

**Original Article**

**Livelihood diversification pursued by rural women farmer: The case of Bangladesh**

**P. K. Mitra<sup>1\*</sup>, A. Habiba<sup>1</sup>, M. Sultana<sup>2</sup> and M. G. R. Akanda<sup>3</sup>**

<sup>1\*</sup>Department of Basic Science (Agricultural Extension), Patuakhali Science and Technology University, Khanpura, Babugonj, Barishal Campus, Bangladesh;

<sup>1</sup>Bangladesh Krishi Bank, Bangladesh;

<sup>2</sup>Department of Poultry Science, Patuakhali Science and Technology University, Khanpura, Babugonj, Barishal Campus, Bangladesh;

<sup>3</sup>Department of Agricultural Extension and Rural Development, Patuakhali Science and Technology University, Dumki, Patuakhali, Bangladesh.

**ABSTRACT**

**Article History**

**Received:** 7 March 2021

**Revised:** 26 March 2021

**Accepted:** 29 March 2021

**Published online:** 31 March 2021

**\*Corresponding Author**

P. K. Mitra, E-mail:  
probir.pstu@gmail.com

**Keywords**

Livelihood, Diversification, Rural Women Farmer.

The purposes of this study were to determine the extent and nature of livelihood diversification of the rural women and also to explore relationships of 13 selected characteristics of the rural women with their Livelihood diversification. The study was conducted at Bakergonj upazilla of Barishal district. There were a total of 1200 rural women farmers in the 5 villages constituted the population of the study, out of which 10 percent of the total rural women farmers were selected through simple random technique for retrieving the overall idea about livelihood diversification. This gave a sample size of 120 farmers. Data were collected by the researchers themselves with the help of pre-tested interview schedule during 20 September 2012 to 30 October 2012. Findings of the study indicated that the livelihood diversification scores of the respondents ranged from 0.2 to 0.78 with average being 0.41. It is found that more than half of the (54.2 percent) of the farmers had medium level of livelihood diversification compared to 18 percent having low livelihood diversification and 27.5 percent had high livelihood. Out of 13 selected characteristics of the rural women seven of those viz. education, family education, income generating experience, household annual income, communication exposure, organizational participation, attitude towards livelihood diversification had positive significant relationship with livelihood diversification.

© Society of Agriculture, Food and Environment (SAFE)

**Introduction**

Livelihood diversification as a concept is emerging as one of the survival strategy of rural households in developing countries (Ellis 2000; Bryceson 2000). The rural people are looking for diverse opportunities to increase and stabilize their incomes, which are determined by their portfolio of assets - social, human, financial, natural and physical capital (Ellis 1999). The impact of livelihood diversification varies from negative effects - the 'withdrawal of critical labor from the family farm' to positive effects - the 'alleviation of credit constraints and a reduction in the risk of innovation'. The contribution made by livelihood diversification to rural livelihoods is a significant one, which has often been ignored by policy makers who have chosen to focus their activities on agriculture (Ellis 1998). Reardon, *et al.* (1997) and Turner *et al.* (1993) have highlighted the importance of earnings from non-farm activities. The livelihood diversification

activities are of increasing importance for women empowerment (Bryceson 1996 and 2000; Bryceson and Jamal 1997) through additional income earning and improvements in family welfare (Ellis 1999). The self-help micro credit programmes have played valuable roles in reducing the vulnerability of the poor, through asset creation, income and consumption smoothing, provision of emergency assistance, and empowering and emboldening women by giving them control over assets and increased self-esteem and knowledge (Zaman 2001). Several recent assessment studies have also generally reported positive impacts (Simanowitz and Walker 2002). Kumawat and Bansal (2018) reported that women face problem in joining of self-help group in terms of information support, technical support, financial support from the running group. Livelihood Diversification has come under increasing scrutiny because of its powerful and pervasive impact. Department for

Information Development (DFID) adopted livelihood diversification as central to its strategy for meeting the goals set out in its 1997 White Paper 'Eliminating World Poverty'. In view of the above situation the present study was undertaken to have an understanding of the nature and extent of the livelihood diversity pursued by the rural women farmers and subsequently with the expectation of helping the researchers, extension personnel, policy makers and farmers to establish livelihood diversification exposure throughout the country. However, the following specific objectives were set forth in order to i) to what extent livelihood diversification are been pursued by rural women? ii) What are the characteristics of the rural women related with their livelihood diversification? and iii) to determine the relationship between livelihood diversification and selected characteristics of the rural women.

### Methodology of the study

The study was conducted at Bakergong upazila of Barishal district where a scope of livelihood diversification exists to be pursued as the study was concerned with the livelihood diversification of the rural womens. All the farm household heads except the absentees of Bakergong upazila constituted the population of the study. By simple random method, 120 respondents were selected from the selected villages. An interview schedule was developed to be used as a tool for data collection. Two types of data viz., primary and secondary data were collected. The primary data was collected through personal interview from the respondent. The secondary data was procured from various publications, magazines, relevant text books and survey materials. And the collected data from the respondents were scored, tabulated and analyzed.

