

Problems and Prospects of Small Scale Beef Cattle Fattening Program in a Selected Area of Bangladesh

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Abstract: The study was conducted to identify the problems and prospects associated with small scale beef cattle fattening program in three upazilas under Jhenaidah district of Bangladesh. Data were collected from sixty (60) respondents involved in cattle farming through questionnaire. The results indicated that majority (66.6%) of the farmers was middle aged (36-55 years) having various degree of education (73.4%) while 60% of the farmers had small sized family (1-4 members) with 38.3% farmers belonged to landless. About 58.3% farmer's income was between 100,000 to 200,000 BD Taka and 78.3% of the farmers involved in agriculture while all the farmers used their own capital for beef cattle production. Most (93.3%) of the farmers didn't get any training whereas various level of experiences was observed among the farmers. Majority (63.3%) of the farmers never went to upazila livestock office for getting information about beef cattle production. The current status related to beef cattle production revealed that majority (46.7%) of the farmers used artificial insemination while all of the farmers used male cattle for their fattening program. About 58.3% farmers used cattle of less than 1 year whereas none of them practiced urea molasses straw and silage feeding and growth hormone in the fattening program. Only 26.7% of the farmers provided vaccination and 65% used vitamin and minerals while 90 % used local doctors to treat diseases. Most of the farmers (98%) didn't isolate disease infected cattle from other healthy cattle and 38.3% farmers used to access their cattle to outdoor while 31.7% in pasture. Only 3.3% farmers used to keep records regularly. Most (73.33%) of the farmers faced low problem while 26.67% faced medium problem in small scale beef cattle fattening program. Lack of training opportunity, high cost of vaccines, limitation of knowledge were the top three problems of the farmers in small scale beef cattle fattening program which might be solved providing proper training, credit facilities, communication media exposure and extension services.

Keywords: problems, prospects, small scale, beef cattle fattening

1. Introduction

Livestock plays an important role in the economy of Bangladesh providing economic as well as social development and make the achievement of higher economic growth dynamic. It performs various functions as provisions of food, nutrition, savings, income generation, draft power, fuel, manure, transport and earning foreign currency by exporting meat, skin and related waste products, etc. Most of the farmers of the country practice beef cattle fattening either in small or large scale beside other agricultural practices. About 36% of the total animal protein comes directly from the livestock and the rest 64% come from fish, poultry and pulses (BBS, 2014). However, Bangladesh has a large number of livestock and poultry populations but their productivity is very low. The country has about 24.5 million cattle, 1.45 million buffaloes, 25.6 million goats, 3.16 million sheep, 221.30 million chicken and 41.23 million ducks (Tareque *et al.*, 2001).

There are about 24.5 million cattle heads distributed the country and it ranks 3rd in Asian countries and 12th in the world (FAO, 2010). Although the production and consumption of livestock is relatively lower, comparing to other developed countries but the charming matter is that the growth of livestock production is the second highest among all other sub-sector of agriculture in Bangladesh (BER, 2012). Among 180 countries in the world according to meat consumption, the position of Bangladesh is 18th and the amount is about only 7.13 kg per capita per year (DLS,

2009). In 2015, the total meat production was 2.87 million tons while the requirement was 7.82 million tons, which indicates a shocking gap between the production and the requirement. Beef cattle are the important and potential sub-sector to economic development, where this sub-sector has a strategic value to fulfill the human need through progressively increase per capita income. The study aimed to investigate the current status of small-scale beef cattle fattening program, to identify the main problems of the farmer in small-scale beef cattle fattening and to recommend the possible solutions of the identified problems for improving beef cattle production. The study is intended to contribute information and ideas in relation to sustainable beef cattle farming and provide inputs to policy makers for developing the management plan for beef cattle development in order to fulfill the national food security.

2. Materials and Methods

2.1 Locale and sampling

The study was conducted in three upazilas of Jhenaidah district namely Jhenaidah Sadar, Kaliganj and Maheshpur that were chosen randomly (Figure 1). Jhenaidah is one of the dominant districts in Bangladesh in terms of cattle production and the farmers are very much aware of small scale beef cattle fattening program. Twenty (20) farmers who were associated with beef cattle fattening were selected randomly from each upazila and the total number of sample was 60.

