respondents were interviewed to find out the socio economic condition of the respondents and management of cattle fattening. The selected characteristics included age, level of education, family size, land size and occupation.

4.1.1 Age

According to data, the farmers' age ranged from 22 to 65 years. The

respondents were classified into three categories, such as young (up to 30 years), middle aged (31-40 years) and old (above 40 years) on the basis of their age as shown in Table 4.1.

The findings indicated that the highest proportion (48 percent) of the farmers in the study was in the middle aged category compared to 18.6 percent belonging to young aged category and 33.3 percent to old aged category. Almost similar findings were found by Zafrin (2012), Hasan (2006), Akter (2003), Sharmin (2005) and Sharmin (2008). It was expected that young and middle aged farmers (61 percent of the respondents) were more active, energetic and enthusiastic in performing livestock related activities. Particularly the middle-aged farmers were well experienced and more acquainted with the livestock rearing.

Table 4.1: Distribution of respondent according to their age

Parameters	Frequenc	Percent	Mean $\pm$
Young Aged (<30)	14	18.67	42.22 $\pm$ 9.25
Middle Aged (30-40)	36	48	
Old Aged (>40)	25	33.33	
Total	75	100.0	

4.1.2 Level of education

The level of education of the farmers ranged from primary school to

above HSC level. On the basis of scores obtained, the farmers were grouped according to national standard of classification.

Table 4.2: Distribution of respondent according to their education

Parameters	Frequency	Percent	Mean± SD
Primary Level	57	76.0	4.2±2.97
Up to SSC Level	16	21.3	
Above HSC Level	2	2.6	
Total	75	100.0	

Among the total respondent 76.0 percent had primary, 21.3 percent had secondary and 2.6 percent had above secondary level of education (Table 4.2). Findings indicate that majority of the farmers had primary education. This might be due to the reason that the study area was near to the upazila sadar and educational facilities of these three areas were medium. It might help to improve their knowledge on problem solving activities. Education broadens outlook of the people and leads them to explore new ideas to solve problems. It is assumed that people having higher education are more progressive and innovative than those of illiterate and they could perform better in fattening their cattle. Almost similar findings were found by Zafrin (2012), Hasan (2006), Akter (2003), Sharmin (2005) and Sharmin (2008).

4.1.3 Household size

The household size of the cattle farmers ranged from 2 to 8 numbers, the mean being 4.64 with standard deviation of 1.543. On the basis of their household size, the families were classified into three categories. Data showed that the majority (52 percent) of the cattle farmers had small

sized family, 31 percent medium and 17 percent in large family. The average family size (4.68) of the respondents in the study area was lower than that of the national average of 4.9 (BBS, 2008). Around half (high and medium household sized family) seek secondary way to meet up their extra burden of family cost due to large family size. Findings from Sharmin (2010), & Akter (2003) were much closed to the present study.

4.1.4. Occupation and land size

Number and percentage distribution of respondents according to the occupation and land size are shown in Table 4.2 and 4.3 Out of the 75 respondents 57.3% are involved in agriculture, distribution of respondents, 25.3% in business, 12.1% in service and 5.8% in beef fattening. With a mean of 1.62 and standard deviation is 0.82. The total respondents were classified into four categories. The major category 43 of the respondents belongs to farmer categories which has also own land and 19 businessman, 9 service holder and 4 are directly related to cattle fattening. This table shows that, most of the farmers (57%) who are directly related to Agriculture are more involved in fattening than those who are related to business (25%) or service sector (12%) respectively.

Table 4.3: Distribution of respondent according to their occupation

Parameters	Frequency	Percent	Mean $\pm$ SD
Agriculture	43	57.3	1.62 $\pm$ 0.8
Business	19	25.3	
Service	9	12.1	
Beef Fattening	4	5.8	
Total	75	100.0	

4.1.5 Source of capital of respondent

The sources of capital of farmers vary. According to this, farmers are classified into three categories. About 58.7% respondents used own capital for cattle fattening 28.0% respondents taken bank loan and 13.3% from other sources such as NGO loan and lending for cattle fattening. The mean is 1.76 with a standard deviation is 0.72.