### Analytical Technique:

Livelihood diversification pursued by the rural women farmers was taken as the dependent variable of the study. Simpson diversification index (SDI) was used to measure the livelihood of the farmers. Diversification index was measured with the help of Simpson index of diversity. The Simpson index of diversity is defined as:

$$SID = 1 - \sum Pi^2$$

Where Pi as the proportion of income coming from source i. The value of SID always falls between 0 and 1. If there is just one source of income,  $Pi=1$ , so  $SID=0$ . As the number of sources increases, the shares ( $Pi$ ) decline, as does the some of the squared shares, so that SID approaches to 1. If there are k sources of income, then SID falls between  $1-1/k$ . Accordingly farmers with most diversified income would have the largest SID, and less diversified incomes are associated with the smallest SID. For least diversified farmers (i.e. those depending on a single income source) SID takes on its minimum value of 0. The upper limit SID is '1' which depends on the number of income sources available and their shares. The higher the number of income sources as well as more evenly distributed the income shares, the higher the value of SID. The Simson Index of Diversity is affected both by the number of income sources as well as by the distribution of income between different sources (balance). The more uniformly distributed is the income from each source, the SID approaches to 1. Data were collected following face to face interviewing using pre-tested interview schedule. Statistical measures like number, range, percent, mean, standard deviation and Pearson's correlation coefficient (r) analysis were utilized both for data evaluation and hypotheses testing by using SPSS computer program.

### Results and Discussion

Socio-demographic characteristics of the rural women farmers were determined and results presented in Table 1. The results indicated that majority of the rural women farmers were found having middle age (40.0 percent), primary level of education (30.8 percent), medium family size (55.8 percent), medium income generating experience (50.0 percent), no training experience (75.0 percent), operating below 0.02 ha of farm size (40.2 percent), low annual income (67.6 percent), no credit received (70.0 percent), low communication exposure (45.0 percent), low cosmopolitaness (65.8 percent), no organizational participation (63.3 percent) and moderately favourable attitude towards livelihood diversification (44.2 percent).

**Table 1. Characteristic of the rural women farmers**

Characteristics (Measuring units)	Range		Farmers Categories	No	Percent	Mean	SD
	Possible	Observed					
Age (Year)	Unknown	23-70	Young aged (up to 35)	31	25.8	43.33	14.36
			Middle aged (36-50)	48	40.0		
			Old aged (>50)	41	34.2		
			Illiterate (0)	51	42.5		
Education (Year of Schooling)	Unknown	0-14	Primary education(1-5)	37	30.8	3.15	3.88
			Secondary education(6-10)	30	25.0		
			Above secondary (>10)	2	1.7		
			No family education (0)	10	8.3		
Family Education (Year of Schooling)	Unknown	0-13	Low family education (0.01-3.0)	48	40.0	3.80	3.89
			Medium family education(3.01-6)	42	35.0		
			High family education (6.01)	20	16.7		
			Small family(2-4)	29	24.2		
Family Size (No. of Member)	Unknown	4-10	Medium family (5-7)	67	55.8	5.36	1.60
			Large family (8 and above)	24	20.0		
			Short income generating experience (up to 20)	32	26.7		
			Medium income generating experience (21-45)	60	50.0		
Income generating Experience (Year)	Unknown	5-42	Long income generating experience (above 46)	28	23.3	26	9.5
			No training experience (0)	90	75.0		
			Short training experience (1-3)	21	17.5		
			Moderate training experience (4-6)	6	5.0		
Training experience (Day)	Unknown	0-11	Long training experience (> 6)	3	2.5	2.68	2.75
			Operated below (<0.02)	51	40.2		
			Marginal (>0.02-<0.20)	32	27.5		
			Small (0.20-1.00)	22	19.7		
Household farm size (Hectare)	Unknown	.01-3.3	Medium (1.01-3.00)	10	8.7	0.93	0.87

Characteristics (Measuring units)	Range		Farmers Categories	No	Percent	Mean	SD
	Possible	Observed					
Household annual Income (taka)	Unknown	27-320	Large (>3.00)	5	3.9	81.23	58.24
			Low income (27-124)	75	67.6		
			Medium income (124.01-221)	31	22.9		
			High income (above 221.01)	14	9.5		
Credit received (taka)	Unknown	1050-27000	No credit receipt (0)	84	70.0	4996.96	3084.
			Low credit receipt (1000-5000)	25	20.8		
			Medium credit receipt (5001-10000)	8	6.9		
Communication exposure	0-84	14-48	High credit receipt (>10000)	3	2.7	14.0	8.6
			Low communication exposure (6-20)	54	45.0		
			Medium communication exposure (21-35)	59	40.8		
Cosmopoliteness	0-24	6-21	High communication exposure (>35)	17	14.2	12.97	3.65
			Low cosmopoliteness (6-13)	79	65.8		
			Moderate cosmopoliteness (14-19)	35	29.2		
Organizational Participation	Unknown	0-17	High cosmopoliteness (>20)	6	5.0	4.03	3.51
			No participation (0)	76	63.3		
			Low participation (1-5)	24	20.0		
Attitude towards livelihood diversification	10-50	14-45	Medium participation (6-10)	12	10.0	26.13	8.96
			High Participation (>10)	08	6.7		
			Low favourable (12-23)	51	42.5		
Livelihood Diversification	Unknown	0.2-0.78	Medium favourable (24-36)	53	44.2	0.41	
			High favourable (37-46)	16	13.3		
			Low livelihood diversification (upto 0.29)	22	18.3		
			Medium livelihood diversification (more than 0.29-0.58)	65	54.2		
			High livelihood diversification (>0.58)	33	27.5		