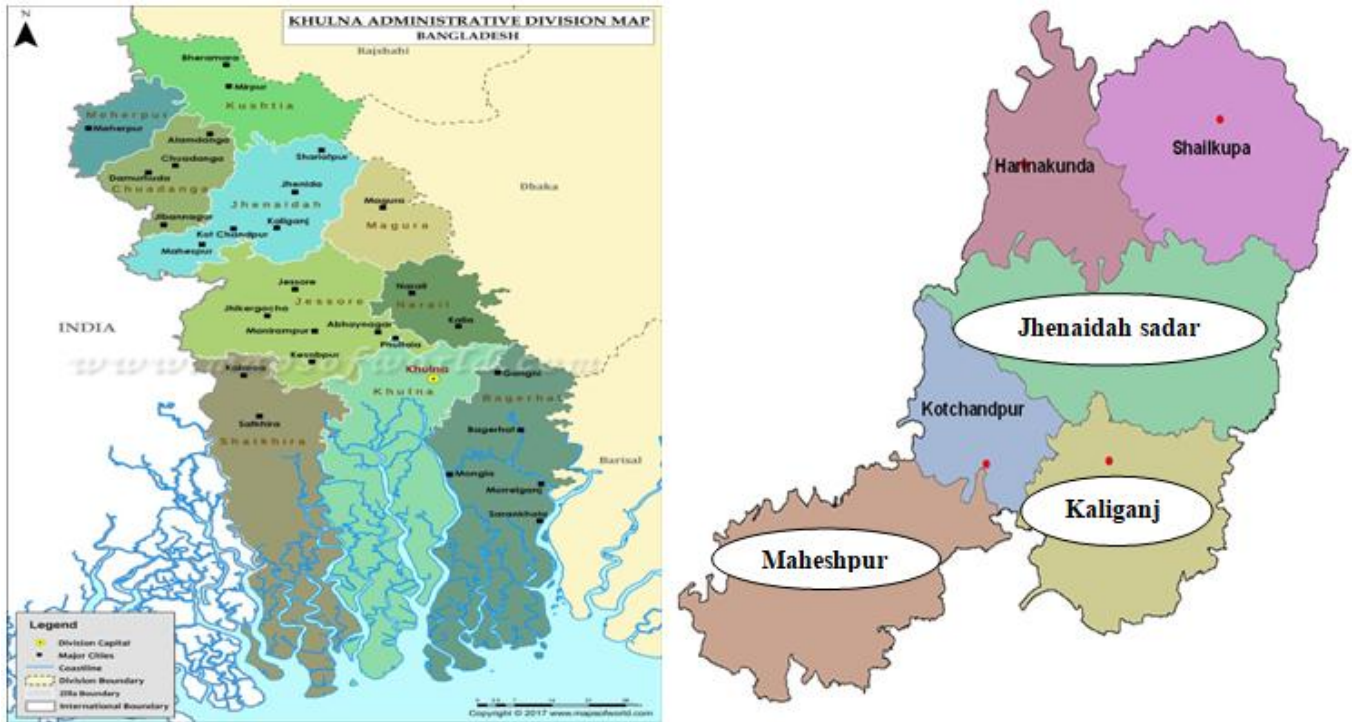


Figure 1: Map of Khulna division and Jhenaidah district showing study area

2.2 Selection and measurement of variables

Reviewing related studies, the researchers considered ten characteristics of the cattle farmers as independent variables. These were; farmer's age, education, family size, occupation, land size, training received, source of capital, extension media contact, farming experience and household income. On the other hand, the problems and prospects of small scale beef fattening was treated as dependent variable. The independent variables were measured based on various scoring techniques while the dependent variable was measured based on four-point rating scale in which 0 = not at all, 1 = some extent, 2 = average extent, 3 = great extent was employed against each of the issues to determine the extent of problems and prospects of cattle farmers. A score of 3, 2, 1 and 0 were assigned against each of the scale. The score of a respondent was determined by summing up all the scores obtained by the respondent against all the issues. The problems and prospects score of a respondent could range from '0' to '36' where '0' indicate no problems and '36' indicate severe problem. To determine the severity of problems a Problem Index (PI) was calculated by using the following formula:

$$PI = N_{ge} \times 3 + N_{ae} \times 2 + N_{se} \times 1 + N_{na} \times 0$$

Where, PI= Problem Index

N_{ge} = No. of the respondents faced problem to a great extent

N_{ae} = No. of the respondents faced problem to an average extent

N_{se} = No. of the respondents faced problem to some extent

N_{na} = No. of the respondents not at all faced problem

Based on PI the 12 issues were ranked to know the extent of problems faced by the respondents.

2.2 Data collection

Data were collected by face-to-face interview of the respondents according to the interview schedule. Before

starting any questions to the respondents the purposes of the study were explained to them so that they could help us by providing the true and accurate information. The questions were explained with all the efforts when they could not understand any questions or felt any hesitations about the question. A check list was used in collecting data related to present status of beef cattle production.

2.3 Data analysis

The collected data were coded, categorized, tabulated and analyzed scientifically. The local units were converted into standard units. The qualitative data were transferred into quantitative data by appropriate scoring techniques. The SPSS computer program was used for analyzing the data. Various descriptive statistical measures such as range, frequency, number, percentage, mean, standard deviation (SD) and rank order were used for categorization and describing the variables.

3. Results and Discussion

3.1 Socio-economic characteristics of the respondents

The results indicate that majority (66.6%) of the farmers was middle aged category and 33.3% farmers were young and old aged. About 36.7% farmers were illiterate, 26.7% passed primary and rest of them passed more than primary. Majority (60%) of the farmers had small sized family (1-4) while 33.3% had medium (5-7) and 6.7% had large sized family (>7). About 38.3% farmers' belonged to landless while 30% small land size, 28.3% marginal and only 3.3% medium farm size, respectively. About 31.7% farmer's income was below 100,000, 58.3% farmer's income was 100,000 to 200,000 and only 10% farmer's income was more than 200,000 BD Taka. Most (78.3%) of the farmers involved in agriculture followed by livestock rearing &

business (11.7%), livestock & job (1.7%) and other occupations (8.3%). Majority (53.3%) of farmers fatten cattle from their own source, 40% farmers fatten purchased cattle and 6.7% farmers fatten cattle from both sources. All the farmers in the selected area invest their own capital for beef cattle production. Most (93.3%) of the farmers didn't get any training on beef cattle fattening. Various levels of experience were observed in the farmers. About 41.7% farmers had 5 to 10 years of experience, 35% farmers had below 5 years of experiences, 15% farmers had 16 to 20 years of experiences, 3.3% farmers had 21 to 25 years, 3.3% farmers had 26 to 30 years of experiences and only 1.7% farmers had 11 to 15 years of experiences. Majority (63.3%) of the farmers never went to upazila livestock office for getting information about cattle production. Ahmed *et al.* (2010) found similar socio-economic characteristics in a research entitled; Factors related to small scale cattle fattening in rural areas of Bangladesh.