Table 4.4 Source of capital of respondent

Parameters	Frequency	Percent	Mean± SD
Own	44	58.7	1.76±0.72
Bank	21	28.0	
Others	10	13.3	
Total	75	100.0	

4.2 Factors associated with cattle

4.2.1. Breed Type

Factors associated with cattle fattening practice are shown in Table 4.5 most of the respondents selected their cattle on the basis of age, sex, and breed, respectively. Usually they purchase cattle at the age of 2 to 2.5 years. Some respondent who have no training or no knowledge about fattening, they purchase cattle more than 2.5 years of age. The respondents have 34.6% Deshi, 14.7% cross and 50.7% was both of Deshi and cross.

Table: 4.5 Breed Type

Parameters	Frequency	Percent	Mean± SD
Deshi	26	34.6	2.56±0.84
Cross	11	14.7	
Both	38	50.7	
Total	75	100.0	

4.2.2 Duration of fattening Program

Most of the respondent's fattened cattle for 6 months (46.7%).and rest fattened a prolonged period .About 44.0% practices for three months and rest 9.3% for 1year.Usually they practice this program before Eid –Ul-Azha .The respondent who have training, practice this program for 3 months. Other who have do not take any training are practice for 6 months or 1 year, (Table 4.6).

Table: 4.6 Duration of fattening Program

Parameters	Frequency	Percent	Mean± SD
3 Months	33	44	1.69±0.527
6 Months	35	46.7	
One year	7	9.3	
Total	75	100.0	

4.2.3 Purchase time of cattle

Purchase time of cattle two types. One is all the year, which means there

is no definite time in the year. Another is occasionally. Table 4.7 shows that, most of the farmers (84.0%) usually bought cattle occasionally, whereas rest 16% purchase cattle at all the time of the year. About 63 respondent bought cattle usually 3-6 months before Eid-ul-Azha (Muslim festival) and then they are fattened and sold. Rest 12 respondent bought cattle at all the time of the year. Their mean is 1.91 and standard deviation is 0.425.

Table: 4.7 Purchase times of cattle

Parameters	Frequency	Percent	Mean± SD
All the year	12	16	1.91±0.425
Occasionally	63	84	
Total	75	100.0	

4.3 Other factors associated with cattle fattening

About 61.3% respondents had experience respondents for short time usually for three to seven days. Rest 38.6% had no experience of training on cattle fattening. The cattle farmers were unaware about various training courses offered by different organizations. Islam (2004) found that training experience was an important factor, which enhanced the level of knowledge and improve skills on various aspects of agricultural technologies. About 64% respondents had no Government support, whereas 36% had taken Government support. Most of the large scale farmers provide extra housing facilities for their cattle. About 48% respondents provide extra housing facilities whereas 52%. Provide no extra housing facilities. About 65.3% respondents had no feed availability whereas 34.6% respondents had availability of feed. Most of the respondents (62.6%) had an opinion that feed cost is fluctuated and rest 37.7% said that; there is no fluctuation on feed cost. About 86.6% respondents used vaccine against infectious disease regularly for their cattle and about 78.6% respondents took help from veterinary surgeon

for treatment of their cattle. (Table 4.8)

Table 4.8: Other factors associated with cattle fattening

Parameters		Yes	No	Total	Chi-Squire Value
Training	Count	46	29	75	.095
	%	61.3	38.6	100%	
Govt. Support	Count	27	48	75	.202
	%	36	64	100%	
Keeping Facilities	Count	41	34	75	
	%	54.6	45.3	100%	
Housing Facilities	Count	36	39	75	
	%	48	52	100%	
Feed Available	Count	26	49	75	
	%	34.6	65.3	100%	
Cost fluctuate	Count	47	28	75	.226

	%	62.6	37.3	100%	
Vaccine	Count	65	10	75	142
	%	86.6	13.3	100%	
Treatment	Count	59	16	75	549
	%	78.6	21.3	100%	
Marketing facilities	Count	12	63	75	
	%	16	84	100%	
Transport media	Count	21	54	75	.216
	%	28	72	100%	
Cost-benefit Ratio	Count	20	55	75	213
	%	26.6	73.3	100%	
Insurance Capacity	Count	11	66	75	
	%	14.6	88	100%	

4.3.1 Feeding system of cattle fattening

Both of extensive and semi-intensive production systems were practiced reported by the respondents for cattle fattening in the study areas. Table 4.9 shows that, 54.67% respondents practice stall-feeding, 18.66% respondents practice extensive system consisted of grazing their own croplands after harvesting and crops grazing on roadside grasslands. About 26.67%% respondents practice semi-extensive system included cut and carry method and stall-feeding system.