Livelihood diversification scores of the respondents ranged from 0.2 to 0.78. The mean score was 0.41. The farmers were classified into three groups (showed in table 1) based on the observed scores as “low livelihood diversification” (up to 0.29), “medium livelihood diversification” (more than 0.29 to 0.58), and “high livelihood diversification” (above 0.58). It is seen that more than fifty percent (54.2 percent) of the farmers had medium level of livelihood diversification compared to 18.3 percent of them having low livelihood diversification and 27.5 percent high livelihood diversification.

### Relationship between selected characteristics and livelihood diversification of farmers

In order to determine the relationship between the selected 13 characteristics of the farmers with their livelihood diversification, coefficient of correlation was computed between the variables. The results of correlation analysis are shown in the Table 2.

**Table 2. Degree of relationship between selected characteristics and livelihood diversification of rural women farmers**

Livelihood Diversification	Farmers' characteristics	Coefficient of correlation (r)
Livelihood diversification	Age	-0.011 NS
	Education	0.481**
	Family size	0.015 NS
	Family education	0.240**
	Income generating experience	0.512**
	Training experience	0.014 NS
	Household farm size	-0.002 NS
	Household annual income	0.302**
	Credit received	0.064 NS
	Communication exposure	0.522**
	Cosmopoliteness	0.004 NS
	Organizational participation	0.346**
	Attitude towards livelihood diversification	0.376**

\*\* indicates significant at 0.01 percent level of probability  
NS = Not significant

Out of 13 variables, 7 of those showed positive and significant relationships with the livelihood diversification of

the rural women farmers. The variables that showed significant relationships were education (0.481\*\*), family education (0.240\*\*), income generating experience (0.512\*\*), household annual income (0.302\*\*), communication exposure (0.522\*\*), organizational participation (0.346\*\*), attitude towards livelihood diversification (0.376\*\*). It means that if there is any increase in these variables there would be positive change in livelihood diversification of the farmers, i.e. higher the values of those selected variables, the greater the livelihood diversification of the farmers.

### Conclusion

This study has shown that non-farm income plays a very important role in augmenting farm-income as almost three-quarters of the respondents adopted a combination of farm and nonfarm strategy. This is an indication that farming alone is not an adequate source of income for the rural households. Therefore, promoting non-farm employment may be a good strategy for supplementing the income of farmers as well as sustaining equitable rural growth. This could be achieved through training programs directed towards training farmers in skills that can be used in non-farm jobs in their vicinity as well as improvements in infrastructure, education and financial markets. Specifically, engagement in non-farm activities, apart from reducing income uncertainties and providing a source of liquidity in areas where credit is constrained, could increase agricultural productivity as it provides the resources necessary for investment in advanced agricultural technologies. The adoption of better technology is expected to be highly profitable and will encourage the transition from traditional to modern agriculture. Therefore, there is a need for the government to formulate policies to increase the availability of non-farm jobs in the rural areas. Further, the private sector should be encouraged to create income-generating activities in the rural areas to enhance their livelihood diversification activities and ultimately improve their living standard. Proper action should be taken to ensure diversify livelihood portfolio in farm and non-farm sectors. Traditional norm may act as impediment to the diversify livelihood portfolio. So the rural women farmers should be brought under strong motivational programs, which will help them

come out of the traditional norms to properly practice livelihood diversification. Existing functional educational programmes for the farmers should be strengthened. This can be implemented through the involvement of local GOs and NGOs and the participation of the women farmers. Priority should be given by the concerned authorities for enhancing family education of the farmers through formal, non-formal training. The attitude toward livelihood diversification of a farmer enables one to enhance livelihood diversification. A farmer with favourable attitude easily adopt new diversified livelihood portfolio. It is, therefore, recommended that encouraging them to take part more in group discussions, training programmes, organizational participation etc. and increasing their exposures to various communication media so that attitude of the rural women farmers become favourable.

### Acknowledgement

This work was supported in part by a grant from the Department of Agricultural Extension and Rural Development, Patuakhali Science and Technology University, Dumki, