



## Contribution of women to household income and decision making in some selected areas of Mymensingh in Bangladesh

PK Roy<sup>1</sup>, S Haque<sup>1</sup>, A Jannat<sup>2</sup>, M Ali<sup>1</sup>, MS Khan<sup>3</sup>

<sup>1</sup>Department of Agricultural Economics, <sup>2</sup>Institute of Agribusiness and Development Studies, <sup>3</sup>Department of Rural Sociology, Bangladesh Agricultural University, Mymensingh 2202, Bangladesh

### Abstract

The study was conducted to measure the contribution of women to their household income, to analyze the pattern of women's participation in decision making process, their perceptions and impact of income on decision making process. The study was carried out at three villages of Mymensingh Sadar Upazila. Data were collected from 50 rural households by random sampling technique with a structured questionnaire. The obtained data were analyzed by using tabular and different statistical techniques. The results of the study showed that the pattern of women's contribution to household income has been changed. In the study area, women were participating in various income generating activities such as crop production, post-harvest activities, poultry rearing, management of livestock and fisheries, etc. Male and female rendered their involvement in income generating activities for 220 man-days and 204 man-days per year, respectively. The average annual women's contribution to household income was estimated at Tk. 42000 per year which was about 43.52 percent of the total household income. The multiple regression analysis showed that women's income was positively related with women's education and farm size but negatively related with age, family size and indebtedness. A logistic regression analysis showed that women's participation in decision making process was negatively related with family size, but positively related with respondent's age, education, farm size, income and occupation. Women rendered a great deal of contribution in making decision on post-harvest operation, management of production activities, selling of crops, rearing poultry, goat and cattle, purchasing of agricultural inputs, etc. To reduce their economic, social and political constraints, the study suggested providing logistic supports such as health care facility, credit facility, input supply, agricultural extension services, need-based training, etc. in order to increase their participation in income generating activities and different household decision making events.

**Key words:** Women's contribution, household income, decision making

Progressive Agriculturists. All rights reserved

\*Corresponding Author: [mbdbau@gmail.com](mailto:mbdbau@gmail.com)

### Introduction

The pace of development in any country largely depends upon the people's participation including women. Women constitute almost half of the total population of the country. They can play a vital role in economic development of the family and of the nation. But in Bangladesh, being a traditional Muslim society,

the status of women is domestic in nature. Women have been considered as a docile daughter, a complacent wife and a dependent mother. Women's participation in economic activities in general and in agriculture in particular has remained low. But, recent labor force survey conducted by the Bureau of

Statistics showed rapidly increased participation of women in economic activities (BBS, 2015). The progress is attributed to poverty, empowerment of women by NGOs and migration of male members from agriculture to non-farm occupation. With the absence of male members, women's role is changing from unpaid family worker to farm managers, a phenomenon termed as "feminization of agriculture".

In Bangladeshi families, income earning was usually the responsibility of males, while the remaining family member usually women and children are economically dependent. Women had no choice but to live in this dependent condition, due to their relatively lower educational levels and fewer marketable skills, the resultant lack of available employment opportunities, and a lack of social acceptance of women earning a living. This problem was, perhaps surprisingly, particularly acute for middle class women who face the greatest social obstacles in engaging in work outside the home, leaving them few choices to be full time housewives. As a result, many women spend most of their time on housework. Women also perform as paid labor within their homes, such as taking in piece work or assisting in family productive activities, such as farm work, running a family business, etc. Typically, however, any work that receives little pay is considered unimportant and labeled as "women's work", despite the fact that such works actually bring tangible economic benefits to the family. Since housework and childcare are unpaid and are carried out almost exclusively by women, they are considered to be without monetary value.

The female contribution to the overall economy, particularly in agriculture is high throughout Asia. Bangladesh, Bhutan, Cambodia, China, India, Myanmar, Nepal, Pakistan and Vietnam have particularly high percentages of women employed in the agricultural sector, with estimates ranging between 60 and 98 percent (FAO, 2003). Among the neighboring countries, only 59 percent of Bangladeshi women, as compared to over 74 percent of Indian, 64

percent Pakistani and 85 percent Nepali women are employed in agriculture. The World Bank study in Bangladesh highlighted that women have limited role in household decision-making, limited access and control over household resources (physical and financial assets), low level of individual assets, heavy domestic workloads, restricted mobility and inadequate knowledge and skills that leading to women's vulnerability (Sebstad and Cohen, 2000). The majority of women, who are mostly poor, vulnerable and marginalized, live in rural areas. They play an important role in seed production, animal husbandry, fisheries, post-harvest management, conservation of biological diversity, management of energy and family (Anon, 1995). Despite their tremendous contribution to food production and well-being for the household, rural women are underestimated in development strategies (Murshid and Yasmeen, 2004). Thus, the lack of access to and control over productive resources is the main factor limiting women's equal participation in economic activities, thereby hampering the human development process (Acharya, 2003).

Women's participation in economic activities can automatically increase the overall status of women and as well as make them empowered. Some studies in South Asia find that economic empowerment has been the entry point for overall empowerment of women if they are organized under a common platform (Carr *et al.*, 1996). Rahman *et al.* (2016) observed that distance of agricultural field (where they work) from home, the number of available technologies use and the number of available male adult within the family were found affecting the women's decision to work in the field. ILO (2016) conducted a study which undertakes to demonstrate that, for substantive gender equality to be achieved, it is essential that societies recognize both women and men have a right to work and care. Gender inequalities at work can be eliminated only by neutralizing the disadvantages stemming from women's reproductive function and promoting the equal sharing of unpaid care work between women and men, and between the family and society at large.

Chowdhury *et al.* (2009) observed that women are good partners of the socioeconomic development of the country in general and the family in particular. They can contribute significantly to the socioeconomic upliftment of the family if proper environment with facilities can be ensured. So, it is a crucial need to study into the matter and identify the major factors which the women are acute to encounter in the process of their work. This study has been undertaken to explore women's participation in farm and non-farm activities, their income level and, their contributions to agricultural and household decisions.

### Materials and Methods

The area in which a farm business survey is to be conducted relies on the particular purposes of the survey and the possible cooperation from the respondents. From the several villages of Mymensingh Sadar Upazilla, three villages namely Boyra, Chalakandi and Babukhali were selected. Data were collected from a randomly drawn sample of 50 rural households during the period from July to August, 2016 through direct interviews using a structured questionnaire. The information supplied by the women was recorded directly on the questionnaire.

**Analytical techniques:** After the phase of data collection, the data were edited and then tabulated. Both, tabular and functional analyses were adopted. Tabular techniques were used by using algebraic equations. Functional analysis was carried out to focus on the factors that influenced the level of women's contribution to family income and decision making. Annual income was defined as the total earning of a respondent and other members of the family from agricultural and non-agricultural sources (e.g., day labor, service, business, etc.) during a year. The annual income was measured in Taka. Income was estimated by using the following equation:

$$Y = \sum_{i=1}^n A_i + \sum_{i=1}^n B_i$$

Where, Y = Annual Income (Tk.); A<sub>i</sub> = Annual total income (male + female) from i<sup>th</sup> agricultural activities; B<sub>i</sub> = Annual total income from i<sup>th</sup> other activities; and i = 1, 2, 3,.....n. An attempt was made to explore the determinants of yearly income by using a multiple regression model that can be seen from following equation:

$$\ln Y = \ln a + b_1 \ln X_{1i} + b_2 \ln X_{2i} + b_3 \ln X_{3i} + b_4 \ln X_{4i} + b_5 \ln X_{5i} + b_6 \ln X_{6i} + b_7 \ln X_{7i} + U_i$$

Where, Y = Women's contribution to household income (Tk.); X<sub>1</sub> = Age; X<sub>2</sub> = Education; X<sub>3</sub> = Farm size (ha); X<sub>4</sub> = No of earning member(s); X<sub>5</sub> = Family size (No); X<sub>6</sub> = Woman's income (Tk./year); X<sub>7</sub> = Indebtedness (Tk.); ln = Natural logarithm; and U<sub>i</sub> = Stochastic/error/random term.

Logit model was estimated using binary dependent variable. The binary variable was assigned the value 1 for decision that was taken by women alone and zero otherwise. The logit model has been specified as follows:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + U_i$$

$$\text{Loge} \frac{Y}{1-Y} = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + U_i$$

$$L = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + U_i \dots \dots \dots (i)$$

Here, Y<sub>i</sub> = A binary variable having 1 for scoring above 50 percent of household decisions taken by women alone and 0 otherwise,

X<sub>1</sub> = Age; X<sub>2</sub> = Education; X<sub>3</sub> = Family Size; X<sub>4</sub> = Farm size; X<sub>5</sub> = Woman's income; X<sub>6</sub> = Occupational experience; and U<sub>i</sub> = Error term.

