

Research Article**Small-scale dairy farming and women's empowerment: insights from Pabna district in Bangladesh**Hossain KMS¹, Pasha MMH^{2*}, Sadrul SB³, Chawdhury MNH², Murshed HM⁴¹Department of Livestock Services (DLS), Ministry of Fisheries and Livestock, Government of the People's Republic of Bangladesh²Sheep Production Research Division, Bangladesh Livestock Research Institute, Savar, Dhaka-1341³Socio-economic Research Division, Bangladesh Livestock Research Institute, Savar, Dhaka-1341⁴Department of Animal Science, Bangladesh Agricultural University, Mymensingh 2202**ABSTRACT****Article history**

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This study focused on the effects of rural women's involvement in dairy farming as a means of eradicating poverty in Bangladesh's rural communities for the empowerment of women in some selected areas of the Pabna district of Bangladesh. Dairy farming is a critical component of the agricultural sector and women's participation in the sector has increased in recent years. To illustrate the effect of rural women in social empowerment, the sample was chosen from the households of the Pabna district that were actively involved in dairy farming. 50 households from the study were randomly selected for data collection. To illustrate the frequency distribution at various category levels of variables, straightforward percentages were produced. Rural women were able to boost their self-esteem, expand their social networks, and eventually increase their level of empowerment through small-scale dairying, which also gave them more control over their family and personal care decisions. Another purpose of the study was to investigate the causes of this trend as well as the advantages that women experience from it. Using a combination of field surveys, interviews, and literature review, the study analyzed the gender dynamics of dairy farming and identified best practices for promoting women's empowerment in the sector. The findings suggest that dairy farming can serve as a viable livelihood option for women in Pabna, providing them with opportunities for income generation and improving household food security. Furthermore, increased participation in dairy farming has led to improved gender equality and social inclusion, highlighting the sector's potential for promoting women's empowerment in the region. Consequently, the expansion of small-scale dairying into different rural areas of Bangladesh is likely to contribute to the empowerment of these women and combat poverty.

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INTRODUCTION

Dairy farming is a crucial component of the agricultural sector in many parts of the world. The sector has significant potential to contribute to the economic growth and development of the region, particularly by empowering women. The role of women in dairy farming has been increasingly recognized as a means of generating income and improving household food security, as well as enhancing gender equality and social inclusion. In Bangladesh, rural

women are mostly responsible for small-scale dairy farming. They must utilize their full ability to raise their standard of living by active engagement in farming operations. Because women make up over half of the population and have a beneficial impact on the advancement of the entire population, their position and advancement are crucial to a country's prosperity (Upadhyay & Desai, 2011). It is impossible to achieve sustainable development without girls actively participating in family, community, and the economy; women's participation is crucial for their growth

(Reshadat *et al.*, 2012). The idea of women's empowerment and the country's efforts in this area has contributed to the steady advancement of gender equality. In Bangladesh, rural women often carry out the majority of tasks associated with dairy farming. Women's devotion and commitment to household expenses have been devalued in the patriarchal society. Despite this, rural women are becoming more conscious about their lifestyle choices, and the health, education, and financial security of their children. Through their involvement in small-scale dairy farming, they are working hard to improve their way of life and attempt to escape poverty. They can now supplement their family's income and meet their food demands thanks to farming (Batool *et al.*, 2014). Smallholder dairy farming is becoming more and more significant and it significantly improves rural residents' quality of life. It was determined that smallholder dairy production was essential and could reduce poverty, provide food security, enhance family nutrition, and create income and jobs (Uddin *et al.*, 2012). The possibility to overcome oppression like domestic abuse that prevents their empowerment by participating in income-generating activities like small-scale dairying presents itself to rural women who are willing to break through cultural boundaries. In Bangladesh, small-scale dairy farms run by rural women are becoming more and more common because of the low cost of child-rearing. In Pabna, dairy farming has emerged as a viable livelihood option for many women, particularly in rural areas where access to education and employment opportunities are limited. Due to increased awareness of the need to improve socioeconomic status, boost family income, and improve the quality of life, small-scale dairying systems are considerably growing in a few selected regions of the Pabna district. By improving their knowledge, nutrition, rights, awareness, health consciousness, and decision-making skills concerning their household, personal care, and experience, rural women were prepared to increase their confidence level through small-scale dairy farming. By dismantling conventional, socio-cultural norms and removing dependency, these activities ultimately boost empowerment by increasing freedom of movement, increasing self-esteem and self-respect, expanding their social circles, and increasing self-respect. This study explored the scenario of dairy farming and the socio-economic condition of women in selected areas of Pabna. It also analyzed the various factors that contribute to their increased participation in the sector and the benefits that accrue to them as a result. Through a combination of field surveys, interviews, and literature review, the study sought to provide insights into the gender dynamics of dairy farming and highlighted best practices for promoting women's empowerment in the sector. Therefore, the following goals were pursued with the current study:

1. To ascertain the extent to which rural Bangladeshi women participate in dairy farming activities.
2. To determine the roles of rural women in the involvement of small-scale dairy farming and poverty reduction
3. Effects of the small-scale dairy farming operated by rural women on the empowerment of their legal rights

MATERIALS AND METHODS

Research approach

The nature of this study was descriptive. According to Oso and Onen (2005), a descriptive study involves gathering several types of factual information that enable researchers to make conclusions about the intended audience.

Data sources and types

Both primary and secondary data were employed in the investigation. Initially, information was gathered from rural women who ran small-scale dairy farms. Secondary data were gathered from publications published in a variety of journals, books, periodicals, and newspapers.

Study participants

The households in the Sujanganar upazila of Pabna district of Bangladesh, that were involved in dairying operations were carefully chosen to perform the study as honestly as feasible. Small-scale dairy farmers made up the majority of the study.

The study's sampling component

The homes in the population who had been actively engaged in dairying activities for more than a year in the chosen area were regarded as the study's sample unit.

Sampling methodology

Data were collected randomly from different small-scale dairy farms in Pabna District where women were directly involved.

Sample size

From the sampling unit, fifty (50) homes in total were questioned.

Method for gathering data

The chosen rural women were subjected to observation, questionnaires, and focus groups to gather primary data. Face-to-face interviews were conducted to gather data with the aid of an interview schedule that included several types of questions. By employing various books, journals, articles, magazines, newspapers, annual reports, websites, and other media, desk research will compile secondary data.

Processing and analysis

To make the acquired data suitable for analysis, data were processed through editing, coding, classification, and tabulation. The data were checked at the end of each day of data collection to make sure the chosen rural women had responded to all pertinent questions and that no information was missing. The numerically coded numbers were needed as input because the values of the variables were expressed as numerical values during the data analysis procedure. The data was then tallied and evaluated using a computer. Data

were entered into computer-based worksheets and Microsoft Word after the field study was finished. In this work, manageable numerical descriptions were presented using descriptive statistics. To highlight the frequency, simple percentages were produced.

RESULTS AND DISCUSSION

Dimension and indicators of women's empowerment

This study evaluated the level of empowerment among women who live and work on small-scale dairy farms in a few chosen locations in the Pabna district. Poor rural women acquire social power because of their greater mobility, engagement in family and community activities, and participation in microcredit programs. This procedure removed societal constraints and restrictions. Three variables were used to measure social empowerment among the women both before and after the study: freedom of movement, involvement in family and community activities, and participation in microcredit programs. Table 1 shows that social empowerment increased during the study period.

According to [Batool *et al.* \(2014\)](#), small-scale dairying is seen as a crucial way for rural women to increase their family's income while maintaining their flexibility of movement. Before dairy farming only 22% of chosen rural women enjoyed freedom of mobility, compared to 46% of respondents during the study (Table 1). Before the study, the research revealed that, among the chosen rural women, 62, 26, and 12% had poor, moderate, and good involvement in family and community activities, respectively. On the other hand, selected rural women in the percentages of 46, 38, and 16 have the same access during the study as they did before

the study. The productivity and growth of income-generating activities can be improved by microcredit programs, according to prior research data ([Alhassan, 2012](#)), therefore women who participate in these programs are more socially empowered than their counterparts who do not ([Alhassan, 2012](#); [Awojobi, 2014](#)). Before the study, women's participation in microcredit programs was moderately low (56%), moderate (28%), and high (16%), respectively. Contrarily, during the study, women's participation in microcredit programs was moderate (48%) and high (28%) respectively, which increased their social empowerment. According to [Sarah and Ikemoto \(2015\)](#), rural women have been able to raise their consciousness and economic status through small-scale dairying, significantly enhancing the family's well-being. Rural women who work or participate in other income-generating activities feel more empowered than those who do not ([Nessa *et al.*, 2012](#)). The selected rural women reported that they had poor (26%), moderate (16%), and high (58%) income-earning potential by increasing farm production over the study period, compared to poor (52%), moderate (6%), and good (42%) income earning potential before to the study (Table 1). Rural women were independent in providing pocket money for their families to the tune of 68%. On the other hand, just 26% of respondents had financial independence before engaging in dairying operations (Table 1). According to this study, women in rural areas demonstrated a high degree of financial independence while making purchases to support their families. Before studies, just 10% of women had financial independence. Whereas, during the trial, 56% of women showed great economic success and had control over financial decisions relating to the maintenance of their dairy cows (Table 1).

Table 1. Distribution of indicators of women's empowerment before and during the study

Women's empowerment		Category	Before Dairy Farming		After Dairy Farming	
Dimensions	Indicators		Frequency	Percentage	Frequency	Percentage
Social empowerment	Freedom of mobility		Yes	11	22	23
		No	39	78	27	54
	Involvement in family affairs and community level	Poor	31	62	23	46
		Moderate	13	26	19	38
		Good	6	12	8	16
		Poor	28	56	12	24
Involvement in microcredit	Moderate	14	28	24	48	
	High	8	16	14	28	
	Poor	26	52	13	26	
Economic empowerment	Income earning potential	Moderate	3	6	8	16
		High	21	42	29	58
	Independence in spending money	Yes	13	26	34	68
		No	37	74	16	32
Decision-making empowerment	Autonomy in financial decision	Yes	5	10	28	56
		No	45	90	22	44
	Take decision independently	Yes	6	12	22	44
		No	44	88	28	56
Legal empowerment	Casting vote by own initiative	Yes	13	26	31	62
		No	37	74	19	38
	Involvement in major household decision	Yes	7	14	18	36
		No	43	86	32	64
Legal empowerment	Awareness about gender equity	Poor	18	36	8	16
		Moderate	21	42	31	62
	Knowledge about property and legal rights	Good	11	22	11	22
		Poor	41	82	28	56
		Good	7	14	13	26
		Good	2	4	9	18

Source: Field Survey (conducted in 2022)

Women were also given the freedom to make choices for their children's general welfare and health, including whether to vaccinate their newborns, choose healthy foods, and seek out better medical care for their ill children. Table 1 reveals that just 13% of women made their own decisions before studying. Moreover, during the study, 44% of the women made decisions on their own. An important first step toward granting rural women the same rights and power as males may be to increase their potential (Mulugeta and Amsalu, 2014). It was found that most of the girls who participated in SDF were influenced by others when they cast their votes. During the study period, 62% of women cast independent ballots. In contrast, 26% of women voted on their initiative before the study (Table 1). Empowered women have the flexibility to make their own decisions, are equally able to access home and communal resources, and can develop their selves (Kumar et al., 2013). During the study period, 36% of rural women were chosen who were heavily involved in household decisions regarding family members, a son or daughter's wedding, home repairs, and other purchases. In comparison, just 14% of rural women who were actively involved in dairying before that made significant decisions for their households (Table 1). To achieve long-term change in rural life, gender equality and girls' empowerment are essential (Afzal et al., 2009). The rural women's enhanced ability to make decisions is a sign of substantial advancement in their society's efforts to attain gender parity. Before the study, a sample of 36, 42, and 22% of rural women reported having a poor, moderate, and good awareness of gender equity, respectively. In contrast, within the study period, 16, 62, and 22% of rural women had these levels of awareness, respectively (Table 1). According to research by Banu et al. (2001), rural women who participate in the Bangladesh Rural Advancement Committee's program are eager to learn more about property rights and other legal rights. Women were less aware of their legal rights and unable to exercise them. Before the study, 82, 14 and 4% of women reported knowing property and legal rights, compared to 56, 26, and 18% of women who said they knew little to nothing about them throughout the study period.

How small-scale dairy farming empowers women

Breeds of dairy animals, husband conduct, the dismantling of conventional socio-cultural norms, an increase in knowledge and skill, and a successful reduction in rural women's dependence are the factors that will influence women's empowerment through dairy farming. During the study, the majority of rural women who were chosen (88%) raised crossbred cattle (Figure 1). By using crossbred cattle, the women were able to increase their income through dairy farming, giving them additional influence.

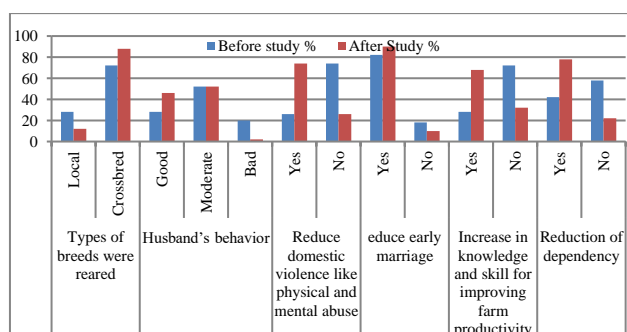


Figure 1. How small-scale dairy farming empowers women

Statistics revealed that the husband's actions had an impact on women's empowerment (Figure 1). In Bangladesh's rural communities, husbands customarily forbid their wives from participating in important family or domestic issues. The study shows that a higher percentage (52%) of the chosen rural women reported that, their husbands behaved moderately before the survey, and only 46% of those women reported good behavior from their husbands during the study. The study's data also showed that when women are permitted to launch and run their businesses, their standing within the family significantly rises (Islam et al., 2012). According to Parveen and Leonhauser (2004), physical abuse, threats of divorce, a husband's refusal to provide for the family, and mental abuse are the most prevalent types of domestic violence committed against women by their husbands or families. All of these have a major detrimental impact on the health and quality of life of women and inhibit empowerment. Most of the rural women who were chosen (74%) believed that small-scale dairy farm activities had helped to lessen violence against them (Figure 1). 90% of the rural women who were chosen were in favor of small-scale dairy farming reducing the number of young marriages. The greater awareness of education, and in particular the value of educating girls from an early age, is what has driven women to become more involved in the dairy industry. In the past, early marriages were a major barrier to young girls' education and a hindrance to any process of empowerment (Hossain, 2011). Overall, small-scale dairy farming has helped women gain knowledge and skills (Figure 1). It was found that 68% of the rural women who were chosen for the study improved their knowledge, skills, and competence through dairying. In several study locations, the revenue from dairying has greatly lessened the dependence of women compared to before the study. Through dairy farming, 78 percent of the rural women chosen for the study could lessen their dependence (Figure 1).

Awareness level of selected rural women

The majority of the rural women concurred that during the research period who incorporated small-scale dairy farming had a greater understanding of rights, education, health, and nutrition. In a study on women's empowerment in post-independence Bangladesh, Nazneen et al. (2011) found that women who had easy access to education were more concerned about healthcare and employment. In this study, it was determined that before the inclusion of SDF, 40, 32, and 45 percent of the selected rural women agreed that they had carefully considered their decisions regarding the enrollment of their children in school, the retention of a tutor for their children, and the monitoring of their academic progress. In contrast, during the survey, it increased to 60, 68, and 55 percent which denoted that, the selected rural women were more aware of the importance of education (Figure 2). During the study, the selected rural women in the area were comparatively more concerned with their health. The study found that, before the inclusion of small-scale dairying, 40, 40, 34, 34, and 28% of the selected rural women agreed that they were aware of the decision to visit a hospital or clinic in the event of illness, pregnancy, or other health issues, as well as the decision to choose a vaccination program for children, use of birth control methods, and better treatment for their children, family members, or repeated pregnancies.

