

Research article

A study of welfare issue of commercial dairy farms owners and employees in Chittagong

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ABSTRACT

Commercial dairy farming is becoming popular in Bangladesh to fill up the demand of milk and generation of employment opportunity. The aim of the present study was to study the socioeconomic status of the farm owners and employees of commercial dairy farm in Chittagong. A cross sectional study was carried out for a period of 10 months in urban (Chittagong City Area), peri-urban (Sikolbaha) and rural areas (Potiya, Anwara, Banskhalai and Mirsharai) through a limited test questionnaire survey followed by final survey with a structured questionnaire. A total of 332 dairy farms were surveyed to observe economic status of employees and socioeconomic status of owners. Monthly salary of dairy farm employees was recorded between BDT (Bangladeshi taka) 2000 and 8000. Of the recorded, 97% dairy farm owner had provided residence to their employees free of cost and 6% employees suffered from back or joint pain. Among the studied farms, 31% owners had secondary level of education, 58% owners had tin shed building, 91% farm owners were Muslim and 80% owners were male and owned 2.29 acres of land/farm on an average. The highest number of farmers (45%) has only 1 earning person and 58.49% farm owners had tin shed building. The average income from livestock farming was almost TK. 689,059. The present study revealed that educated farmers are being involved with the commercial dairy farming creates self employment facilities along with generation of employment opportunities for others.

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INTRODUCTION

Bangladesh is located in South Asia and covers an area of 1,47,570 square kilometers. The geographical location is in between 20°34'-26°38'N and 88°01'-92°41'E. The population of the country is 142, 32 millions where most of the people (73%) live in the rural areas (CIA, 2011). Absolute poverty means the percentage of the population eating less food than is required to sustain the human body (2122 calories per day for an adult male) (WFP, 2005) and per capita US\$750.0. (The Daily Star, May 28, 2010). One-third of the population in this country is illiterate (Census, 2011).

Most of the people's livelihood in Bangladesh is dependent on cropping and livestock farming. As an agricultural sub-sector, livestock has been playing a central role in the traditional subsistence farming, contributing almost 6.5% of the GDP, 13% of the total foreign exchange earnings and providing employment to 20% of the population (BBS, 2004). The rural mass, particularly landless, marginal, small farmers and women besides getting cheap nutrition are also self employed in this sector who rear livestock for supplementing their family income. Thus, livestock sector plays an important role in the national economy

and in the socio-economic development of the country. The country has one of the highest cattle densities of 145 large ruminants/square kilo meter compared with 90 for India, 30 for Ethiopia, and 20 for Brazil (Karim, 1997).

Dairying is an earning source to small/marginal farmers and agricultural labourers. It also provides a good source of organic matter for improving soil fertility and crop yields and generating bio fuels from the dung. The surplus fodder and agricultural by-products are gainfully utilized for feeding the animals. The main beneficiaries of dairy programmes are small/marginal farmers and landless labourers. Dairy farming can also be taken as a main occupation around big urban centers where the demand for milk is high.

There are 22.87 million cattle population in Bangladesh of which 3.79 million is dairy cows. This contributes 14% of the total milk requirement. About 92 percent of the dairy cattle is non descriptive indigenous and only 8% is reported to be crossbred (BBS, 2006). The majority of the rural households in Bangladesh have 1-3 dairy cows (Hemme, 2008). Sometimes these cattle are used as dual purpose for milk and draft power within mixed farming system in Bangladesh (Saadullah, 2001), a predominant source of income, nutrition and jobs (Haque, 2009). To fulfill the demand of increasing population and creation of more employment opportunity, household intensive dairy farming is increasing day by day. In Bangladesh, the government has been trying to boost up domestic milk production through giving incentive among farmers to encourage the establishment of mini dairy farms of cross bred cattle. Cross bred cattle are more than twice as productive as local breeds (Alam, 1995). There has been a significant increase in the number of commercial dairy farms in recent years.

As an integral part of people's livelihood in Bangladesh nowadays commercial dairy farming is increasing day by day alongside of the household livestock rearing. But farmers are not conscious enough about welfare issues of farm animals and farm employees which are important factors for sustainable farming system. There are limited studies in Bangladesh on the welfare issues of farm owners and employees. Considering above backgrounds the present study is aimed to study socio-economic status of farm employees and farmers own self.

MATERIALS AND METHODS

Study area

A cross sectional study was carried out in urban (Chittagong City Corporation), peri-urban (Sikolbaha) and rural areas (Potiya, Anowara, Bansnkhalī Sitakunda and Mirsharai) under Chittagong District for a period of 10 months from March, 2011 to December, 2011 using a structured questionnaire, through farm visit and face to face interview.