Table 4.9: Feeding system of cattle

Parameters	Frequency	Percent	Mean±SD
Grazing	14	18.66	2.06±0.732

Stall feeding	41	54.67	
Both (Grazing & Feeding)	20	26.6	
Total	75	100.0	

4.3.2 Feed resources and feeding practices

From this study 67.4% respondent reported that feeds are not available for small scale cattle fattening. The result of this study was in agreement with Rahman *et al.*, (2001) where 70% respondents reported that feeds are not available. One of the advantages of the small scale cattle fattening by the rural respondents is that they used locally available feed resources. Family members of the respondents are involved in feed processing and offering feed daily to the cattle. No improved feeding technologies, such as urea treated of straw and Urea Molasses Block (Hossain *et al.*, 1996b) supplements were used by the farmers. Although they were trained but they did not follow this technology because they seemed that it was difficult and time consuming them to follow. Indigenous knowledge on cattle feeding like chopping of straw, mixing of green grass with straw, feeding tree leaves etc (Rahman *et al.*, 1998) practiced by the rural farmers of Mymensingh was more or less same to the feeding practices of this study. In study area respondents fed green grass to their cattle when available. Rice straw was the main feed source in the study areas. In all the upazillas under study most of the respondents compulsorily bought rice straw as their cattle feeds. Chopped rice straw was offered mainly during stall-feeding with adequate supply of water. Respondents used ponds, wells, tube-wells as the source of water of their cattle. Traditional feed and water troughs were used for these purposes. Many respondents had knowledge on some of the feeding technologies and high quality fodder cultivation. In the study area the respondents found using urea molasses straw (UMS) technology to fatten their cattle which only 12.7% of the total respondents were under study. None of them was found to cultivated

fodder crops for this business sowing to lack of own land. Distribution of respondents according to their feeds is available for small scale cattle fattening differ significantly. Out of the 75 respondents, 32.6% respondents said that feeds are available but 67.4% respondents said that feed stuffs given to the cattle are not available,(Table 4.10).

Table 4.10: Feedstuffs supplied by the farmer to their cattle

Included		Excluded	Total
Parameters	Percent	Percent	Percent
Rice straw	82.7%	17.3%	100.0%
Local grass	86.2%	13.8%	100.0%
Wheat bran	61.0%	39.0%	100.0%
Maize	63.4%	36.6%	100.0%
Rice polish/bran	91.0%	9.00%	100.0%
Kheshari bran	5.5%	94.5%	100.0%
Til oil cake	29.1%	70.9%	100.0%
Mustard oil cake	83.6%	16.4%	100.0%
Broken rice	26.4%	73.6%	100.0%
Salt	88.0%	12.0%	100.0%

4.4 Marketing system of beef cattle

Marketing means a process through which the products are transferred from producer to the consumers. For marketing of any product it is essential to transfer it to the consumer in one place from widely scattered producing point. Beef cattle marketing starts from the

products who sell the animals at their homesteads or at the livestock selling markets by the butchers or consumers. Before the festival of Eid-ul-Azha, animals were taken to local market for selling, on market days. Buying and selling are completed through bargaining practice. In the process of marketing cattle middlemen and butchers are involved. Marketing channels are alternative routes of products flows from producers to consumers (Kohl and Uhl, 1980 p. 5). It is made up by the middlemen who move the goods from the producers to ultimate consumers the chain of intermediaries of middlemen through which the transaction of goods takes places between the producers and the ultimate consumer is known as a marketing channel. It is the pipe line through which a product flows on its way to the consumers which is in agreement with Rashid (1969). He said that marketing channel referred to the sequential arrangement of various marketing intermediaries involved in the movement of products from production to consumers. In this study area intermediaries were involved in marketing cattle.

