

Profile of Women Dairy Farmers in Two Villages of Mymensingh District

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Abstract

Dairy farming assumes most important role in providing income generating opportunities particularly for rural women in Bangladesh. To access the socio-economic status of dairy farmers, this study was carried out in selected areas of Mymensingh district. Total sample size was 50 and sample data were obtained from V1 (modern dairy farming), V1 (traditional dairy farming) and V2 (traditional dairy farming) through direct interviews using questionnaires. Simple statistical methods such as frequency, percentage and mean were used to analyze the sample data. V1 (M) women use modern technology of dairy farming and V2 (T) is traditional village. Financial conditions of selected farmers were investigated in study areas. It was found that households in V1 (M) had more household income and well status than others and that V1 (M) woman were more educated and older with longer experience in dairy farming. Relatively wealthy households and educated/experienced women tend to adopt modern dairy farming.

Keywords: rural women, income, dairy farmer, Bangladesh

1. Introduction

Dairy sector play important contribution in upholding the economic development of Bangladesh. Achievement of extraordinary progress in dairy sector has the possibility to create scope for earning income by milk processing and marketing. Cattle are vital for income earning opportunity and developing the lifestyles. The accessibility of cattle rearing in household by rural women is significant where there is lack of another profit generating choices. Household cattle rearing broaden the possibility for the deprived rural women. Recently, rural women's engagement in activities related to dairy farming have enlarged, for the reason that it is a possible subordinate work for the unwaged rural poor women so as to increase their earning capability (Kulandaiswamy, 1986). Islam et al. (2012) found that poultry rearing in household by rural women in Bangladesh encouraged empowerment by inspiring autonomous decision-making and participation in family matters. Rural women consider dairy cattle as their strength due to its enormous value in their regular life. The cattle are of versatile in providing milk, draught power, meat and cow dung as fuel and organic fertilizer, biogas, transportation, bones, hides and skin, and strongly connected with the life of rural people. These products may deliver a reserve to poor farmers that can be altered to money to overcome unexpected emergency. Dairy farming involves animal health care and welfare, and accurate rearing is essential for the development of farming. Draught power for cultivating the land, the application of cow dung as manure and fuel, and animal power for transportation play important roles for the rural economy. Dairy farming is the furthestmost prospective segment inside agriculture and a portion of diversified farming system in Bangladesh (Saadullah, 2001). Cow dung is important material for soil productiveness preservation. Dried cow dung is being used as fuel for cooking purpose. Dairy farming affords money through sales of cow dung and it is also applied to produce biogas. Milk production in rural areas generates supplementary income for the family and spends this money for numerous purpose of their daily life. Moreover, the bones, horns, and hooves have profitable values. Bangladesh earns' foreign exchange by exporting

crushed and uncrushed bones every year. Cattle are the major skin and hide producing species. Hides and skins are mainly used as raw materials in different industries. Dairy expansion through improving cattle productivity can contribute an energetic role in developing the rural economy of Bangladesh. To fulfill excess demand, it is essential to promote dairy cow rearing and to raise milk production. Recently, government organization such as Department of Livestock Service (DLS) and several non-government organizations (NGOs) are delivering services for example artificial insemination, additional feed and medication to the underprivileged farmers. Small-scale dairy farming is known to be an active and valuable anti-poverty instrument for poverty lessening approach: since only little quantity of money is required to begin small-scale dairy farming and women can simply rear dairy cattle beside with their everyday domestic activities, small-scale farmers can effectively operate the dairy farming with the intention of progress their maintenances (Hemme et al., 2005). Miyan (1996) also indicated that dairy farming is one of the ways of earning income which supports to reduce poverty. Dairy cattle can deliver with regular money flow from selling of milk and rural women can get the opportunity to utilize the money during economic crisis. Dairy farming may support to provide educational costs of the children. They can also utilize their earning for health treatment, develop housing and provide dairy milk to their children which help to fulfill their nutritional requirement. Dairy farming may facilitate to raise the total family income that progresses consumption pattern and lifestyle of rural folks. The objective of the present research was to investigate the socio-economic parameters of farmers who involved in small-scale dairy farming in selected areas of Mymensingh district in Bangladesh.

2. Review of Literature

Pallavi and Satpal (2019) conducted socio-economic status of dairy farmers of Champawat District of Kumaun region of Uttarakhand, India. The data collected through questionnaire was transferred and tabulated on the master sheet and was analyzed using descriptive statistics to find out profile of respondents. Result revealed that dairy farmers were generally of middle age, nuclear family type with an average of five members per family to be dominant in the study area. Dairy farming was found to be traditional. Majority of the dairy farmers were found to have pucca type of houses, up-to 0.5 hectare of land with an average annual income of 1, 19,677 rupees including from all sources. Majority of the respondents have lower levels of education, practiced more than one occupation and socially active. The mean herd size was found to be 4 with an average of 1 milking animal.

Chandrasekar et al. (2017) examined association between socio-economic and psychological factors of dairy farmers in Bengaluru rural district of Karnataka. Exploratory research design and multistage random sampling technique was used and data were obtained through organized interview schedule. The findings revealed that 94% respondents were male, 58.00% respondents were middle aged group and 87.50% respondents were literates. In addition, 77.00% respondents lived in nuclear family and 51.67% respondents in medium sized family. 46% respondents had long time farming experience though they had no proper training and 50 % respondents had low level of annual income. Adequate training on scientific management practices will support the farmers in growing production in addition to income generation.

Vikariya et al. (2016) explored the socio-economic characteristics of Maldhari dairy farmers in Junagadh and Gir Somnath districts of Saurashtra region. Predesigned interview schedule was used to collect data. Simple statistical methods such as frequency, percentage, mean, standard deviation and correlation coefficient were used to analyze the data. The findings revealed that 70.83% respondents were farmers belonged to middle age group, level of education at secondary level (40.83 per cent). Moreover, 59.17 % respondents had medium level of income, 47.50 % respondents had big size family and 70.83 % respondents were belonged to combined family. 54.17% respondents agreed that animal husbandry and agriculture were their main work. In addition, they had moderate level of knowledge in dairy farming activities.

Deshetti and Teggi (2017) studied the socio-economic position and obstacles tackled by the dairy farmers in Vijayapur and Bagalakote districts. Total sample was 52 dairy farmers from 4 talukas of Vijayapur and Bagalakote districts and data was collected by direct interview. Findings of the study indicated that 50.00% respondents were belonged to large families, 46.15% of Vijayapur farmers and 50.00 % of Bagalakote farmers were belonged to low level of income group. Major constraint was high cost of fodder for both Vijayapur and Bagalakote farmers. It is mainly because of the deficiency of irrigation facility in the village during summer season. There was no systematic storage capacity in village which was the major marketing restriction for Vijayapur farmers and misuse by intermediaries was the main problem for Bagalakote farmers respectively.

Talukder et al. (2017) analyzed socio-economic situation and cattle production of Pabna district. One-way ANOVA, descriptive statistics were used to analyze the data. Result exhibited that the age of farmers were average 42 years and 19 years of average farming practices. Their main activity was agriculture (47.37%) of

which housewife (15.79%) and animal husbandry (10.53%). Almost 79% cattle were reared at home since all areas were bounded with water. Local Pabna cattle produce 4.56 liters of milk which was significantly ($p < 0.001$) less than Holstein crossbred (7.43 liters).

Prasad et al. (2017) showed the socio-economic condition and problems met by dairy farmers of Wayanad district of Kerala. Random sampling method was used to collect the data and 50 samples were collected for the study. Findings indicated that most of the families were belonged to nuclear type families. In addition, 80% people had main foundation of earning income from agriculture including livestock farming. 96% of the farmers reared cattle as assets and 66% of the farms produced 10-15 liters of milk per day. 92% of farmers sold milk in cooperative.

Based on the previous research, the present study was undertaken to investigate the status of rural women in Bangladesh. This study is the first to assess the comparative situation of socio-economic status of farmers who engaged in dairy farming in selected areas of Mymensingh district.

3. Materials and Method

3.1 Sample Area

In rural area, women are powerless, violated, and hopeless. But the situation of women is changing in rural Bangladesh. Now in rural area, women want freedom and to be self-dependent. They are involved in farming activities besides their traditional role as housewife such as child rearing and take this farming as their self-employment. Rural women are trying to upgrade their status in the family and society through dairy farming. They are hard working for dairy farming activities because they want to change the social system and improve their livelihood. Patriarchal social system hampers their way of empowerment process by limiting their potentiality. Through dairy farming rural women are struggling to find out the way of reducing poverty and get rid of disempowerment situation. In Mymensingh district, two villages namely V1 and V2 where rural women have started to rear dairy cattle. Women in V1 involved with modern dairy cattle represented as V1 (M), whereas V1 (T) represented that women who engaged with traditional dairy cattle. V2 (T) is a traditional village and their farming practice is also done in a traditional way.

3.2 Selection of Sample

In V1, total population was 1100 and 260 families, 70% of families (184 families) reared dairy cattle in V1. Among them, 50 households were selected for this study. On the other hand, in V2, the total population was 700 and 125 families. In V2, 88% of families (110 families) were engaged in dairy farming activities. In this village, 50 households were also selected for interview. Popularity of rearing dairy cattle by women is increasing in these two study sites.

3.3 Period of Collection of Data

The period of collection of data from February to May in 2014 from selected two areas. Data was collected from rural women through interview schedule.

3.4 Analytical Techniques

Frequency, percentage and mean were used to discuss the socio-economic parameters of rural dairy farmer.

4. Result and Discussion

The general characteristics of dairy farmers such as age, educational level, and experience in dairy farming, source of fund, family size and household income of selected villages were studied and results were presented in Table 1. It is important to know the general characteristics to get a complete picture of the small-scale dairy farmers in the study area.

4.1 Age of Small-scale Dairy Farmer

Age is one of the personal or demographic characteristics that is important to describe about the respondent situation and can give a clue about the condition of those rural women. In V1 (M), majorities (48.4%) of the respondents were middle aged group (31-45 year), young (22.6%) and old aged group (29%) (Figure 1).

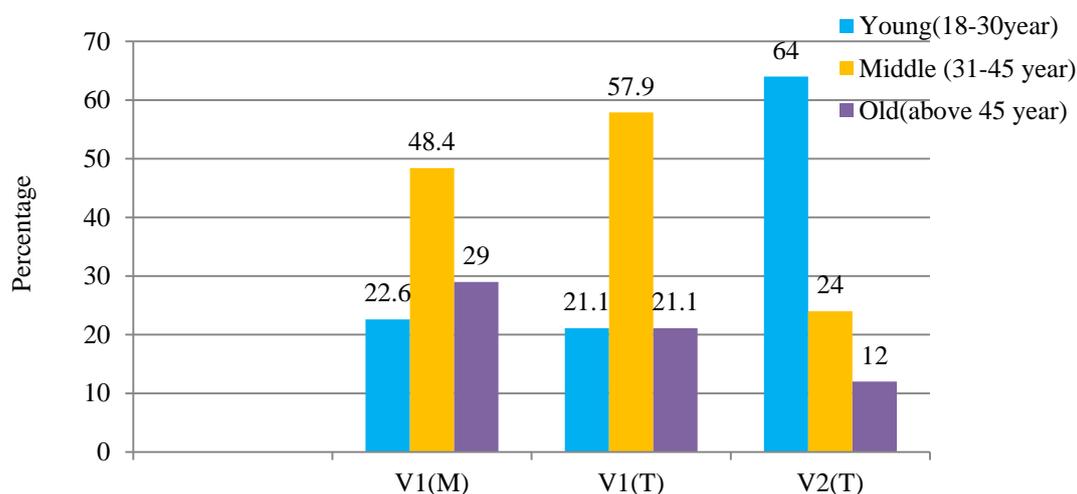


Figure 1. Age structure of the respondent

Source: Field survey, 2014

Table 1. Profile of the small-scale dairy farmers

Characteristics	Parameter	V1				V2	
		Modern (M)		Traditional (T)		Traditional (T)	
		F	%	F	%	F	%
Age of the respondent	Young (18-30year)	7	22.6	4	21.1	32	64.0
	Middle (31-45year)	15	48.4	11	57.9	12	24.0
	Old (Above 45year)	9	29.0	4	21.1	6	12.0
Educational qualification	Cannot read and write (illiterate)	0	0.0	2	10.5	5	10.0
	Can sign only	0	0	2	10.5	26	52.0
	Don't complete primary education	1	3.2	7	36.8	9	18.0
	Complete primary education	19	61.3	4	21.1	8	16.0
	Primary level to Secondary	9	29.0	4	21.1	2	4.0
	Higher secondary	2	6.5	0	0.0	0	0.0
Experience in dairy farming	Above higher secondary	0	0.0	0	0.0	0	0.0
	Low= 1-5 year	1	3.2	5	26.3	14	28.0
	Medium= 6-10 year	11	35.5	5	26.3	25	50.0
Source of Fund*	High= More than 10 year	19	61.3	9	47.4	11	22.0
	Bank loan(NGO)support	14	45.2	7	36.8	31	62.0
	Bought by own money	22	71.0	11	57.9	18	36.0
Sources of income	Inherited	2	6.5	3	15.8	2	4.0
	Family size	4.39		4.47		4.88	
	Dairy farming return (Taka/year)	112,348 (44%)		26,792 (19%)		27,466 (21%)	
Sources of income	Husband income (Taka/year)	132,516 (52%)		110,105 (78%)		91,520 (71%)	
	Other income (Taka/year)	10,000 (4%)		4,210 (3%)		9,600 (7%)	
	Total household income (Taka/year)	254,865 (100%)		141,108 (100%)		128,586 (100%)	

Note. F = frequency and * V1 (M), V1 (T) and V2 (T) used more than one sources of fund

Source: Field survey, 2014

In V1 (M), it may be said that modern dairy farming are operated by middle aged group during the study period. Rathod et al. (2011) also found that most of the farmers (55%) were belonged to middle aged group (31-45 year) since they contributed a lot to earn income. In V1 (T), majority of the dairy farmer were also middle aged group (57.9%) followed by same percentage of old aged group and young aged group. On the other hand, in V2 (T), it was observed that majority of the dairy farmer were in the young aged group (64%) which means that in V2 (T), young women were mostly operated dairy farming for improving livelihood. In V1 (M) and V1 (T), medium aged group women were performing dairy farming activities very actively because at this age, women have less pressure on child birth and child rearing. In V1 (M) and V1 (T), medium aged group women were high because in this village, most of the medium aged group women reared dairy cattle among the total dairy farmer.

4.2 Educational Level

Education helps rural women to become rational, consciousness and to get useful information to solve problem in their everyday life. So they are able to get access to new techniques related to their farming activities. Educations broaden the power of understanding and develop the capabilities to take decision independently. Relatively highest proportion respondents (61.3%) in V1 (M) had completed primary level of education. In V1 (T), 36.8% of the dairy farmer did not complete primary education and 21.1% completed primary education.

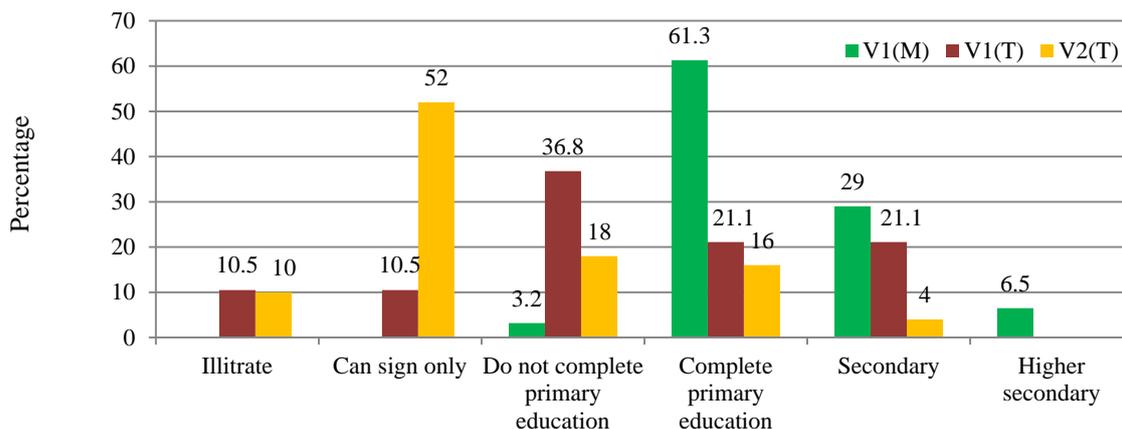


Figure 2. Educational status of the respondent in V1 (M), V1 (T) and V2 (T)
Source: Field survey, 2014

On the other hand, in V2 (T), majority of the respondents (52%) can sign only (Figure 2 and Table 1). Their educational status were not worthy because of several reason are shown in Figure 3.

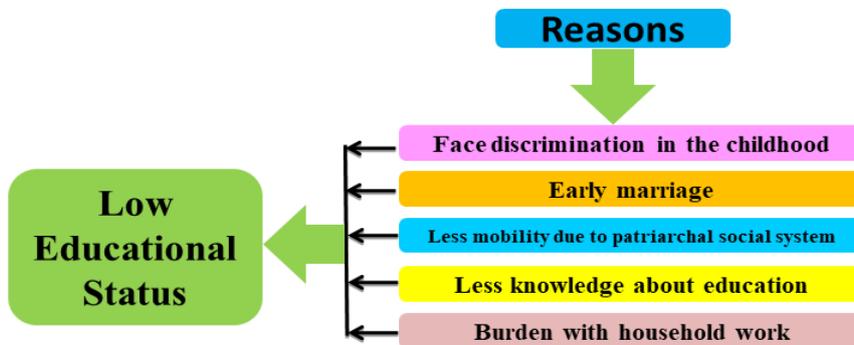


Figure 3. Reason of low educational status of women
Source: Based on interview

4.3 Experience in Dairy Farming

Rural women can gather huge experience and knowledge from rearing dairy farming. Results of the study showed that in V1 (M) majority of the dairy farmers (61.3%) have long experiences (more than 10 years) in dairy farming compared by V1 (T) (47.4%) and V2 (T) (22%). In V2 (T), their experience is comparatively low because majority of the young aged group newly started dairy farming.

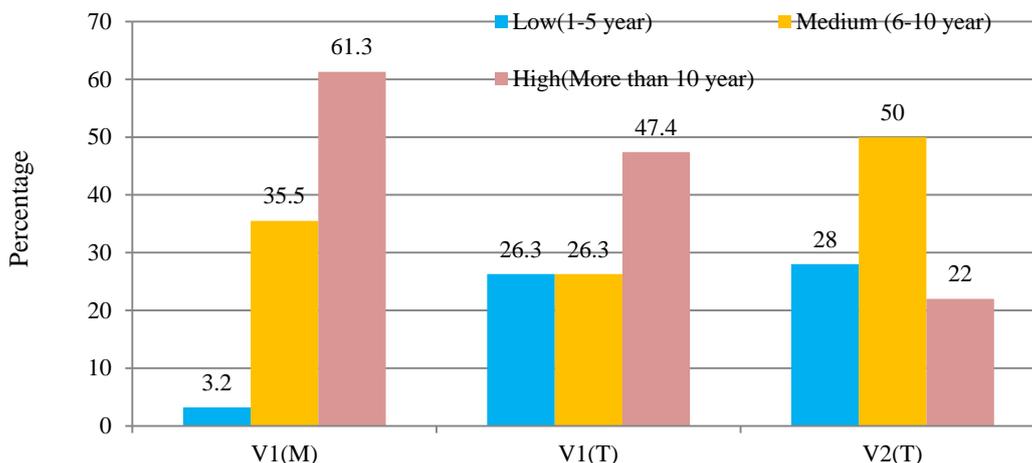


Figure 4. Experience in dairy farming
Source: Field survey, 2014

Mulugeta and Amsalu (2014) found in their study most of the respondents (60%) have long time farming experience and this helped to make balanced decision making in their farming activities.

4.4 Source of Fund for Starting Dairy Farming

The present study exhibited that 71% dairy farmer in V1 (M) started dairy farming by their own money, followed by availability of loan (45.2%) and inheritance (6.5%). In V1 (T), 57.9% of the farmer started dairy farming by their own money, 36.8% of the farmer took bank loan support and inheritance (15.8%). But in V2 (T), majority of dairy farmers (62%) started dairy farming with the help of NGO and availability of loan facilities (Figure 5).

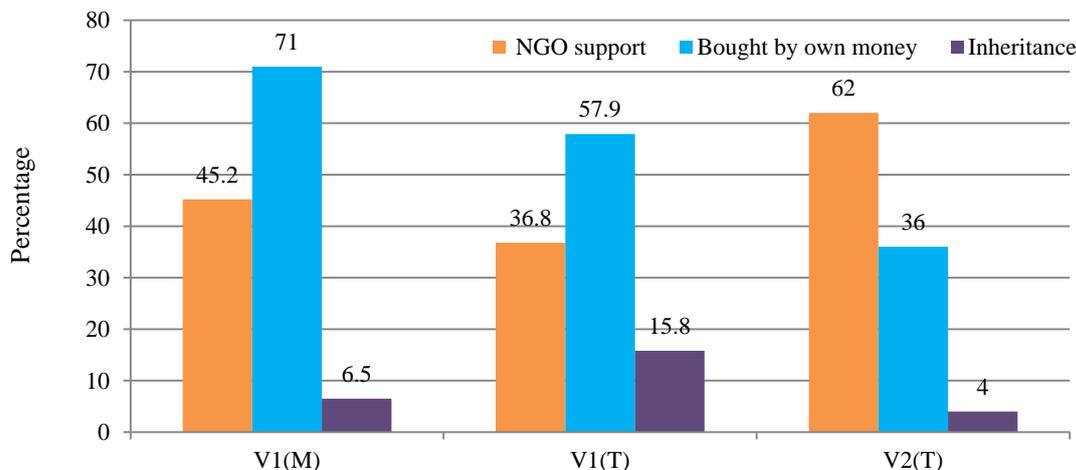


Figure 5. Sources of fund for starting dairy farming
Source: Field survey, 2014

4.5 Family Size

In V1 (M), the average family size was 4.39, in V1 (T) family size was 4.47 and in V2 (T), it was 4.88 (Figure 6).

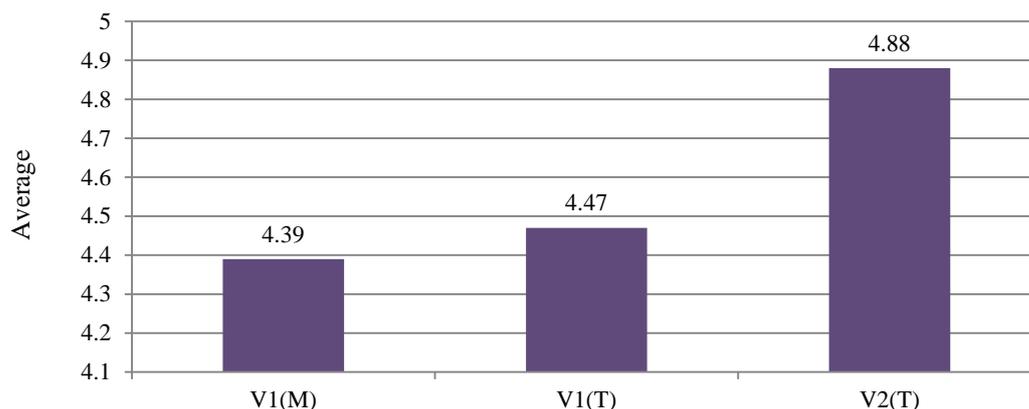


Figure 6. Family size of the dairy farmer
Source: Field survey, 2014

4.6 Household Income

Household income reflects the economic condition of the respondent. Here, household income includes dairy farming income, husband income and other income (if any). From the Table 1 we can see that in V1 (M), average dairy farming income is 112,348 Taka/year, average husband income is 132,516 Taka/year and other income is 10,000 Taka/year. So the total household income is 254,865 Taka/year. Average earnings from dairy farming are 26,792 Taka/year, average husband income is 110,105 Taka/year, other income is 4,210 Taka/year and total household income is 141,108 Taka/year in V1 (T).