Sampling Procedure

A list of 1000 dairy farmers was collected from the Directorate of Livestock Services (DLS) and local veterinary practitioners from three study areas. From the list a total of 332 farms were selected randomly which contain at least 3 milking cows. A total of 89 dairy farmers from urban area (Chittagong City Corporation), 79 (per-urban Sikolbaha) and 164 (rural area: Potiya, Anowara, Bansnkhalī Sitakunda and Mirsharai) were finally selected and included in the study.

Data collection

Before conducting the main cross sectional study, a pre-testing of the questionnaire was done on 10% randomly selected dairy farms in the study areas and necessary changes were incorporated before embarking on the actual study. The farmers on the list were then contacted by the author and the trained local veterinary doctor, informed the purpose of visit and requested to react on the questionnaire. A formal consent was therefore received from the farms and farmers. The data were collected on the following heads: demographic information of dairy farmer (age, sex, education, caste, family type, number of person earning, total income, housing) and Employee information (salary, residence, working hour, other income source, recreation, diseases etc.)

Data analysis

The collected survey data was coded and analyzed using MS Excel 2000 followed by Statistical Package for Social Sciences (SPSS version 9.0) for windows. In which the following major parameters: household characteristics (age, sex, occupation of respondent) and welfare issues of farm workers were considered. A descriptive statistics was done to express the results as percentage, mean and standard deviation. Student "t" was used to know the p>value at 1% level of significance.

RESULTS

Salary status of employee of the Dairy farms

Employees' monthly salary status of 332 dairy farms was recorded between BDT 2000 to 8000. The highest

percentage (61%) of dairy farm employees' salary ranged between BDT 4000 to 6000 and lowest percentage (5%) ranged between BDT 6000 to 8000. (One US Dollar=81.740 BDT) (<http://www.moneyowl.co.uk/forex-rates/BDT/USD/> 6.10.2012). Most of the employee (97%) had residence facilities provided by the employers.

Dairy farms employee suffered from back or joint pain

Of the total 71% dairy farm employees had no back or joint pain whereas 6% employees had suffered from back or joint pain and the remaining did not responded.

Table 1 Education status of the dairy farm owner (N=332)

Category	Variables	Frequency (%)
Education	Illiterate	10.54
	Primary	29.21
	Secondary	30.72
	Higher Secondary School Certificate	18.97
	College/University	10.54
Housing condition of the farm owner	Building	33.73
	Tin shed	57.83
	Thatched	8.43
Caste	Muslim	91.26
	Hindu	6.92
	Buddhist	1.81
Sex	Male	97.89
	Female	2.10

Education status (Table 1) of 332 dairy farm owners was recorded among which secondary level education was the highest (31%), followed by primary (29%). Both illiterate and College/University level educated dairy owners were 11%. Of the total 58% of farm owners had tin shed building, followed by 34 % (brick

build building) and remaining were thatched. There were four religious groups including the Muslims (91%), the Hindus (7%) which are correlated with the present population distribution of Bangladesh and the Buddhists (2%). Most of the dairy farm owners were male (98%).

Table 2 Descriptive family demography of dairy farm owners

Variable (Observation)	Mean	Std	Min-Max
Male ((N=330)*)	2.82	1.38	1-10
Female (N=316)	2.33	1.07	1-6
Children (N=315)	2.96	1.60	1-10
Number of person earning (N=318)	1.63	0.49	1-3
Own land(Acre)(N=277)	2.29	1.69	0.2-12

Data shown in table 2 depict the demographic information on dairy farm owners. The number of male, female and children members ranged from 1-10, 1-6, and 1-10, respectively. The number of earning persons varied from 1-3. Average land owned by the dairy farm owners was 2.29 acres with a ranged between 0.2-12 acres.

Table 3 Housing condition of the farm owner related with number of earning person

Number of person earning(N=318)	Total Number (%)	Housing condition of the farm owner N (%)			
		Building	Tin shed	Thatched	P-value
1	96 (45%)	23(21.69)	62(33.33)	11(42.30)	0.076
2	143 (30.2%)	58(54.71)	77(41.39)	8(30.76)	
3	79 (24.84%)	25(23.58)	47(25.26)	7(26.92)	

The table 3 shows that housing conditions of dairy farm owners in relation to the number of earning person. Among the 332 recorded farms, the highest number of farmers (45%) had 1 earning persons,

30.2% had 2 earning persons and 24.84% had 3 earning persons. The housing condition show that 33.33% farm owners owned brick built building, 58.49% tin shed and 8.18% thatched respectively.

Table 4 Earnings of dairy farm owners from different sources per year

Income sources	Mean (BDT)	Min-Max(BDT)
Crops (n-294)	176,384.4	3,000-8,000,000
Livestock (n-318)	689,059.7	5,500
Business (n-14)	244,285.7	4,000-2,500,000
Service (n-121)	392,595	1,000

Income source of dairy farm owners is shown in table 4. The average income from livestock farming was almost TK. 689,059 followed by TK. 176384.4 from crops, TK. 244285 from business and TK 392595 from others sources. But one has to bear in mind that income

is a sensible variable. Usually in most of the cases the people did not disclose the real data; sometimes they did not have accurate information as income was generated from different sources.

Table 5 Proportion of different disease frequencies related to education of the farm owners

Level of Education	Mastitis(N=324) ^a			Laminitis(N=323) ^b			Hoof lesion(N=324) ^a			Leg lesion(N=324) ^a			Neck lesion(N=323) ^b		
	Yes (%)	No (%)	P-value	Yes (%)	No (%)	P-value	Yes (%)	No (%)	P-value	Yes (%)	No (%)	P-value	Yes (%)	No (%)	P-value
Illiterate	10(13.69)	20(8.0)	0.714	1(2.27)	29(10.4)	0.146	2(5.55)	28(9.7)	0.314	1(3.23)	29(9.9)	0.197	2(6.25)	28(9.6)	0.925
Primary	25(34.24)	70(27.9)		16(36.36)	79(28.3)		16(44.44)	79(27)		14(45.16)	81(27.6)		11(34.37)	84(28.9)	
Secondary	18(24.65)	83(33.1)		18(40.90)	83(29.7)		7(19.44)	94(32.6)		6(19.35)	95(32.4)		9(28.12)	92(31.6)	
HSC	14(19.17)	49(19.5)		5(11.36)	57(20.4)		9(25.0)	54(18.7)		7(22.58)	56(19.1)		7(21.87)	55(18.9)	
College/ University	6(8.21)	29(11.6)		4(9.09)	31(11.1)		2(5.55)	33(11.4)		3(9.67)	32(10.9)		3(9.37)	32(11.0)	

*No response (^a 8 and ^b 9)

Table 5 shows the proportion of the recorded diseases related with the farmers' education. All types of recorded lesions, except laminitis, were most common in those farms whose owners' educational status was at primary level.

DISCUSSION

Livestock rearing is an important sector for the people's livelihood in Bangladesh. Besides traditional

livestock farming system, commercial dairy farming plays remarkable role in generation of employment opportunity. In the present study, salary of the dairy farm employees was varied from TK. 2000 to 8000. Of the total, 61% of the dairy farm employees' salary ranged between BDT 4000 to < 6000 and the 5% employees' earned BDT 6000 to 8000 per month. The variation of the salary might be depended on the skill

and experience of the personnel. In addition, generally most of the employee's in dairy farms works routinely throughout the day. For that reason they get residential facilities for better management of the farms. Almost 71% dairy farm employee had no back or joint pain but 6% employee had suffered from back or joint pain which indicated that these employees were probably involved with milking of cows and such type of health hazard could be reduced by introduction of machine milking from high yielding dairy cows. Above findings indicated to address the welfare of farm employees to ensure overall dairy development. (Short Guide to Sustainable Agriculture. http://www.saipatform.org/uploads/Library/short_guide_to_sa_-_final%5B1%5D.pdf).

Demographic study of the farm owners shows that secondary level education was the highest (31%), followed by primary (29%) and similar proportion of education (11%) was recorded for both College/University level education and for illiterate farmers. Different level of educational status of the farm owners indicated that educated people are more interested to do dairy farming business as compared to illiterate to become self employed. The highest proportion of the farm owners had tin shed building (58%) followed by brick built building (34 %) and the remaining were thatched which indicated that most of the farmers are might be in middle class level. Caste proportion of the dairy farm owners was the Muslim (91%), the Hindus (7%) and the Buddhists (2%) which are in close agreement with the earlier study (Rabbani et al., 2004). Almost all dairy farmers were male which might be due to male have the opportunity to run such type of business in our social context. The average family members of owner's family were male (2.82), female (2.33) and children (2.96), respectively. Earning persons of the family varied from 1-3. On an average land owned by of dairy farm owners was 2.29 acre which ranged between 0.2-12 acres which is corroborated with the previous study (BBS, 1994). The highest number of farmers (45%) had 1 earning person, 30.2% had 2 earning persons and 24.84% had 3 earning persons. Livestock farming was the highest earning source of the studied farmers as compared to other sources such as crop cultivation, business and services. However, it is a sensible variable which might be varied from actual earnings of the farmers.

The proportion of the recoded diseases was related with the farmers' education. All types of recorded lesions, except laminitis, were the most common in those farms whose owners' educational status was at

the primary level. The socio-economic features of the commercial dairy farm owners are representing typical regional profiles. The result of the present study indicates the presence of social strata and scope of social improvement through farm economic development, changes in farm management practices and duly addressing farm welfare issues.

CONCLUSION

The present study findings indicated socioeconomic status of the dairy farm owners and employees. Educated farmers are being engaged with these farming activities and they need training on economic analysis and salary structure of the employees needs to be revised also.

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