4.5 Daily routine activities in feeding and management of cattle fattening

Daily (24 hours) routine work of the farmers for rearing cattle is shown in Table. Usually fanners do the cleaning work in the morning at 6 am when cattle is taken out of the house. The farmers supplied the concentrate allowance around 10 am and adlibitum water is given to the cattle at 3 pm. At around 3 pm they fed the animal water with grass and concentrated and salt. In the evening animal were given straw mixed with green grass for rest of the day and night. The daily routing works in this study were similar to that of Ahmed *et al.* (2002) but in some cases these results differed. Ahmed *et al.*, (2002) reported that usually farmers do the cleaning operation in the morning at 6.00 A.M. The farmers usually supplied the concentrate allowance around 10.00 A.M. and adlibitum water at 2.00 P.M. In the evening, animals were given straw mixed with green grass for rest of the day and night. From this study it was observed that respondents usually do not follow any specific routine activities. It

depends on the available time of the family members. Daily routine activities of respondents in the different district of Bangladesh are more or less same but time variation in same activities was observed. (*Appendix B.*)

4.6 Problems faced by the respondents and suggestions

Problems faced by the farmers during the whole period of this study were shown in rank order. The result of this study (Table 4.11) shows that 94.6% respondents mentioned the greatest problem for small scale cattle fattening and mentioned about high price of the feeds. The result of this study differed from. Ali and Anwar (1987) and Hossain *et al*, (1996b) where they found that shortage of animal feed was the greatest problem of the farmers for rearing cattle.

Hashem *et al*, (1999) reported that lack of training, lack of credit facilities, price variation in different markets, disorganized marketing system were the problem for cattle fattening in Bangladesh. They also mentioned that about farmers had the problem of transporting cattle for marketing. The result of this study was more or less similar to Hashem *et al*, (1999). In study areas unlearned and unhygienic condition of market place was also a major problem.

Table 4.11: Major Problems that are faced by the farmers

Parameters	Include		Exclude		Total	
	N	Percent	N	Percent	N	Percent
High Feed Cost	71	94.6%	4	5.3%	75	100%
High Transport cost	64	85.3%	11	14.6%	75	100%

Poor Marketing System	55	73.3%	20	26.6 %	75	100%
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Table 4.11 shows that, nearly 94.6% respondents faced high cost of feed. Rest faces high transport cost, poor marketing system. There is some another major problems faced by the farmers are given below:

4.7 Problems on fattening and marketing

Manage mental problems

- ☐ High price of feeds
- ☐ Non availability of pasture land
- ☐ Lack of knowledge about fattening
- ☐ Lack of cattle shed
- ☐ Low capital investment
- ☐ Complexity of Bank loan
- ☐ Insufficient Training program
- ☐ Housing problem during rainy season
- ☐ Natural calamities
- ☐ Cattle theft problem
- ☐ Lack of high yielding fodder crop
- ☐ Shortage of cattle feed
- ☐ Lack of sufficient green grass supply
- ☐ Entrance of Indian cattle

Marketing problems

- ☐ Unlearned & Unhygienic condition of market place

- ☐ Lack of place in the market
- ☐ Market site far from Farmers house
- ☐ High market Tax
- ☐ Lack of Govt. control on price
- ☐ No market regulation
- ☐ Price fluctuation
- ☐ No grading system of cattle
- ☐ Higher transportation cost
- ☐ Unfair price from dalal

Suggestions to improve cattle fattening

- ☐ Improvement of Feeding technology
- ☐ Lowering the feed cost
- ☐ Need government support
- ☐ Govt. should take fodder cultivation program
- ☐ Subsidy needed on animal feed
- ☐ Training facilities to the people
- ☐ Providing bank loan facilities
- ☐ Motivation is needed on beef fattening
- ☐ Cattle feed should be made available
- ☐ Feeding UMS is beneficial
- ☐ Preparation of balanced ration to reduce the cost
- ☐ Marketing improvement of market facilities
- ☐ Government legislation on market price
- ☐ Price fluctuation should be checked
- ☐ Proper capital management

About 94.6% respondents reported shortage of animal feed, 88% reported lack of easy Bank loan. The need lowering the feed cost, government support, training facilities to the people, providing bank loan

facilities ,improvement of communication and Marketing system should be made available were the most important suggestions and put forward by 94.6%, 88%, 89.3%, 82.6% and 80.0% of the respondents.

Table 4.12: Suggestions to improve cattle fattening

	Included			Excluded		Total
Parameters	N	Percent	N	Percent	N	Percent
Feed available	71	94.6%	4	5.3%	75	100.0%
Easy Bank Loan	66	88.0%	9	12%	75	100.0%
Improvement communication system	67	89.3%	8	10.6%	75	100.0%
Training	62	82.6%	13	17.3%	75	100.0%
Improvement of marketing system	60	80.0%	15	20%	75	100.0%

CHAPTER 5

SUMMARY AND CONCLUSION

The major findings of the study have been summarized in the following sections. The experiment was conducted to find out the management system of small scale cattle fattening in three upazilla under Rangpur districts of Bangladesh. The data was collected through an interview schedule involving 75 respondents of three upazila under Rangpur districts who were involved in cattle fattening.

According to the data age of the respondents ranged from 22 to 65 years with an average of 42.22 and a standard deviation of 9.25 years. Highest proportion (48 percent) of the farmers was in the middle aged and 18.6 percent belonging to young aged category and 33.3 percent to old aged category.

The level of education of the farmers ranged from primary school to above HSC level and the average was 4.2 with a standard deviation of 2.97. Among the total respondent 76.0 percent had primary, 21 percent had secondary and 2.6 percent had above secondary level of education.

The household size of the cattle farmers ranged from 2 to 8 numbers, the mean being 4.64 with standard deviation of 1.543. Among the total respondents, the majority (55 percent) of the cattle farmers had small sized family, 29 percent medium and 16 percent in large family.

Number and percentage distribution of respondents according to the occupation and land size are shown in Table 4.2 and 4.3 Out of the 75 respondents 57.3% are involved in agriculture, distribution of respondents, 25.3% in business, 12.1% in service and 5.8% in beef fattening With a mean of 1.62 and standard deviation is 0.82. The total respondents were classified into four categories most of the farmers (57%) who are directly related to Agriculture are more involved in fattening than those who are related to business (25.0%) or service sector (12.0%) respectively.

The source of capital of farmers varies. According to this, farmers are classified into three categories. About 58.7% respondents used own capital for cattle fattening 28.0% respondents taken bank loan and 13.3% from other sources such as NGO loan and lending for cattle fattening. The mean is 1.76 with a standard deviation is 0.72.

Most of the respondents selected their cattle on the basis of age, sex, and breed, respectively. Usually they purchase cattle at the age of 2 to 2.5 years. Some respondent who have no training or no knowledge about fattening, they purchase cattle more than 2.5 years of age. The respondents have 34.6% Deshi, 14.7% cross and 50.7 was both of Deshi and cross. It contains a mean 2.56 with a standard deviation of 0.84.

Most of the respondents fattened cattle for 6 months (46.7%). and rest fattened a prolonged period. About 44.0% practices for 03 months and rest 9.3% for 1 year. their mean is 1.76 and standard deviation is 0.762. Usually they practice this program before Eid –Ul-Azha. The respondent who have training, practice this program for 3 months. Other who have do not take any training are practice for 6 months or 1 year. Most of the farmers (84.0%) usually bought cattle occasionally, whereas

rest 16% purchase cattle at all the time of the year. 63 respondent bought cattle usually 3-6 months before Eid-ul-Azha (Muslim festival) and then they are fattened and sold. Rest 10 respondent bought cattle at all the time of the year. Their mean is 1.81 and standard deviation is 0.331.

About 61.3% respondents had experience respondents for short time usually for three to seven days. Rest 38.6 % had no experience of training on cattle fattening. The cattle farmers were unaware about various training courses offered by different organizations. Islam (2004) found that training experience was an important factor, which enhanced the level of knowledge and improve skills on various aspects of agricultural technologies. About 64% respondents had no Government support, whereas 36% had taken Government support. Most of the large scale farmers provide extra housing facilities for their cattle. About 48% respondents provide extra housing facilities whereas 52%. Provide no extra housing facilities. About 65.3% respondents had any feed availability whereas 34.6% respondents had availability of feed. Most of the respondents (62.6%) had an opinion that feed cost is fluctuated and rest 37.3% said that; there is no fluctuation on feed cost. About 86.6% respondents used vaccine against infectious disease regularly for their cattle and about 78.6% respondents took help from veterinary surgeon for treatment of their cattle.

It is very much important to have satisfactory clarification about the findings of the study and to draw a meaningful conclusion. Based on the findings of the study and their logical interpretations the following conclusions were made:

- The results of this study may be useful for farmers and researchers to identify the overall problems and their remedies on selection feeding, management and marketing related to cattle fattening. To make cattle fattening a successful program support services like easy bank loan, low cost processed feed needs to be supplied to the

farmers.

- Household size, farm size, farming experience and social mobility of the respondents had no relationship with their extent of problems in cattle fattening.
- Age of the respondents had positive significant relationship with their extent of problems in cattle fattening. When a farmer becomes aged, they become less innovative towards the adoption of improved farming practices and they will be slightly exposed with communication media. This led to the conclusion that if age of the farmers increased, problem in management of cattle will increase.
- Level of education of the respondents had significant relationship with their fattening of cattle. It may be concluded that if education facilities are available to the farmers, the level of knowledge will be increased which in turn help in the reduction of problem in fattening of cattle.
- Training is needed on beef cattle fattening from Government and Non-Government Organizations. So the findings would help in proper management of small scale cattle fattening in rural area of Bangladesh. Training is needed on beef cattle fattening from Government and Non- Government Organizations
- About 50.7% respondents provided existing traditional cattle shed. About 63.7% respondents using cattle fattening tablets, 12.7% respondents using UMS and 31 % respondents followed conventional feeding system.
- The farmers moved their animals from the shed early in the morning and cleaned the house then supplied half of the concentrate and taken the animals in the field or road side for grazing. Washing of animals was completed and then supplied rest of the concentrate and offered adlibitum drinking water. Farmers followed cut and carry methods for green grass supply to the fattening cattle and sometimes they grazed their cattle in the field or road side. Most of the farmers purchased feed and supplied tube

well water for their cattle. Rice straw, green grass, tree leaves, mustard oil cake, rice polish, wheat bran and weeds were normally offered to the cattle.

- The results of this study may be useful for farmers and researchers to identify the overall problems and their remedies on selection feeding, management and marketing related to cattle fattening. To make cattle fattening successful program support services like easy bank loan, low cost processed feed needs to be supplied to the farmers.
- Usually the respondents sold their cattle in the local market. Shortage of animal feed (50%), high cost of feed (90%), lack of credit facilities (50%), market site distance (85%) from respondents house and organized marketing systems (95%) were the major problems in small scale cattle fattening and marketing.
- Knowledge about cattle fattening of the farmers was found to have significant relationships with fattening of cattle. It may be concluded that, if knowledge in cattle fattening will be increased, it will help in the formation of favorable attitude towards the cattle fattening which will reduce problems.

Based on the findings and conclusions of the study, the followings recommendations could be made:

- The findings of the study revealed that majority of the respondents faced problems which are related to feed. Based on the findings it may be recommended that Govt. should give subsidy in the Livestock sector. Department of Livestock Services and other organizations should take necessary steps such as, arrangement of training on cattle fattening, preparation of Urea Molasses Block, Urea Molasses Straw etc. Farmers faced problems with time duration of this program due to lack of knowledge, hence, there is enormous scope to develop this sector.
- Thus Department of Livestock Services (DLS) and other related

organizations should make proper plan regarding the improvement of farmer's knowledge on cattle fattening that is why they will be able to practice cattle fattening, without facing problem.

- It was found that 72% percent of the respondents had only primary education. Problems will reduce if education level increases. So, government may take proper steps to develop their educational condition.
- Income from various sources of a family had great role in their livelihood activities. Annual income negatively related with the problems of the farmers in adopting cattle fattening, it would be recommended that necessary facilities have to be provided to increase their income such as bank loan, support from different social organization and livestock sector etc. In this regard NGOs can play a vital and effective role.
- The study revealed that training exposure of the farmers was found significantly related with their problem confrontation. Therefore it was recommended that more number of training courses like training on cattle fattening, training about cattle rearing, training about cattle marketing, etc should be conducted by Department of Livestock Services, World Vision, and Bangladesh Agricultural University etc.
- Extension media contact can help an individual to work in co-operation with others for solution to various farming problems. In this study there was significant negative relationship of extension media contact with problem confrontation. Contact with media is very much essential for involvement in farming activities. But in the study area, the respondent had low to medium extension media contact. Recommendation for this reason may be that extension work should be maximized in this area and mass media like TV, radio, newspapers etc. have to be enhanced. Contact of extension worker as well as officers with farmers should be

increased.

- The extent of knowledge of the respondents about cattle fattening, in study area was not satisfactory. For larger dissemination of cattle fattening, technology to the farmers, it is recommended that the concerned authority- extension service providers should take initiatives to increase knowledge of the farmers towards practice cattle fattening. So that more number of farmers will be interested in cattle fattening practice. Organization of motivational campaign and non-formal educational program for the farmers would be effective in popularizing the adoption of cattle fattening, among the farmers.

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APPENDICES

Appendix A

Interview Schedule

Department of Animal Science

Hajee Mohammad Danesh Science and Technology University, Dinajpur.

