



Women Participation in Integrated Dairy Farming and Household Food Security in Sirajganj District

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Abstract: *The findings of the present study showed that women contributed to dairy farming activities through their active participation. In this study, women are strongly participating in chopping of straw, watering the livestock, care of newborn calves, cleaning of animal sheds, cow dung collection, care of sick animals, cleaning and bathing cows and processing and preparation of milk products. Women are moderately participating in choosing of animals for dairying, feeding of green grass to the dairy cattle, feeding of urea treated straw, milking the animals, vaccine of dairy cattle, quantity of milk to be used for home consumption. Women are weekly participating in Sale and purchase of animals, Storage of green grass and straw, carrying animals to AI or service center, Surplus milk to be sold, purchasing of feeds and concentrates and Purchasing of equipment. The correlation coefficient between women participation in dairy farming and the household food security status is positively correlated.*

Keywords: *Women Participation, Integrated Dairy Farming, Household Food Security.*

INTRODUCTION

Bangladesh is an agricultural based country and it contributes 23 percent in national GDP (BBS, 2010). Livestock farming is a part of agriculture. Livestock rearing in Bangladesh is an integral agricultural activity among most rural households, particularly landless, marginal and small landholders. It has significant positive impact on equity in terms of income, employment and poverty reduction in rural areas as distribution of livestock is more egalitarian as compared to land. Apart from its multifaceted roles in socio-economic development, the livestock sector constitutes about 17 percent of agricultural gross domestic product and provides nutritionally rich food to many people in both rural and urban areas (BBS, 2010). Dairy farming is the major part of livestock farming. Dairy accounts for about 12% (FAO, 2010a) of agricultural GDP and contributes to the livelihoods of many small-scale farmers in our country through income, employment and food (BES, 2009).

The prosperity and growth of a nation depends on the status and development of its women as they not only constitute nearly half of the population, but also positively influence the growth of remaining half of the population (BBS 2010). Woman plays various roles in agricultural sector. It is widely accepted that most of the critical roles related to livestock farming are played by the women (Moser, 2007). Rangnekar (1992)

claimed that livestock management has always been perceived as the traditional responsibility of women. The major activities related to dairy farming are normally performed by rural women in Bangladesh. They prepare food mixtures, chop straw, water and feed animals, care of animals, buy and sells of animals, clean the sheds, milk, and collect dung. Due to the patriarchal system of the society, their hard work and their contribution to household expenditure have been undervalued, and they do not receive proper respect for their work. Still today they remain unseen workers. The crucial role of women in agriculture, allied occupations and household activities has however been grossly underestimated and undervalued. Women play significant and crucial role in agricultural development and allied fields like dairy farming, poultry, homestead etc.

Rural women carry out both domestic and livestock related activities. Their routine household activities include cleaning of the home, cooking, stitching, raising children while livestock management practices include cleaning of animals shed, taking care of sick animals, calf rearing, feeding, watering to animals, milking and making dairy products like ghee, yogurt and butter. General observations concerning rural family life and available studies show that male members are mainly responsible for agricultural practices, while besides the household responsibilities, the females are said to actively participate in livestock care and management (Zubair et al., 1999). Some of the activities like fodder production, cutting and transportation are mostly performed by male family members (Amin et al., 2010), but in many cases the women are also involved with these additional duties.

Rural women can earn money by selling milk. Improved financial autonomy has boosted their bargaining power and allowed women to become more active in decision-making in the family (Hadi et al., 1997). Farming has enabled them to increase family income as well as fulfill household food needs (Batool et al., 2014). Dairy farming production contributes considerably to the advancement of the rural area (Dagula & Kiminami, 2009).