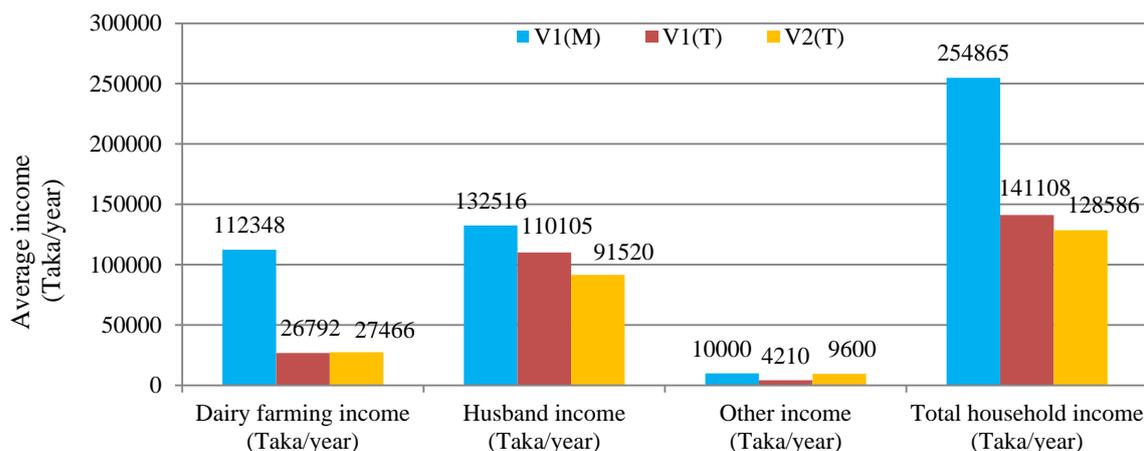


Figure 7. Household income in V1 (M), V1 (T) and V2 (T)
Source: Field survey, 2014

We also observed from Table 1, in V2 (T), average dairy farming income is 27,466 Taka/ year, husband income is 91,520 Taka/year and other income is 9,600 Taka/ year. The total household income of V2 (T) is lower than V1 (M) (Figure 7). In V1 (M), rural women were capable to receive high income and contribution of this earning helped to increase the total household income.

4.2 Life Style of the Small-scale Dairy Farmers

Life style of the small-scale dairy farmer were observed by considering their structure of house, availability and access to water, toilet, fuel for cooking, electricity, health status and use of mobile phone. Result was presented in Table 2.

Table 2. Comparative feature of life style of the small-scale dairy farmers

Information on housing and household facilities		V1				V2	
		Modern (M)		Traditional (T)		Traditional(T)	
		F	%	F	%	F	%
Structure of house	Tin roof	19	61.3	17	89.5	50	100.0
	Katcha house	3	9.7	5	26.3	41	82.0
	Katcha and Pucca house	16	51.6	12	63.2	9	18.0
	Pucca house	12	38.7	2	10.5	0	0.0
Sources of drinking water	Tube well	50	100.0	50	100.0	50	100.0
	River	0	0.0	0	0.0	0	0.0
	Pond	0	0.0	0	0.0	0	0.0
Availability of tube well	Own	30	96.8	15	78.9	29	58.0
	Use others tube well	1	3.2	4	21.1	21	42.0
Types of toilet	Sanitary or pucca	25	80.6	10	52.6	18	36.0
	Unsanitary or katcha	6	19.4	9	47.4	32	64.0
Fuel used for cooking*	Cow dung	22	71.0	9	47.4	24	48.0
	Biogas	2	6.5	0	0.0	0	0.0
	Dried leaf	12	38.7	12	63.2	20	40.0
	Wood	8	25.8	7	36.8	6	12.0
Access to electricity	Yes	31	100.0	19	100.0	0	0.0
	No	0	0.0	0	0.0	50	100.0
Type of lighting	Kerosene	0	0.0	1	5.30	48	96.0
	Solar energy	0	0.0	0	0.0	2	4.0
	Electricity	31	100.0	18	94.7	0	0.0
Health status (treatment)	Self-treatment(traditional)	8	25.8	6	31.6	31	62.0
	Govt. hospital/health care center	23	74.2	13	68.4	19	38.0
Mobile phone using	Yes	25	80.6	13	68.4	21	42.0
	No	6	19.4	6	31.6	29	58.0

Note. F = Frequency and * Sometimes women cannot dry cow dung stick due to rain, at that time they have to use dry leaf or wood for fuel.

