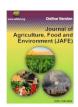


Journal of Agriculture, Food and Environment (JAFE)

Journal Homepage: http://journal.safebd.org/index.php/jafe

https://doi.org/10.47440/JAFE.2022.3403



Original Article

Role of Income Generating Activities in Empowering Rural Women of Bangladesh

Akter T1*, Nishat SM2, Jolly FA3

Article History

Received: 20 October 2022 Revised: 05 December 2022 Accepted: 12 December 2022

Published online: 31 December 2022

*Corresponding Author

Akter T, E-mail: tanjima1996@gmail.com

Keywords

Women Empowerment, Income-generating activities, Socioeconomic status, Factors, Obstacles.

How to cite: Akter T, Nishat SM, Jolly FA (2022). Role of Income Generating Activities in Empowering Rural Women of Bangladesh. J. Agric. Food Environ. 3(3): 15-21.

ABSTRACT

In Bangladesh, women in rural regions are largely responsible for agricultural production, food security, and household upkeep. This study was carried out to examine the variables affecting the income of rural women, gauge women's empowerment, and pinpoint the main issues they confront. Both quantitative and qualitative data were collected through a pre-tested interview schedule from sixty women involved with income-generating activities. The multistage sampling procedure was used, and primary data were collected from Mymensingh Sadar, Muktagacha, and Bhaluka Upazila of Mymensingh district of Bangladesh from April to June 2021. Tabular analysis, Ordinary Least Square (OLS) method, Women Empowerment Index (WEI), and Problem Confrontation Index (PCI) were used for data analysis. The result shows that family size, farm size, work experience, and availability of credit have a significant positive influence on rural women's income. The estimated value of the WEI of the respondents is 1.23 which implies that women are empowered in the study area. Their capacity for decision-making has gradually enhanced as they are involved in income-generating activities. The major concerns faced by rural women include lack of capital, training facilities, credit availability and proper education, the higher price of the input, high-interest rates, etc. However, the survey still shows that rural women's involvement in income-generating activities has improved their quality of life more than at any prior point in the past.

© 2022 The Authors. Published by Society of Agriculture, Food and Environment (SAFE). This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 License (http://creativecommons.org/licenses/by/4.0)

Introduction

Bangladesh is one of the most densely populated countries in the world with a population of approximately 165 million, of which the male population is above 81 million and the female population is above 83 million (BBS, 2022). Rural women are the poorest and most culturally reviled segment of the population, despite the fact that the constitution of Bangladesh recognizes equal rights for men and women in the public sphere and has a relatively strong legal and regulatory framework that safeguards women's rights (Islam et al., 2012). Bangladesh is known for having a predominantly male population due to its cultural and religious beliefs, which also restrict women's mobility and participation in economic and social activities (Bose et al., 2009). While economic progress narrows the gender gap through its gender-promotional initiatives, poverty widens the sociocultural segregation between men and women (Roy et al., 2018). In the country, women are given a lower position than men, the former having the entire authority to rule the home and society at large, whereas women are frequently isolated within their residences (Yount et al., 2018). Women's empowerment is a strategy for giving underprivileged women access to fundamental opportunities (Haque et al., 2019).

Women's empowerment refers to the idea that women should be treated similarly in all fields and have access to equal opportunities (Babbar, 2022). Participation in self-employment activities might ultimately empower rural women. Women in Bangladesh's rural areas will be able to support their families and the economy of the country if they can make a living through income-generating activities. Most rural women continued to live constrained lives confined to their traditional duties, with little access to markets, useful services, education, health care, and local governance (Sharmin et al., 2016). Rural women perform a variety of tasks daily, including caring for livestock, processing and

^{1*}Department of Agricultural Finance, Co-operatives and Banking, Khulna Agricultural University, Khulna-9100, Bangladesh.

²Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh-2202.

³Department of Farm Structure, Khulna Agricultural University, Khulna-9100, Bangladesh.

preparing food, gathering water, looking after family members, and maintaining homes. However, many of these tasks go unnoticed while they are ignored, denied access to many things, and have pretty poor living conditions.

However, things are changing, and working women are becoming more empowered than women who are not already working in decision-making, earning potential, and health care (Tabassum et al., 2019). Entrepreneurship provides economic power designed to boost women's access to financial resources in the household and so promote women's empowerment (Khanam et al., 2022). The ability of rural women to make decisions, participate in socioeconomic activities, and fight poverty grows, which ultimately improves their living situations (Basher, 2007). In a study on the empowerment of rural Bangladeshi women, it was found that enlightening them about ten particular gender issues, such as undervaluation, educational inequality, inheritance of property rights, the timing of marriage, the practice of dowry, divorce rights, sex bias, birth registration, political awareness, and violence against women, can lead to greater empowerment (Parveen, 2007).

In their study to ascertain whether micro-enterprises promote women's empowerment as well as their participation in Paramanandam income-generating activities, Packirisamy, 2015 found that economic advancement will not happen unless women are provided with technical knowledge, skill training, and marketing strategies when starting a business. The promotion of income-generating activities in rural regions increases national production, creates jobs, and aids in the development of farm women's economic independence as well as their social and personal skills (Pradhan et al., 2016). The self-help groups' microcredit program encourages its disadvantaged female members to take part in other community improvement projects, and it also supports small-scale businesses to help people out of poverty by providing them with sources of income (Sharma and Singh, 2011).

In light of the aforementioned situation, the present study was conducted to gain an understanding of rural women's empowerment through participation in income-generating activities and to assist researchers, extension workers, policymakers of different organizations, GOs, and NGOs in ensuring the role of rural women in our economy. Therefore, this study aims to analyze factors affecting rural women's income and measure their empowerment while identifying the major problems.

Methodology

Study area and sampling

The study was conducted in three Upazilas, namely Mymensingh Sadar, Muktagacha, and Bhaluka of Mymensingh district of Bangladesh. Using a multistage sampling procedure, sixty women involved with incomegenerating activities (IGA) were selected. Primary data were collected from the selected women of the study area through a pre-tested semi-structured interview schedule from April to June 2021. In addition, family members, including the husband, father, mother, and grown children, have been contacted to learn about the status of these women in the family and community as well as to monitor how the situation of women is changing. The gathered data were checked, summarized, and examined using econometric and tabular methods.

Ordinary Least Square (OLS) method

The Ordinary Least Square (OLS) method is used to evaluate the factors influencing rural women's household income. The approach selects a regression where the total number of residuals, Σ Ui, is as low as possible (<u>Gujrati, 1995</u>). The following regression equation is used.

$$\begin{array}{l} Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \\ U_i...........(1) \end{array}$$

Where,

 Y_i = Annual income of rural women;

 $X_1 = Age (years);$

 X_2 = Educational status of the woman (years of schooling);

 X_3 = Household size (number);

 X_4 = Farm size (acre);

 X_5 = Experience in involving IGA (Years);

 X_6 = Training received (days);

 X_7 = Credit received (Tk);

 β_0 = Intercept;

 β_1 to β_7 = Co-efficient of relevant variables; and

 $U_i = Disturbance term.$

Women Empowerment Index

Following the Women Empowerment Index (WEI) used by Khanum et al., 2022, Haque et al., 2019, Roy et al., 2018, and Bose et al., 2009 in their study, eight major decisionmaking indicators were selected to assess women's empowerment. They were purchasing personal items, arrangement of recreational facilities, visiting people or institutions, child health and education, purchasing household assets, control over income, voting decision, and daily food menu. When a choice was made by a man, the lowest value (= 0), suggesting that women were the least "empowered," was assigned. When males and females make decisions together, a value of one (1) is assigned. If only women make the choice, women are more "empowered," and that choice is given the greatest weight (2). For instance, a greater value (K) of an indicator (X) indicates that women are more empowered (Table 1), where K=0 to 2.

Table 1. Degrees of women empowerment.

$X_i =$	K = Any rating value of each indicator					
Decision- making indicators	Low empowerment	Moderate empowerment	High empowerment			
X_1	0	1	2			
	0	1	2			
	0	1	2			
	0	1	2			
X_n	0	1	2			

As a result, the average value of K_i indicated by the following equation might equal the average score value of X_i for all choice indications.

 $X_i = K_i \dots (2)$

So, the Women Empowerment Index (WEI) for eight indicators (Xi) is as below.

WEI= $(\sum_{i=1}^{8} X_i)/8...$ (3)

Where,

 X_I = Purchase of personal items;

 X_2 = Arrangement of recreational facilities;

 X_3 = Visit people or institutions;

 X_4 = Child health and education;

 X_5 = Purchase of household assets;

 X_6 = Control over income;

 X_7 = Voting decision;

 X_8 = Menu of daily food;

If WEI < 1, not empowered; and

If WEI > 1, empowered.



Problem Confrontation Index (PCI)

PCI is a tool for identifying issues and limitations where issues are tallied according to their importance. A four-point rating scale was used to compute the respondent's problem score. The respondents were asked four alternative responses as high, medium, low, and not at all against each of the 11 selected problems. Scores were assigned to those alternative responses as 3 for High, 2 for Medium, 1 for Low, and 0 for Not at all. The PCI was computed by using the following formula:

 $PCI = P_h \times 3 + P_m \times 2 + P_l \times 1 + P_n \times 0$

Where,

PCI = Problem Confrontation Index

 $P_h = No.$ of the respondents expressed the problem as "high" $P_m = No.$ of the respondents expressed the problem as "medium"

 $P_l\!=\!No.$ of the respondents expressed the problem as "low" $P_n\!=\!No.$ of the respondents expressed the problem as "not at all"

Thus, the PCI of the individual problem could range from 0 to 180, where 0 indicates "no" problem confrontation and 180 indicates "high" problem confrontation.

Results and Discussion Socioeconomic characteristics of sampled women

The socioeconomic situation of the farmers is crucial since a person's many interconnected and constitutive characteristics greatly affect how they behave and evolve as a person (Zaman et al, 2022). The sampled women involved with income-generating activities are classified into categories according to the age categorization of the Bangladesh Bureau of Statistics (BBS, 2015). Table 2 shows that the majority of the sampled women were between the age of 30 years to 45 years of old. They are the economically active part of the total population with their vigor, eagerness, and sufficient experience. The percentage of old-age women is very low as the majority of economic activity in rural areas requires hard work. Age is a positive factor in the quantitative variables that affect respondents' ability to make economic decisions, whereas age at first marriage is a negative factor (Paul et al., 2016). Education is both the germ and the blossom of socioeconomic growth, serving as a mirror of society. Rural development involves several factors, including education, economic growth, and physical and social infrastructure (Chandra, 2014). The majority that is 53.33% of the surveyed women's education level is at a secondary level while 10% receive no education. Only 1 woman had higher education. Village people are most likely to send their male children to a school. Even if the girls are sent to school, their families do not provide enough facilities. They have mostly engaged in household chores. Women's involvement in various activities can be constructed with the aid of education (Khan and Ara, 2006). In Bangladesh, marriage is nearly always the norm. It is a social institution with deep roots and is greatly treasured for social and economic reasons (BBS, 1991). In certain ways, marriage can offer women protection, but it also exposes them to risks ((Djuikom and Walle, 2022). A large portion of the respondent women (78%) were married and living with their husbands in a family. Young girls were also involved with income-generating activities to become self-reliant. The family is the first social group to organize and manage a household. The rural women were divided into three broad categories based on the number of family members (Table 2). Approximately 58.33% of the respondent women

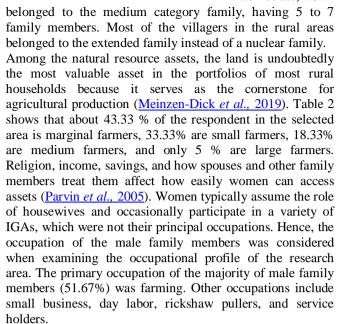


Table 2. Status of socioeconomic characteristics of the respondents.

Variable	Group	No. of	Percentage	
	-	respondents		
Age (year)	16-29	14	23.33	
	30-45	22	36.67	
	46-65	19	31.67	
	>65	5	8.33	
Education	Illiterate	6	10	
	Primary	18	30	
	Secondary	32	53.33	
	Higher Secondary	3	5	
	Higher education	1	1.67	
Marital status	Married	47	78.33	
	Unmarried	13	21.67	
Family size	Small (up to 4)	8	13.33	
•	Medium (5 to 7)	35	58.33	
	Large (above 7)	17	28.33	
Farm size	Marginal farmer (0.05	26	43.33	
	acre to 0.49 acre)			
	Small farmer (0.5 acres	20	33.33	
	to 2.49 acres)			
	Medium farmer (2.5	11	18.33	
	acres to 7.49 acres)			
	Large farmer (7.5 acres	3	5	
	and above)			
Primary	Farming	31	51.67	
occupation	Small business	14	23.33	
-	Day labor	6	10	
	Rickshaw puller	4	6.67	
	Service holder	5	8.33	

Factors influencing rural women's income

Rural women working outside the home is currently a common occurrence. They are taking part in various jobs such as poultry farming, vegetable production, dairy farming, cattle, goat rearing, tailoring, handicraft, fish culture, etc., which ensures additional income for both their home expenses and the economy as a whole. Poultry rearing can alter rural Bangladesh's cultural landscape by empowering women and boosting their economic status and capacity to support their families (Islam et al., 2012). They are participating in income-generating activities to become self-dependent, assist the family financially, and upgrade their quality of life.



Table 3. Average income from different Income Generating Activities (IGA).

Different IGA's	Average annual income (Tk)			
Dairy	53100.00			
Poultry	46481.25			
Fish culture	2862.67			
Homestead Gardening	12936.00			
Tailoring	12638.76			

Table 3 shows that the highest average earnings come from dairy farms, including cattle and goat rearing. The second highest average income comes from poultry farming which helps the respondents earn money by selling eggs and also meet the household's egg demand. They are also making substantial profits from other activities evident from the table.

In developing nations like Bangladesh, several factors affect rural women's income. To determine the element that affects rural women's income, a multiple regression model is specified here. The annual income of rural women is a dependent variable, while age, educational status of women, household size, farm size, experience in involving IGA, training received, and credit received are independent variables in the model.

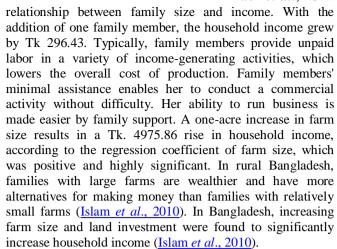
Table 4. Estimated values of coefficient and related statistics of the OLS model for the factors influencing rural women's income.

Variable	Coefficient	P> t	
Age (years)	28.62	0.90	
Educational status of women (years of	109.20	0.21	
schooling)			
Household size (number)	296.43**	0.04	
Farm size (acre)	4975.86***	0.00	
Experience in involving IGA (Years)	340.87*	0.07	
Training received (days)	42.23	0.67	
Credit received (Tk)	0.18**	0.01	
Constant	6662.50**	0.03	
F-value	28.15		
Prob> F	0.000	0	
R-squared	0.814	4	
Adj R-squared	0.7662	2	
No. of observation	120		
3 1			

Note: *, ** and *** indicate significance at 10%, 5%, and 1% levels, respectively.

Table 4 shows that there is an insignificant positive relationship between the age of rural women and their annual income, with a coefficient value of 28.62. An increase in household income with age, as rural women contributed Tk. 28.62 more to their household income with each year of increasing age. Middle-aged women are more involved with IGA in the research location. Young rural women contributed less to household income than middle-aged and elderly women because of inexperience, early marriage, caring for children, a heavy workload at home, etc. Women's educational attainment has a positive and statistically insignificant coefficient. The coefficient suggests that moving from a lower to an upper educational category increased household income by Tk 109.20. Education elevates women's status by giving them knowledge, exposure to the contemporary world, and authority over their own decisions (Kishor and Gupta, 2004).

The findings also show that family size significantly increased household income, demonstrating the causal



The farming experience of women has a significant and positive coefficient of 340.87. More experienced women can generate higher incomes. Their expertise in performing various economic operations is a result of experience. A one-unit increase in experience causes the income to be increased by Tk 340.87. Table 4 shows that the training received by women has a positive coefficient of 42.23. This indicator indicates that women who had access to training opportunities earned more money. An increase in a specific training program increases the annual income by Tk 340.87; other things remain constant. Different GOs and NGOs offer various sorts of training in rural areas. Training increases the need for rural women to engage in diverse incomegenerating activities because it generally improves a person's knowledge and talents (Sharmin et al., 2016).

Women in the study region experience hardship due to a lack of funding. To begin an economic endeavor, they require a substantial sum. They lack sufficient funds since they are poor. As a result, they must borrow money from numerous financial institutions (Roy, 2013). Governmental and nongovernmental organizations have recently launched loan programs aimed at rural women in numerous low-income nations. In this study, credit received has a positive and statistically significant relationship with annual income.

Measuring Women's Empowerment

Empowerment is the increase in resources and capacities of underprivileged people to engage with, bargain with, influence, control, and hold responsible institutions that have an impact on their life (World Bank, 2002). When women are empowered, they have access to other members of society and have equal chances for employment, political engagement, and improvements to health and education (Duflo, 2011). By earning money, they advance in the family hierarchy and are requested to participate in family choices by their husbands (Mahmud and Sultan, 2010). rural women still predominate in decision-making in fields like home gardening, raising livestock (such as cattle, goats, and chickens), and post-harvest tasks like making and storing seeds (Bose et al., 2009).



Table 5. Women Empowerment Index (WEI).

Decision making parameters	Taken by the male alone (0)	Jointly (1)	Female alone (2)	WEI
1. Purchase of personal	3	7	50	1.45
items				
2. Arrangement of	12	29	19	0.90
recreational facilities				
3. Visit people or	3	30	17	0.97
institutes				
4. Child health and	22	24	14	0.81
education				
5. Purchase of household	10	29	21	1.15
assets				
Control over income	8	15	37	1.45
Voting decision	5	21	34	1.75
8. Daily food menu	5	26	29	1.35
Overall WEI				1.23

Most women in this study enjoy the freedom to choose or buy their products, although some are influenced by their husband. Most of the time decision regarding recreation has been taken jointly, which is satisfactory. This study has found that women need permission in most cases when they want to go out. In the case of child health and education, males play the main role in making a decision. The reason behind this is that women are less knowledgeable about this topic. Decisions about purchasing household assets are taken jointly. Male and female jointly discuss before purchasing what is needed in their family life. When it comes to the and household decision-making indicator. respondents who are currently employed have more discretion over their major household purchases (Tabassum et al., 2019). The income that a woman earns by doing income-generating activities is almost under her control of her. A portion of the respondent jointly decides how to or where the earned money will be spent. Most of the time, women who live with spouses have only limited or no control over their finances (Parvin et al., 2005). In voting decisions, the women's empowerment index is 1.75, indicating that women are more empowered in this case. Some also take suggestions from their husbands, but most

women cast their vote according to their will. Finally, most of the women said they alone decided what the menu for the day would be. Some also said that other members of the family express their wishes about the food and according to their wish respondent prepares the meal. However, the overall Women Empowerment Index (WEI) is estimated at 1.23.

The findings reveal that, almost in all cases, a decision was taken together by males and females. It is a very satisfactory case that decision is taken by the female alone, particularly in the cases such as control over their income, purchase of personal items, voting decision, selection of daily meals, etc. Women are the only ones who can determine what to cook and have access to money for this reason, but they are rarely able to buy their jewelry or household items. Women also have the autonomy to decide on their medical care and visits to relatives' homes. Another finding is that 50% of women can decide whether to participate in political and social activities with their spouses (Tabassum et al., 2019). The respondents' ability to make decisions for the household is 0.025 times greater for those who are now employed than for those who are not (Paul et al., 2016). According to evidence from emerging nations, the strongest predictors of women's authority in decision-making were women's age and family structure. Women in nuclear households and older women were more likely to engage in family decisions than other women (Sathar and Shahnaz, 2000).

Identifying major problems faced by the rural women

The participation of rural women in various forms of income-generating activities is beneficial to their families and the national economy but not entirely to their advantage. There are several problems. They have relatively little access to income-generating opportunities because due to many social, cultural, and religious restrictions, as well as social activities (Roy, 2013). It is uncomfortable for them to work there, which negatively impacts productivity. To assess a problem's seriousness and present a comparable summary, the Problem Confrontation Index (PCI) has been applied where a table contains all of the sorted 11 problems a PCI ranking in descending order.

Table 6. Computation of Problem Confrontation Index.

SL	Problems -	The extent of Problem Confrontation				PCI	Rank
No.	rioblems	High (3)	Medium (2)	Low (1)	Not at all (0)	rcı	Kalik
1	Lack of capital	29	21	10	0	159	1
2	Lack of training facilities	26	22	12	0	134	2
3	Lack of credit	26	20	14	0	132	3
4	Lack of proper education	26	19	15	0	131	4
5	The high price of business material	20	22	18	0	122	5
6	High rate of interest	20	18	22	0	118	6
7	Helping hand problem	17	23	20	0	117	7
8	Lack of land	17	21	22	0	115	8
9	Transportation problem	13	22	25	0	108	9
10	Discourage from husband	14	19	27	0	107	10
11	Security problem	10	17	33	0	97	11

Table 6 shows that lack of capital is the biggest obstacle facing women in rural agriculture farming as it has the highest PCI score which is 159. In Bangladesh's economically depressed rural areas, women typically engage in income-generating activities to support their families. As a result, they are typically unable to raise the necessary amount of money. Among the 60 respondents, 29 women graded this

issue's severity as high, while 21 of them found this problem to be of medium severity. Only 10 of them faced marked this problem of low severity. The next severe problem is the lack of training facilities which has a PCI score of 134. Effective training can significantly increase workers' productivity, but it is clear that a sizable portion of responders is denied this chance. They rely on traditional family knowledge, and rural



women's literacy rates are insufficient for them to enroll in scientific training.

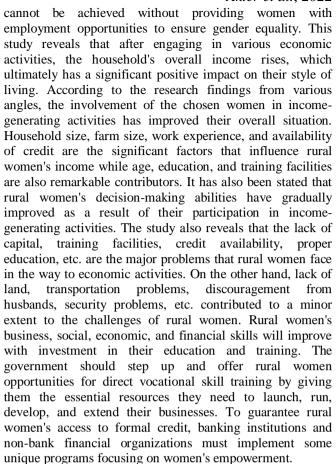
According to a sizable percentage of respondents, one of the main obstacles preventing individuals from achieving their full potential is a lack of credit. Lack of proper education has a PCI of 131 that, is noticeable. Bangladesh is struggling to make women's literacy accessible and most of the workers do not have the time to attend educational training due to their workload. To efficiently boost income, adequate extension education through female agents may be advantageous. The high price of business materials is another obstacle for which rural women do not possess much property. Their profit is also tiny relative to their investment. They find it extremely challenging to carry on with their operations as the cost of company supplies rises because they have no alternative source from which to raise funds. Because of a lack of security or collateral, women find it difficult to borrow from formal sources of credit. They have to borrow from professional money lenders, which costs a high amount of interest. Helping Hand Problem has a PCI score of 117. Because of the patriarchal nature of Bangladeshi society, women are responsible for maintaining the home. Only women perform all household chores traditionally, and those who work in agriculture must perform both responsibilities.

The resultant PCI score in case of lack of land is 115. Most of the rural women do not have land to execute farming or they belong to a family having small or medium farming. In Latin America, only 11-27% of landowners were women, according to a study of five nations (UNIFEM, 2010). Most rural Bangladeshi women don't own land, and title deeds are only in the names of their husbands (Islam et al., 2012). The responses show that the women who participated in the survey did not find transportation to be a significant problem. The problem was deemed to be extremely severe by 13 respondents, a problem of severity by 22 respondents, and a problem of low severity by 25 respondents. Discourage from husband has a PCI score of 107, indicating it is not a major issue for women working in rural agriculture. Most families depend on agriculture for their livelihoods, hence the majority of the males did not find anything wrong with women participating in household activities because they are ultimately ensuring the family's survival. Rural agricultural farms are typically located close to the owner's residence. As a result, they are always in touch with their farms, yet the potential for theft still exists. However, in this study, it has the lowest PCI score.

It has the potential to lead to sustainable empowerment whenever the problems encountered by underprivileged women are appropriately addressed (Akhter, 2018; Mahmood, 2011). To increase women's economic, social, and political awareness to alleviate poverty and promote empowerment in society, it is important to ensure that they have access to sufficient amounts of credit as well as education and training to help them find jobs and earn revenue (Peter and Mia, 2006). Access to education, informational media, and institutional resources can help Bangladeshi rural women become more conscious of gender issues (Parveen, 2007).

Conclusion

Rural women perform a dual function, providing for their families while also managing all household chores. The second, however, is not appropriately assessed because it has no economic worth. Inclusion and sustainable development



Funding: This study received no specific financial support. **Competing Interests:** The authors declare that they have no competing interests.

References

Akhter J, Kun C & Chukwunonso O (2018). The impact of microcredit on women's empowerment-A case study. Int. J. Bus. Soc. Sci. Res., 6: 18–23.

Babbar JJ (2022). Women Empowerment Research. Journal of English (RJOE), 7(1): 118-121.

Basher MA (2007). Empowerment of microcredit participants and its spillover effects: evidence from the Grameen Bank of Bangladesh. Journal of Developing Areas, 40(2):173-183.

BBS (1991). Statistical Yearbook of Bangladesh, Bangladesh Bureau of Statistics. Ministry of Planning, Government of the People's Republic of Bangladesh. Dhaka, Bangladesh.

BBS (2015). Statistical year book of Bangladesh, Bangladesh Bureau of Statistics. Ministry of Planning, Government of the People's Republic of Bangladesh. Dhaka, Bangladesh.

BBS (2022). Population and housing census 2022, preliminary report, Bangladesh Bureau of Statistics. Ministry of Planning, Government of the People's Republic of Bangladesh. Dhaka, Bangladesh.

Bose ML, Ahmad A & Hossain M (2009). The Role of Gender in Economic Activities with Special Reference to Women's Participation and Empowerment in Rural Bangladesh. Gender. Technology and Development, 13 (1): 69-102.

Chandra R (2014). Role of Education in Rural Development. Allahab: Dept of Humanities & Social science, MNIT Conference Paper: 1-13.



- Djuikom MA & Walle D (2022). Marital status and women's nutrition in Africa. World Development, 158. https://doi.org/10.1016/j.worlddev.2022.106005.
- Duflo E (2011). Women Empowerment and Economic development. NBER Working paper No. 17702, USA.
- Gujarati DN (1995). Basic Econometrics. 4th Edition, United State Military Academy, New York.
- Haque T, Siwar C, Bhuiyan AB & Joarder MHR (2019). Contributions of Amanah Ikhtiar Malaysia (AIM) microfinance to Economic Empowerment (EE) of women borrowers in Malaysia. Economics and Sociology, 12(4): 241-256.

doi:10.14254/2071-789X.2019/12-4/15.

- Islam MS, Takashi S & Chhabi KQN (2010). Women's Contribution to Self-financed Small-scale Independent Broiler Farming and Their Participation in Farm Extension Activities in Rural Bangladesh. Livestock Research for Rural Development, 22(8).
- Islam N, Ahmed E, Chew J & D'Netto B (2012). Determinants of Empowerment of Rural Women in Bangladesh. World Journal of Management, 4 (2): 36 56.
- Khan MMR & Ara F (2006). Women, Participation and Empowerment in Local Government: Bangladesh Union Parishad Perspective. Asian Affairs, 29(1): 73-100.
- Khanum R, Mahadi MSA & Islam MS (2022). Empowering tribal women through entrepreneurship in Sylhet region of Bangladesh. GeoJournal, 87: 3387–3402. https://doi.org/10.1007/s10708-020-10361-7.
- Kishor S & Gupta K (2004). Women's empowerment in India and its States: Evidence from the NFHS. Economic and Political Weekly, 39(7): 694–712.
- Mahmood S (2011). Microfinance and women entrepreneurs in Pakistan. Int. J. Gend. Entrep., 3: 265–274.
- Mahmud S & Sultan M (2010). Community health workers in Bangladesh: Continuity and change, BRAC Development Institute, BRAC University, Dhaka.
- Meinzen-Dick RM, Quisumbing A, Doss C & Theis S (2019). Women's land rights as a pathway to poverty reduction: Framework and review of available evidence. Agricultural Systems, 172: 72-82. https://doi.org/10.1016/j.agsy.2017.10.009.
- Paramanandam AD & Packirisamy P (2015). An empirical study on the impact of micro enterprises on women empowerment. Journal of Enterprising Communities: People and Places in the Global Economy, 9 (4): 298-314. https://doi.org/10.1108/JEC-08-2014-0017.
- Parveen S (2007). Gender Awareness of Rural Women in Bangladesh. Journal of International Women's Studies, 9(1): 253-269.
- Parvin GA, Ahsan SMR & Chowdhury MR (2005). Women Empowerment Performance of Income Generating Activities Supported by Rural Women Employment Creation Project (RWECP): A Case Study in Dumuria

- Thana, Bangladesh. The Journal of Geo-Environment, 4: 47-62
- Paul GK, Sarkar DC & Naznin S (2016). Present Situation of Women Empowerment in Bangladesh. International Journal of Mathematics and Statistics Invention, 4(8): 31-38
- Peter JI & Mia IA (2006). Women's Empowerment and Poverty Alleviation: A Study of RD-12 Project under BRDB in Jamalpur District. The Journal of Rural Development, 33(1): 27-43.
- Pradhan L, Das P & Nayak MP (2016). Empowerment of Farm Women through Income Generating Activities. J Krishi Vigyan, 4(2): 40-43.
- Roy C, Chatterjee S & Gupta SD (2018). Women Empowerment Index: Construction of a Tool to Measure Rural Women Empowerment Level in India. http://dx.doi.org/10.2139/ssrn.3357543.
- Roy M (2013). Pragmatic Approaches to Sustainable Development through Rural Women Empowerment in Bangladesh. Journal of Economics and Sustainable Development, 4(10).
- Sathar ZA & Shahnaz K (2000). Women's autonomy in the context of rural Pakistan. The Pakistan Development Review, 39: 89-110.
- Sharmin KS, Mittra PK, Akanda MGR & Datta AK (2016). Empowerment of Rural Women through Income Generating Activities. Imperial Journal of Interdisciplinary Research, 2(9): 1789.
- Singh PK & Sharma P (2011). Rural Women Empowerment through Entrepreneurship Development. International Journal of Asian Social Science, 1(2): 24–26, https://archive.aessweb.com/index.php/5007/article/view/2132.
- Tabassum M, Begum N, Rana MS, Faruk MO & Miah MM (2019). Factors Influencing Women's Empowerment in Bangladesh. Science, Technology & Public Policy. 3(1): 1-7. doi: 10.11648/j.stpp.20190301.11.
- UNIFEM (2010). Progress of the World's Women 2008/2009. Who Answers to Women? Gender and Accountability. United Nations Development Fund for Women, New York.
- World Bank (2002). "A Framework for Empowerment: Summary", Poverty Reduction Group, World Bank, Based on "Empowerment and Poverty Reduction: A Sourcebook", The World Bank, Washington, D.C., USA.
- Yount KM, James-Hawkins L, Cheong, YF & Naved RT (2018). Men's perpetration of partner violence in Bangladesh: Community gender norms and violence in childhood. Psychol Men Masc, 19: 117-130.
- Zaman MR, Aker T & Nishat NI (2022). Comparative Profitability of the Modern and Traditional Variety of T. Aman Rice in Mymensingh District of Bangladesh. International Journal of Sustainable Agricultural Research, 9(2): 55-67. DOI: 10.18488/ijsar.v9i2.2971.