The participation of women in dairy farm practices varies by region, culture and socio-economic status. Due to social and traditional barriers, rural women are not able to work outside of their homes. Therefore, their potential is often unrealized (Islam et al., 2012). They are disadvantaged in terms of education, independence, controlling their own assets, and household decision making (Sultana & Hossen, 2013). Existing information on the participation of women in the various dairy farm practices is very limited. However rural women are more conscious about their right, health, financial well-beings at present. Women's participation in small-scale dairy farming is an important tool in reducing poverty in rural area. The present study was undertaken to determine the participation level of rural women in dairy farming activities: To assess the role of women towards the integrated Dairy Farm and household food security and to determine relationship between the role of women on dairy farming and household food security. The aims of this study are-

1. To assess the role of women towards the integrated Dairy Farm and household food security.
2. To determine relationship between the role of women on dairy farming and household food security.

Methodology

The aim of the study was to know the food security condition of dairy farmer. Preliminary visits were made for selecting study area and finally the study was conducted in Shahjadpur upazila in Sirajganj district.

Rationale for the research site

The Sirajganj district is selected because this region is highly linked with dairy production. The major milk production comes from this region as well. So, researcher selected dairy farmer from Shahjadpur in Sirajganj for his study. Kayempur, Rupbati, and Narina village was selected because no research work has done based on food security status in this area. This village was good communication facilities.

Sampling Design

An updated list of Dairy farmer of the selected village was prepared by the help of the Bangladesh Dairy Enhancement Program (BDEP) which is managed by Land O'Lakes International Development and Upazilla Livestock Office. In total there were 240 dairy farmers (head from each household) in this selected village

which were considered as population of the study. Twenty five percent of the population was randomly selected by using a Table of Random Numbers. Thus, a total of 60 dairy farmers constituted the sample size for the study.

Methods of Data Collection

Personal interview method was used for data collection from the household heads of the village. The interview was conducted mainly for assessing characteristics of the farmers and their condition of food security status at household level. Separate questionnaire set was prepared for each group. Each person responded was given a brief introduction about the nature and purpose of the study during the interview. They were asked the questions systematically in a very simple manner. Answers of those questions were recorded properly.

Data analysis

At the end of data collection from the respondents, all the responses of the interview schedule were given numerical coded values. Data were analyzed in accordance with objectives of the study. SPSS (Statistical package for social sciences) computer program was used to perform the data analysis. Various statistical measures such as range, mean, number percentage, standard deviations and co-efficient of variation were used to describe the selected characteristics of the respondents of the study area. In order to find out the relationship between the individual characteristics of the dairy farmer and their food security status, Pearson's Product Moment correlation co-efficient (r) was computed. To reject or accept the null hypothesis 5 percent and 10 percent level of probability was used throughout the study.

Results and Discussion

The study focused mainly on six major operations of dairy farming. The findings of study are depicted in Table 1.

Choosing of animals for dairying

The study revealed that most of the women are moderately participate (71.67%) in choosing of animals for dairying. Rural women played a vital role in dairy farming activities as managers, decision makers and skilled workers (Randhawa & Chandra, 1993). In this case they make decision with their husband. This is the reason that they are moderately participate in choosing of animals for dairying.

Sale and purchase of animals

Most of the women are weekly participate (76.67%) in sale and purchase of animals. Upadhyay & Desai (2011) found that participation of rural women was observed in purchase and sale of animals (88.33%) which is not matched with this study because of less empowerment of women. They have less economic access than men.

Feeding of green grass to the dairy cattle

The participation of women in feeding of green grass to the dairy are strongly participate (35%), moderately participate (55%) and weekly participate (10%) which indicate that women are responsible for feeding of green grass to the dairy cattle. These findings agreed with the results of Rathod et al. (2011) and Arshad et al. (2013).

Feeding of urea treated straw

Women are moderately participate (60%) in feeding of urea straw to the animal. Rural women played a vital role in dairy farming activities as managers, decision makers and skilled workers (Randhawa & Chandra, 1993). Women take decision with their husband to do this work and participate moderately with their husband in the case of feeding of green grass to the dairy cattle.

Chopping of straw

Strong participation (68.33%) of women is in chopping of straw for the animal. Men seem that women have no work to do. Because of these reason women do work like chopping of straw. The crucial role of women in agriculture, allied occupations and household activities has however been grossly underestimated and undervalued (Adhikari, 1987).

Storage of green grass and straw

Most of the women are weekly participate (53.34%) in storage of green grass and straw for dairy animals. With regard to storage of fodder, women involved themselves in hay making and were not aware of the importance of silage making. The husband typically takes decision to store of green grass or straw.

Watering the livestock

Most of the women are strongly participate (53.33%) in watering the livestock. These findings agreed with the results reported by Ogdand & Hembade (2014), Arshad et al. (2013), Lahoti et al. (2012) and Rathod et al. (2011).

Table 1: Women's Participation in dairy farming

| Activities | Women's Participation | Percent (%) |
|--------------------------------------------|------------------------|-------------|
| Choosing of animals for dairying | Strongly participate | 13.33 |
| | Moderately participate | 71.67 |
| | Weekly participate | 15 |
| Sale and purchase of animals | Strongly participate | 8.33 |
| | Moderately participate | 15 |
| | Weekly participate | 76.67 |
| Feeding of green grass to the dairy cattle | Strongly participate | 35 |
| | Moderately participate | 55 |
| | Weekly participate | 10 |
| Feeding of urea treated straw | Strongly participate | 6.67 |
| | Moderately participate | 60 |
| | Weekly participate | 33.33 |
| Chopping of straw | Strongly participate | 68.33 |
| | Moderately participate | 23.34 |
| | Weekly participate | 10 |
| Storage of green grass and straw | Strongly participate | 18.33 |
| | Moderately participate | 28.33 |
| | Weekly participate | 53.34 |
| Watering the livestock | Strongly participate | 53.33 |
| | Moderately participate | 45 |
| | Weekly participate | 1.67 |
| Carrying animals to AI or service center | Strongly participate | 3.33 |
| | Moderately participate | 20 |
| | Weekly participate | 73.34 |
| Care of newborn calves | Strongly participate | 78.33 |
| | Moderately participate | 21.67 |
| | Weekly participate | 0 |
| Cleaning of animal sheds | Strongly participate | 71.67 |
| | Moderately participate | 28.33 |
| | Weekly participate | 0 |

| | | |
|--------------------------------------------------|------------------------|-------|
| Cow dung collection | Strongly participate | 83.33 |
| | Moderately participate | 16.67 |
| | Weekly participate | 0 |
| Milking the animals | Strongly participate | 23.33 |
| | Moderately participate | 55 |
| | Weekly participate | 21.67 |
| Care of sick animals | Strongly participate | 88.33 |
| | Moderately participate | 8.33 |
| | Weekly participate | 3.34 |
| Vaccine of dairy cattle | Strongly participate | 6.67 |
| | Moderately participate | 53.33 |
| | Weekly participate | 40 |
| Cleaning and bathing cows | Strongly participate | 53.33 |
| | Moderately participate | 31.67 |
| | Weekly participate | 13.33 |
| Quantity of milk to be used for home consumption | Strongly participate | 10 |
| | Moderately participate | 46.67 |
| | Weekly participate | 43.33 |
| Surplus milk to be sold | Strongly participate | 0 |
| | Moderately participate | 23.33 |
| | Weekly participate | 76.67 |
| Purchasing of feeds and concentrates | Strongly participate | 0 |
| | Moderately participate | 13.33 |
| | Weekly participate | 86.67 |
| Purchasing of equipment | Strongly participate | 0 |
| | Moderately participate | 11.67 |
| | Weekly participate | 88.33 |
| Processing and preparation of milk products | Strongly participate | 85 |
| | Moderately participate | 13.33 |
| | Weekly participate | 1.67 |

Source: Sample Survey, 2019

Carrying animals to AI or service center

Most of the women are weekly participate (73.34%) in carrying animals to AI or service center. the husband typically carries the animal to the AI center, although sometimes the couple goes jointly. Breeding activities like AI sometimes require the animal to be taken outside the home to the veterinary surgeon. This is the reason for low participation of rural women in this type of activity. These findings agreed with the results reported by Upadhyay & Desai (2011), Lahoti et al. (2012) and Rathod et al. (2011).