An Interview Schedule for the Study Entitled

“Study on Traditional cattle fattening Program at Three Upazila of Rangpur District”

Serial _____ No.....

Village:.....Union:.....Upazilla.....

.....

Farmer:

1. Name:.....

2. Address:.....

3. Gender:

Male

Female

4. Age: How old are you?.....Years

5. Formal Education: Please tell me your level of formal education?

.....Years of schooling.

6. Household size: How many people do live together in your family?

7. Earning members: How many people generate income for your household?

.....

8. Occupation:

Agriculture Business Butchery Beef Fattening Other Job

Own land: Have you any land for using this purpose?

Yes

No

10. Training: Do you have any training on cattle fattening?

Yes

No

11. Objectives: What are your objectives of doing this job?

Tradition of the family

Not skilled in other job

12. Support from the Government: Did you get any Support from the Government livestock office?

Yes

No

13. Sources of Capital:

Own Capital

NGO Loan

Bank Loan

Lending

14. Number of Cattle: How many Cattle are purchased at a time?

Own number

Purchased number

15. Description of the purchased cattle:

Breed or type.....

Age

Sex.....

Weight

16. Types of Cattle are purchased:

Bull calf Bullock Heifer All

Cattle are purchased from

Farmer Market

18. Transport Facilities for carrying purchasing cattle to home:

a. Truck /Lori b. Train c Shallow boat d. van (pick-up) e.
walking

19. Purchase time:

All the year Occasion

20. Duration of the program:

3 months

6 months

More than 6 months

21. Type of Facilities: What type of facilities you are providing for
keeping the
purchased cattle?

At your own place at a hired place

22. Housing facilities for rearing purchased cattle:

Existing traditional cattle shed

Shed built for keeping a batch

23. Feed:

a. Are feed available for cattle?

Yes No

b. Does feed cost are fluctuate?

Yes

No

c. feed stuffs given to purchased cattle:

Types of Feed	Name of the feed	Average
amount		

(Kg/head/day)

1. Rice straw

2. Hay

Green grass/ fodder

1.

2.

3.

Concentrate

1. Wheat bran

2. Maize (crushed/ powder)

3. Rice polish/bran

4. Khesari bran

5. Til oil cake

6. Mustard oil cake

7. Broken rice

8. Salt

9. Others

24. Feeding system:

Grazing

Stall feeding

Both of Grazing and Stall feeding

25. Additional measures taken
for fattening:

Urea Molasses Block

Urea Molasses Straw

Fattening Tablets\Powder

No Measures taken

26. Did you apply any Vaccine?

Yes

No

27. If Yes, then Please Specify:

a.....

b.....

c.....

28. Do you take any treatment?

Yes

No

29. Marketing Facilities:

Available

Unavailable

30. Where do you sell cattle?

From the market

from the house

31. Transport Facilities for carrying to the selling market:

a. Truck/Lori b. Train c. Shallow boat d. van (pick-up) e. Walking

32. Income from selling cattle:

Sources of income Total Production Market Price Total price (TK)

Number (Tk/head)

1. Cattle

2. Cow dung

33. Have you any knowledge regarding cost benefit analysis:

Yes

No

34. How do you use this money?

a.....

b.....

c.....

35. Insurance capacity:

Able

Unable

36. Problems faced in cattle fattening:

a.....

b.....

c.....

37. Suggesting to improve cattle fattening:

a.....

b.....

c.....

Thanks for your kind cooperation

Interview

Date.....

Appendix B

Table : Daily routine activities in feeding and management of cattle fattening

Time	Activities	Remark
6.00-7.00 7.00-9.00 am	Taking the animal outside the house, cleaning the house, supply half of the concentrate of daily all location. Observation of animal	☐ Special care was taken by the family members ☐ There was a regular monitoring by the investigator to the farmers house
Taking the animals in the field or roadside for grazing.		
9.00-1.00pm	Cutting of straw. Collection of green grass and mixing straw	
1.00-3.00pm	Rest in shed outside the house.	
3.00-4.00pm	Bring the animal in the house and supply half of the concentrate of daily allocation	

	and supply of drinking water. Again take out of the animal for grazing. Return of animals from the grazing field.	
4.00-6.00pm	Fed kitchen waste, rice gruel with some rice polish and salt	
6.00pm	Arrangement of security of animal house at night.	
6.00pm-6.00am	Cattle in rest of sleep	