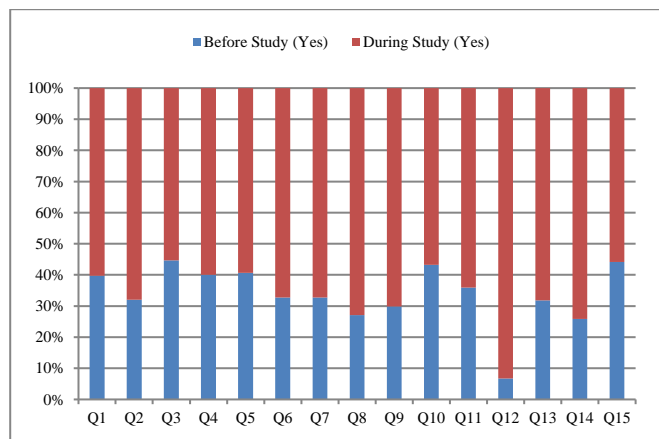


Figure 2. Comparison of awareness level of the selected rural women before and during the study. Here,

Q1 Choosing to enroll their children in the school	Q6 Involvement in family planning	Q11 Preparing nutritious meals for the family daily
Q2 Choosing to keep a tutor for their kids	Q7 Choosing better care for their kids and other family members	Q12 Practicing giving each child one cup of cow milk every day
Q3 Observing their kids' performance with care	Q8 Multiple pregnancies	Q13 Knowledge of the legal age for marriage
Q4 Choosing to visit a hospital or clinic in the event of illness, pregnancy, or another relevant health issue	Q9 Choosing healthy foods for the family	Q14 Knowledge of legal rights of dowries
Q5 Selecting a vaccination schedule for kids	Q10 Staying away from fast food	Q15 Knowledge of legal rights of divorce

Additionally, during the survey, the following percentages of the chosen rural women were increased up to 60, 60, 66, 67, and 72 percent which indicates more concern with their health (Figure 2). Nutritional knowledge is crucial in boosting the self-esteem of rural women who are actively involved in small-scale dairy farming. According to the study, before the small-scale dairying was applied, 30, 44, 36, and 8% of the rural women who were chosen all agreed that they were conscious of choosing nutrient-dense foods for their families, avoiding nutrient-dense foods, preparing wholesome meals for their families and providing one cup of milk per day for each child, respectively. During the study, it was increased and 70, 56, 66, and 92 percent of the randomly chosen rural women were aware of nutrition (Figure 2). The chosen rural women for the study were comparatively better knowledgeable about legal rights like the legal marriage age and divorce. According to the survey, before small-scale dairying was taken into account, 32, 26, and 42% of the selected rural women acknowledged that they were aware of marriage age, dowries, and divorce, respectively. Additionally, during the survey, 68, 74, and 58% of the

selected rural women were aware of their legal rights, such as the legal marriage age and divorce (Figure 2). This study found that women were noticeably more knowledgeable about the legal requirements for marriage and divorce due to small-scale rural farming activities.

CONCLUSIONS

In conclusion, this study has shed light on the significant potential of dairy farming to empower women in the selected areas of Pabna, Bangladesh. The findings highlighted the crucial role of dairy farming in improving women's access to income-generating opportunities, enhancing household food security, and promoting gender equality and social inclusion. The study has identified several factors contributing to women's participation in the sector, including access to resources, technical knowledge, and social norms as a result of their increased involvement in family matters and participation in autonomous decision-making; women were better able to govern financial resources both within their households and in their communities to combat. The best-influencing factors for rural women's empowerment through small-scale dairy were the actions of their husbands, the successful reduction of their dependence, an increase in knowledge and skill, the dismantling of traditional sociocultural norms, and eventually the types of dairy breeds (cross-breed) raised significantly. As a result of the women's higher levels of confidence, they were more effective and productive in small dairy farming, raising their standard of living and increasing their involvement in domestic duties.

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