For measuring the perceptions of the respondents about household decision making process, a 5- point Likert Scale was used. There were 10 statements including only the favour judgments against the 5-point scale. Each respondent was asked to indicate her extent of judgment against each statement along a 5-point scale,

i.e., 'strongly agree', 'agree', 'neutral', 'disagree' and 'strongly disagree'. Weights assigned to these responses were 5, 4, 3, 2 and 1 in favour and 1, 2, 3, 4 and 5 in disfavour. The total score of a respondent was determined by summing up the weights for responses against all the 10 statements. Women's contribution to income was considered at the time of asking their perceptions about various decisions. The total score of a respondent was determined by summing up the weights for responses against all the 10 statements. Perception score for each respondent was calculated by using Perception Index (Roy, 2009) (that could range from 10 to 50) by using the following formula:

$$\text{Perception index (PI)} = 5 \times \text{SA} + 4 \times \text{A} + 3 \times \text{N} + 2 \times \text{DA} + 1 \times \text{SDA} \text{ (in favour)}$$

Where, Total number of respondents (women) expressing their perception for the statement on household decision making process as: SA = 'strongly agree'; A = 'agree'; N = 'neutral'; DA = 'disagree'; and SDA = 'strongly disagree'.

## **Results and Discussion**

***Socioeconomic characteristics of the respondents:*** A number of socioeconomic aspects of the sample households were examined such as age distribution, average family size, level of education, farm size, occupational status of the earning members and land distribution pattern etc. It is evident from Table 1 that none of the owners were below 21 years. About 36 percent of the selected farmers were in the age group of 31-40 years; 38 percent were in the group of 41-50 years. The average family size was 5.07 which was higher than national average (4.4 persons) (BBS, 2015). Table 1 indicates that majority of the farmers (52.33%) were literate. Most of their profession was maid servant. Table 1 also shows that 36 percent farmers were engaged with agriculture as their main occupation and 20 percent farmers had business as their main occupation. About 70 percent respondents had their secondary occupation and the rests did not have any secondary occupation. The average earning

member per household is 3.25 and the dependency ratio is 1.56.

### ***Income status of the respondents' households:***

Income is one of the most important indicators of socioeconomic status of the people. Overall income of any family at rural area consists of farming and non-farming income. Incomes earned from agricultural sources are income from crop, livestock, poultry, fisheries, vegetable and fruits; and farm labor selling were considered. Average annual incomes earned by the respondents have been shown in Table 2.

On the other hand non-farming activities included business, services, day labor, etc. In the study area, business, service, labor selling, van pulling and other activities were found to be the important sources of household income. The average annual incomes of the households were estimated Tk. 96520. From the above table, we found that labor selling and service has greater contribution to family income. As most of the worker have a lower amount of land, so the amount coming from crop production (4.66%) is not so high. The respondent and their family members engage with different activities and meet up their basic needs.

The study showed clear evidences of greater extent of women's participation in farm and non-farm activities as well as in various household decision making events. It is quite noticeable that the enhanced participation of women in farm and non-farm activities reasonably contributed to household income and established their credibility as competent decision makers.

It is seen from Table 3 that total percentage of women's contribution to household income is 43.52 percent where the total male percentage is 56.47 percent. Rahman (2013) also found that women's contribution to household income was Tk. 34500 which was 37.02 percent of the total household income. By comparing this result with the study conducted by Rahman (2013), we can conclude that pattern of women's contribution to household income has been increased than before.

It was found from the study that with regard to crop and vegetable production activities, adult males on an average worked for 220 days while women worked for 204 days per year. The numbers of days spent by male child was 160 days and female child was 102 days in agricultural activities. However, nature of work performed by males and females was a bit different. Still women workers experienced similar types of stresses in line with Kabeer and Mahmud (2004) like long hours working, lack of facility of health care, and

poor working conditions, such as poor nutritional food, and unhygienic and inadequate toilet facilities etc. The problems identified among the respondents were low wage, low efficiency, lack of training, lack of capital, physical weakness, etc. (Table 5). In this study, the most severe problems faced by the women were low wage and lack of capital. About 96 percent and 84 percent opined that the problems of low wage and lack of capital were acute.

**Table 1.** Socioeconomic characteristics of the women respondents (n=50)

Particulars	No. of Respondents					
Age distribution	31-40			41-50		
	18 (36)			19 (38)		
Average family size (Number)	5.07					
Level of education	Illiterate			Primary		Secondary
	26 (52.33)			11 (22)		7 (14)
Occupation of the members of the family	Main			Secondary		
	Agriculture	Business	Service	Agriculture	Business	Service
	18 (36)	10 (20)	22 (44)	10 (20)	12 (24)	13 (26)
Average earning member per household				3.25		
Dependency ratio				1.56		

Source: Field survey, 2016, Note: Figures in the parentheses indicate percentages of total.

**Table 2.** Sources of annual family income of sample households (n=50)

Sources of income	Amount (Tk.)	Percent of total annual income
<b>Average Farm income</b>		
Agricultural crop	4500	4.66
Homestead farming	2220	2.30
Livestock rearing	8550	8.86
Poultry rearing	1300	1.35
Fisheries	2200	2.28
Farm labor selling	20970	21.73
<b>Average Non-farm income</b>		
Day labor	18450	19.11
Service (Permanent Maid servant)	22500	23.31
Business	9500	9.84
Others	6330	6.56
<b>Total</b>	<b>96520</b>	<b>100.00</b>

Source: Field survey, 2016.

### *Contribution of women to household income*

**Table 3.** Distribution of annual income earned by respondents and other family members

Respondent/Family members	Amount (Tk.)	Percentage of contribution
Respondent	37400	38.75
Husband	49600	51.38
Other female members	4600	4.77
Other male members	4920	5.09
Total annual household income	96520	100.00

Source: Field survey, 2016.

**Table 4.** Constraints of women participation in farm activities

Problems	Low wage	Low efficiency	Lack of training	Lack of capital	Physical weakness	Social problems
Percentage of respondents	96.0	30.0	64.0	84.0	20.0	16.0

Source: Field survey 2016.

The regression co-efficient of age was estimated at -0.029. The co-efficient was statistically insignificant and negative which indicates that after a certain stage of age (41-50), women's contribution to household income decreases. As most of the respondents were farm laborer and maid servant, their working efficiency as well as contribution to household income decreases with the increasing of age after a certain stage. The regression co-efficient of education was 0.077. It implies that holding all other variables constant, 1 percent increase in education level would lead to an increase in women's contribution to household income by 0.077 percent. The regression co-efficient of farm size was 0.037 that implies, holding all other variables constant, 1 percent increase in farm size would lead to an increase in women's contribution to household income by 0.037 percent. The regression co-efficient of number of experience was estimated at 0.083 which indicates that 1 percent increase in number of female earning member would increase women's contribution

**Factors affecting level of women's contribution to household income:** To determine the effects of the explanatory variables, liner and log linear models were initially estimated for determining the effects of some selected factor on women's contribution to household income of different categories of households. But, the log linear model was found better in terms of expected signs and magnitudes of the co-efficient,  $R^2$  (adjusted) and F- values. So, the parameter estimators obtained from the log linear model were selected for interpretation. Care was also taken to avoid the multicolliniarity of the selected variables. Factors affecting women's contribution to household income have been presented in Table 5.

to household income by 0.083 percent, keeping other factors constant.

Though family size and indebtedness are not significant, the regression coefficients of those variables show negative direction to women's income. The co-efficient of determination ( $R^2$ ) was 0.822, implies that about 82.20 percent of the variation in women's contribution to household income was explained by the set of explanatory variables in the model. The value of adjusted  $R^2$  was 0.782, indicated that after taking into account the degree of freedom (d. f.), the seven explanatory variables included in the model still accounted for 78.20 percent of the variations in the women's contribution to household income. The F-value stood at 20.57 and was significant at 1 percent level. It measures the overall goodness of fit of the estimated regression model.

**Table 5.** Estimated values of co-efficient and related statistics

Selected	Co-efficient	p-value
Intercept	2.648	0.038187
Age (X <sub>1</sub> )	-0.029	0.783031
Education (X <sub>2</sub> )	0.077*	0.078664
Farm size (X <sub>3</sub> )	0.037*	0.098508
Experience (X <sub>4</sub> )	0.083*	0.076624
Family size (X <sub>5</sub> )	-0.003	0.835134
Indebtedness (X <sub>7</sub> )	-0.003	0.473620
R <sup>2</sup>	0.822	
Adjusted R-2	0.782	
F- value	20.57***	0.000168

Source: Author’s estimation based on field survey, 2016, Note: \*\*\* = Significant at 1 percent level; \*\* = significant at 5 percent level; and \* = significant at 10% level.

**Women’s perception about household decision making process:** In Bangladesh, women were often less concerned in the decision making process even at

the family level. In this study, an attempt was made to analyze the pattern of women’s participation in decision making process and, their perceptions regarding this matter. The level of women’s participation in decision making has been calculated by five different scores given on the basis of the decision- maker. The result has been presented in Table 6. It is evident that the decision regarding daughter or sons marriage attain highest score 225. The 2<sup>nd</sup> highest ranked decision is receiving credit which implies that in the case of receiving credit from various institutional and non-institutional organizations, women are given priority than before. Similarly the 3<sup>rd</sup> ranked decision is Education of children. It is also clear that in the decision of cultivation of crops women’s decisions are not considered significantly in most of the household. In traditional agriculture, practically all agricultural decisions are predominantly made by male members. The only exceptions are the decisions concerning whether or not chicken and /or duck will be sold or bought and who will sell homestead produce, which are exclusively made by women.

**Table 6.** Perception index of respondents (n=50)

SL No.	Subject of Decisions	Extent of Perception					Perception index	Rank
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1.	Buying or selling land	12	22	8	4	4	184	7
2.	Taking or giving land on lease	10	20	10	5	5	175	8
3.	Receiving credit	28	15	5	2	0	219	2
4.	House construction	18	20	6	4	2	198	5
5.	Vaccination of children	12	18	8	8	4	176	9
6.	Participation in ceremonies	20	14	10	5	1	197	6
7.	Education of children	20	28	2	0	0	218	3
8.	Cultivation of crops	4	6	20	15	5	139	10
9.	Rearing of poultry, goat and cattle	28	12	7	3	0	215	4
10.	Marriage of sons/daughter	30	15	5	0	0	225	1

Source: Authors’ estimation based on field survey, 2016.

**Impact of women’s income on household decision making: Logistic regression analysis:** In studying the relationship between the decision level and different explanatory variables, logistic regression model was found more suitable. Results of the logit model estimated through maximum likelihood method have been shown in Table 7.

Education was categorized into three categories namely illiterate, primary and secondary. “Illiterate” was considered as reference category. Here education (1) indicates primary education and education (2) indicates secondary education. Estimation of coefficients using

logit function indicates that education has a positive and significant effect on the probability of taking most of the household decisions by the women alone. Here, it was found that regression co-efficient of education was 2.378 and its exponential was 10.779 which implies that if the respondents education level increased from illiterate to primary level then she will be 10.78 times more likely to take household decisions as compared to illiterate respondents. One possible explanation for this can be that the higher the education of women, better they are in terms of making household decisions.

**Table 7.** Logistic regression analysis (dependent variable, household decision making process)

Independent variables		Regression Coefficients (β)	Significance level	Standard Errors	Exp(β)
Age(X <sub>1</sub> )		0.003	.962	.056	1.003
Education (X <sub>2</sub> )	Education (1)	2.378*	.059	1.260	10.779
	Education (2)	2.452	.140	1.660	11.615
Family Size(X <sub>3</sub> )		-0.205	.595	.386	1.228
Farm size(X <sub>4</sub> )		0.090**	.019	.039	1.095
Occupational experience(X <sub>6</sub> )		0.486**	.019	.208	1.026
Constant		-10.677	.045	5.332	0.000

Source: Authors’ estimation based on field survey, 2016, Note: \*\*\* = Significant at 1 percent level; \*\* = Significant at 5 percent level; and \*=significant at 10 percent level, N=50.

Farm size has a positive and significant effect on the probability of making decisions by women alone. Here, it was found that regression co-efficient of farm size was 0.090 and its exponential was 1.095 which implies that holding other factors constant if the farm size increases by one unit then the log of odds in favour of taking household decision by women will increase by about 9.5 percent. Occupational experience has a positive and significant effect on the probability of taking most of the different decisions by the women alone. The regression co-efficient of occupational experience was estimated at 0.486 and its exponential was 1.026, indicates that for a unit increase of

occupational experience, the log of odds in favour of taking household decisions by women will increase by 2.6 percent keeping other factors constant. Hossain *et al.*, (2004) also found that the most important factors influencing women’s empowerment was the size of farm. They ran a multiple regression model to analyze factors of women’s empowerment and found that the older women were more empowered than the younger women. Educated women were more empowered than the illiterate women. Women’s economic involvement seems significantly to be impacted women’s empowerment. The influence was however weak.



**Conclusion and policy implications:** Women are silent workers and good partners of the socioeconomic development of the country in general and the family in particular. They can contribute more to the socioeconomic upliftment of the family if proper environment and facilities can be ensured. Economic pressure is forcing them to break away their traditional roles of housewives into wage earners. The contribution of women in different activities as well as in total family income was substantial. The pattern of women's contribution to household income is changing. A present, women are participating in various farm and non-farm income generating activities especially in crop production, post-harvest activities, vegetables production, homestead gardening and livestock and poultry rearing, management of livestock and fisheries, etc. This study found that women's income is positively related with women's education and farm size but negatively related with age, family size and indebtedness. Women's participation in decision making process was negatively related with family size, but positively related with respondent's age, education, farm size, income and occupation. In order to improve the overall economic condition and to reduce their economic, social and political constraints, logistic supports such as health care facility, credit facility, input supply, agricultural extension services, need-based training, etc. need to be provided in order to increase their participation in income generating activities and different household decision making events. The potential of women must be tapped for the socioeconomic improvement of the families and development of the nation as a whole. Women should be organized and be made aware that they have equal right of participation. For poverty alleviation in rural areas various income generating projects should be introduced for women. This study may give an indication that women's income may be a tool of women empowerment.

## References

- Acharya M (2003). Efforts at Promotion of Women in Nepal. Tanka Prasad Acharya Foundation, Kathmandu.
- Anon E (1995). Environmental Education Training Module in Agriculture. Graduate Training Institute, Bangladesh Agricultural University and Food and Agriculture Organization.
- Awan AG, Faridi MZ, Abbas MM (2015). Factors Affecting Women Contribution in Household Budget in Urban Informal Sector: An Analysis. *Global Journal of Human-Social Science: Economics*, 15(2): 55-60.
- BBS (2015). Statistical Yearbook for Bangladesh. Bangladesh Bureau of Statistics. Statistics Division, Ministry of Planning, Government of the People's Republic of Bangladesh, Dhaka.
- Carr M, Chen M, Jabvala R (1996). Speaking out Women's Economic Empowerment in South Asia. IT Publications, London.
- Chowdhury N, Rashid MHA, Ahmed S, Sultana A (2009). Participation of Rural Women in Farm and Non-Farm Activities: An Economic Analysis. An Unpublished MS Thesis, Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh, *Progressive Agriculture*, 20(1 and 2): 245-251.
- FAO (2003). Gender, Key to Sustainability and Food Security, Plan of Action: Gender and Development, FAO, Rome.
- Hossain M, Bose ML, Ahmad A (2004). Nature and Impact of Women's Participation in Economic Activities in Rural Bangladesh: Insights from Household Surveys. Working Paper No. 20, Department of Economics Sweden: Lund University.
- ILO (2016). Women at Work: Trends 2016 International Labour Office – Geneva: ILO.
- Kabeer N, Mahmud S (2004). Female Labor Supply in Farm Households: Farm and Off-farm Participation. *Discussion Paper*, Center for Economic Research, Bangladesh.

- Murshid S, Yasmeen A (2004). Women of the Coast. Gender status paper, Program Development Office for Integrated Coastal Zone Management Plan, Dhaka.
- Rahman A (2013). Contribution of Female Agricultural Laborer to Family Income and Employment Generation in Selected Areas of Rangpur District. M.S. Thesis, Dept. of Agricultural Economics, Bangladesh Agricultural University, Mymensingh, pp. 3-4.
- Roy C (2009). The Roy Adaptation Model. Third Edition. New Jersey: Pearson Education, Inc.
- Sebstad J, Cohen M (2000). Microfinance, Risk Management, and Poverty', AIMS Paper, Management Systems International, Washington, D.C.
- Sultana B, Zaaba ZB, Umemoto K (2010). Women's Empowerment through the Development of Micro Entrepreneurship in Rural Bangladesh. *Social Science*, 5: 1-9.