Care of newborn calves

Most of the women are strongly participate (78.33%) in care of newborn calves. These findings also agreed with the results reported by Upadhyay & Desai (2011), Lahoti et al. (2012) and Rathod et al. (2011).

Cleaning of animal sheds

In cleaning of animals sheds women are strongly participate (71.67%). Cleaning, washing etc. are always performed by the women in a household. The work of animal shed construction, grooming of animals were also performed by women.

Cow dung collection

Most of the women are strongly participate (83.33%) in cow dung collection. These findings agreed with the results of Lahoti et al. (2012).

Milking the animals

In milking the animal's operation women are moderately participate (55%). In this study the husband and the wife both are moderately participate in this operation. It also shows that the available person is doing this operation or the person who know the technique better.

Care of sick animals

Most of the women are strongly participate (83.33%) in care of sick animals. Women are always proved taking care individual from the first. They take better care of animals than men. This indicates strong feelings for the animals and they give of their time to tend to the sick animals. These results agree with the findings reported by Kathiriya et al. (2013), Lahoti et al. (2012) and Rathod et al. (2011).

Vaccine of dairy cattle

Women are moderately participate (53.33%) in vaccine of dairy cattle. Vaccination needs economic access which is not always available to the women. Husband and wife both are moderately participate in it.

Cleaning and bathing cows

Most of the women are strongly participate (53.33%) in cleaning and bathing cows. This important operation mostly done by the women but husband also participate it also.

Quantity of milk to be used for home consumption

In this operation women are moderately participate (46.67%). How much milk to be consumed by the family is decided by mostly men as well as both men and women.

Surplus milk to be sold

Most of the women are strongly participate (76.67%) in surplus milk to be sold. The surplus milk to be sold by the women because of they have the opportunity to do the operation. By this operation they save money for their family and support their family.

Purchasing of feeds and concentrates

Most of the women are weekly participate (86.67%) in purchasing of feeds and concentrates. The participation of women was less in purchasing of and concentrates. These findings are in consonance with the reports of researchers Tripathi and Arya (1995).

Purchasing of equipment

In purchasing of equipment, women are weekly participate (88.33%). Most of the economic access has only the men and because of this the women are weekly participate in purchasing of equipment.

Processing and preparation of milk products

The study revealed that 85 percent respondents are strongly participating in processing and preparation of milk products like ghee making and butter preparation. Similar findings were reported by Toppo et al. (2004).

Correlation of women participation with the household food security status

Following observations were made based on the computed correlation coefficient value (0.758). A positive relationship existed between the concerned variables. The computed value of (0.758) was also found larger than the tabulated value with 58 degrees of freedom at 1 percent level of probability. Hence, the relationship was strongly significant at 0.01 level of probability. The women participation is positively correlated with household food security status and it is significant also.

Conclusion

The findings of the present study showed that women contributed to dairy farming activities through their active participation. Most of the work in regard to Choosing of animals for dairying, Feeding of green grass to the dairy cattle, Cleaning of animal sheds, Watering the livestock etc. was done by rural women in the study area, and in most cases, they managed the dairy farming. Factors that limit participation of women in dairy farm practices are socio- economic status and cultural norms. Though women play a significant role in dairy farming their control over livestock and its products is very minimal. The income from dairy animals does not remain in the hands of women and neither does the decision regarding sale and purchase. Women participation in dairy farming can increase their family income and can give the women their right and increase the women empowerment which is decrease the gender gap between men and women.

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