3.2 Current status of beef cattle production in the study area

Most of the farmers (46.7%) practiced artificial insemination to produce calf for fattening whereas 40% of the farmers practiced natural and about 13.3% farmers practiced both insemination methods. All of the farmers selected male cattle for beef fattening program. About 58.3% farmers selected cattle of less than 1 year of age, 40% farmers selected cattle of 1 to 2 years and 1.7% farmers selected cattle of 2 to 3 years for the fattening purpose. Most of the farmers (76.7%) didn't choose color of the cattle. All of the farmers didn't practice urea molasses straw (UMS) and silage feeding. About 13.3% of the farmers purchased feed, 1.7% farmers produced the feed by own and 85% farmers used both sources of feed. Majority (58.3%) of the farmers provided cultivated fodder & compound feed while 5% of the farmers fed roadside grass & cultivated fodder, 10% of the farmers fed cultivated fodder & mixed feed, 1.7% of the farmers fed compound feed & mixed feed, 23.3% of the farmers fed roadside grass, cultivated fodder & compound feed and rest 1.7% farmers used roadside grass, cultivated fodder & mixed feed to beef cattle. No farmers in the studied area used growth hormone in the fattening program. About 26.7% farmers practiced vaccination and 73.3% farmers didn't practice vaccination. About 65% farmers used vitamin and minerals and 35% didn't. Most (81.7%) of farmers practiced deworming in the fattening program at a regular interval and 18.3% didn't. About 73.3% farmers faced no disease problem of their cattle, few of the farmers (10%) faced fever of their cattle, 3.3% of the farmers faced diarrhea disease, 3.3 percent of the farmers faced foot and mouth disease, 1.7% of the farmers faced shaking disease, 1.7% of the farmers faced skin disease, 1.7% of the farmers faced fever & diarrhea disease and 5% of the farmers faced other diseases of their cattle. About 10 % farmers use to treat diseases of their cattle by veterinarian and 90% farmers use to treat diseases of their cattle by local doctors. Most (98.3%) farmers didn't isolate disease infected cattle from other healthy cattle and only 1.7% did while 88.3% farmers didn't separate male cattle from the female cattle in housing where only 11.7% did. About 38.3% farmers access their cattle to outdoor and 31.7% farmers access their cattle to pasture. About 36.7% farmers provided permanent housing,

36.7% farmers semi-permanent, 23.3% farmers tin shade & bamboo structure and 3.3% farmers provided earthen wall houses for their beef cattle. About half (48.3%) of the farmers used crossbred, 45.0% used indigenous breed and 6.7% farmers used both of the cross and indigenous breed for fattening purpose. About 63.3% farmers purchased cattle anytime of the year and 36.7% farmers purchased cattle occasionally, while 90% farmers sell their cattle occasionally. Most (91.7%) of the farmers fattened cattle for more than one year. Only 3.3% farmers used to keep records regularly (Table 4.1). Rashid *et al.*, (2017) observed similar results of cattle fattening study.

Table 4.1: Current status of beef cattle fattening program in the study area

Parameters	Categories	Frequency	Percent
Breeding Method	Natural	24	40.0
	Artificial	28	46.7
	Both	8	13.3
Age	<1yr	35	58.3
	1 to 2 yrs	24	40.0
	2 to 3 yrs	1	1.7
Sex	Male	60	100.0
Color selection	Yes	14	23.3
	No	46	76.7
Color	Red	6	42.9
	Black	8	57.1
Type of feed	Roadside grass & cultivated fodder	3	5.0
	Cultivated fodder & Compound feed	35	58.3
	Cultivated fodder & Mixed feed	6	10.0
	Compound feed & Mixed feed	1	1.7
	Roadside grass, Cultivated fodder & Compound feed	14	23.3
	Roadside grass, Cultivated fodder & Mixed feed	1	1.7
Source of feed	Purchase	8	13.3
	Produce	1	1.7
	Both	51	85.0
UMS feeding	No	60	100.0
Silage feeding	No	60	100.0
Use of growth hormone	No	60	100.0
Vaccination	Yes	16	26.7
	No	44	73.3
Use of vitamin and minerals	Yes	39	65.0
	No	21	35.0
Deworming	Yes	49	81.7
	No	11	18.3
Disease Incidence	No disease	44	73.3
	Fever	6	10.0
	Shaking	1	1.7
	Diarrhea	2	3.3
	FMD	2	3.3
	Skin disease	1	1.7
	Fever & Diarrhea	1	1.7
	Others	3	5.0
Treatment of the diseases	Local doctor	54	90.0
	Veterinarian	6	10.0
Isolation of sick cattle	Yes	1	1.7
	No	59	98.3
Separation of male &	Yes	7	11.7
	No	53	88.3

female cattle			
Access to outdoor	Yes	23	38.3
	No	37	61.7
Access to pasture	Yes	19	31.7
	No	41	68.3
Livestock housing system	Permanent	22	36.7
	Semi-Permanent	22	36.7
	Tin Shade & Bamboo Structure	14	23.3
	House of Earthen wall	2	3.3
Record keeping	Yes	2	3.3
	No	58	96.7