Source: Field survey, 2014

4.2.1 Housing Structure

It is observed from Table 2, in V1 (M) and V1 (T), majority of the dairy farmer living in half katcha (made with mud) and half pucca (made with brick) house and in V2 (T), majority of the dairy farmer living in katcha house (82%). Rais et al. (2013) found that 36.8% and 23.3% of the farmers were living in pucca and katcha house respectively in their study. Structure of house indicates that rural women's living condition. Pucca building indicates people are in better condition in the rural society.

4.2.2 Sources of Drinking Water

In rural area, women's are becoming more conscious about drinking water. They used tube well for drinking

water. In V1 (M), 96.8% respondents used their own tube well and in V1 (T) 78.9% and in V2 (T), 58% used their own tube well (Table 2). Getting information from NGO and watching TV facilitated rural women to increase awareness of pure drinking water from tube well. They were also aware of arsenic poisoning in the water. Since having a private tube well is costly, the result suggests that V1 (M) households are relatively richer than the others.

4.2.3 Types of Toilet

In V1 (M), majority of the farmer (80.6%) used their sanitary toilet while in V1 (T) 52.6% and in V2 (T) (36%). Higher percentage of women are using sanitary toilet and this is a good indicator for their health and this is possible because of increasing consciousness of rural women about sanitation.

4.2.4 Fuel Used for Cooking

In both villages, cow dung is one of the major sources of fuel for cooking food by rural women. Rural women make cow dung stick for cooking which is locally known as “Muita”. After making cow dung stick, they keep this outside the house for drying. Through dairy farming, they can get easily cow dung from dairy cattle used as fuel. V1 (M) farmers tend to use cow dung more than the other probably because modern cattle produce more cow dung. Cow dung reduces the cost of fuel and fewer burdens for rural women on collecting fuel. Additionally in V1 (M), some of the respondents have started to use biogas for cooking. Cow dung is also used in case of biogas.

4.2.5 Access to Electricity

From the study it is found that V1 (M) has electricity connection but V2 (T) has no electricity connection. Most of the farmers in V1 regardless of the dairy technology use electricity. Farmer in V2 (T) uses kerosene.

4.2.6 Health Status

In V1 (M) and V1 (T), majority of the farmers went to the health clinic or government hospital for their treatment while on the other hand, in V2 (T), they followed self-treatment (traditional way) because there was no health clinic or hospital in V2 (T) and they have to go out the village for getting modern treatment.

4.2.7 Using Mobile Phone

In V1 (M), majority of the women used mobile phone (80.6%) and in V1 (T) 68.4% and in V2 (T), 42% women used mobile phone.

5. Conclusions

The present management condition of small-scale dairy farming in V1 (M) has started modernized farming but still now V2 (T) is based on traditional dairy farming. The study find that V1 (M) women have long experience in dairy farming (61.3%) and majority of the dairy farmers are middle aged group (48.4%). They are physically strong and have skill to operate the dairy farming. In V2 (T) women have newly started traditional dairy farming with the help of NGO and majority of them are young aged group (64%). V1 (M) women adopted modern facility to improve their well-being and lifestyles. They have electricity, mobile phone, improved health status, sanitation and also started to construct building. Scenery of rural area in V1 (M) has been changed and gained overall socio-economic upliftment in the society and family. These findings have significant effects for improving the dairy cattle rearing in many villages. By inspiring and stimulating dairy farming in other villages, rural women can develop their socio-economic condition and correspondingly more women may get out from disempowerment situation. This kind of financial movement has the possibility to diminish the frequency of early marriages, decline spousal abuse, and enhance the development of new practical knowledge, improve capability and self-confidence, consequently making a significant role to the better-quality life of rural women and developed socio-economic position in home along with society.

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