9	Problem of diseases	18	10th
10	Lack of marketing facilities	8	11th
11	Scarcity of proper feed	40	8th
12	Lack of artificial insemination facility	6	12th

3.3 Problems faced by the farmers in small scale beef cattle fattening

The problem scores faced by the farmers in small scale beef cattle fattening program ranged from 0 to 36 with a mean of 12.13 and standard deviation of 2.32. The distribution of respondents according to problem faced in small scale beef cattle fattening program is shown in Table 4.2.

Table 4.2: Distribution of the farmers according to problems faced in small scale beef cattle fattening program

Parameter	Category	Score	Respondents (N=60)		Mean	SD	Min	Max
			Number	(%)				
Problems	No	0	0	0.00	12.13	2.32	7.0	15.0
	Low	1-12	44	73.33				
	Medium	13-24	16	26.67				
	High	>24	0	0.00				

Data presented in Table 4.2 reveals that majority of the farmers (73.33%) had less problem confrontation while 26.67% farmers had medium problem confrontation and none of them had high problem confrontation in small scale beef fattening program. This might be as a result of education, better planning, hard working and well execution of the farmers. Huque and Sarker (2014) found that most of the farmers faced medium to high problems in cattle production.

3.4 Extent of problems faced by the farmers in small scale beef cattle fattening

To determine the severity of problems faced by the farmers in small scale beef cattle fattening program, a Problem Index (PI) was calculated which helped to find out the extent of problems through a rank order technique as shown in table 4.3.

Table 4.3: Rank order of the faced problems in beef cattle fattening

Sl. No.	Problems	Total Score	Rank Order
1	Lack of good breed	26	9th
2	Unavailability of veterinary doctor	93	4th
3	Lac of capital	74	5th
4	Unavailability of vaccines	68	6th
5	High cost of vaccines	99	2nd
6	Lack of training opportunity	126	1st
7	Low economic return	65	7th
8	Limitation of knowledge	95	3rd

Data furnished in Table 4.3 reveals that the severe problems faced by cattle farmers in small scale beef fattening programs were lack of training opportunity, high cost of vaccines, limitation of knowledge, etc. while the less severe were lack of marketing facilities, lack of artificial insemination facilities, etc. This might be due to lack of proper initiatives and follow up activities by Govt. and non govt. organizations. 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 of Bangladesh.

Prospects

Training: There is a lack of knowledge about beef cattle fattening which can only be improved by training program that is really rare in the rural areas of Bangladesh. Govt. and non-govt. organizations should arrange appropriate training programs timely especially in the rural areas.

Media exposure: Extension media and mass media can play a vital role to make the rural farmers aware of beef cattle fattening in a scientific way through telecasting different programs related to beef cattle fattening.

Extension service: The extent of knowledge of the farmers about beef cattle fattening was not really satisfactory. For disseminating modern beef cattle production technology to the farmers, it is necessary for the extension service providers and agencies to be more active and communicative.

Credit facility: Credit is an important catalyst to conduct a beef cattle farm, so timely and low interest credit facilities should be ensured in an efficient and effective way to the farm holders for carrying out the farms with good facilities.

4. Conclusion

The present condition of small scale beef cattle fattening in the study area is not satisfactory. The farmers use traditional methods livestock rearing. Most of them don't keep male and female cattle in separate house; they even don't isolate disease infected cattle from other healthy cattle. They even don't familiar with silage and urea molasses straw feeding. They even don't vaccinate regularly. Lack of training opportunity, high cost of vaccines, limitation of knowledge, unavailability of veterinary doctor, lack of capital, unavailability of vaccines, etc. are the major problems in beef cattle fattening program in the study area. With a view to increase productivity of small scale beef cattle fattening programs, the farm holders should be provided appropriate training, modern facilities, timely credit services, extension services and efficient usage of mass media.

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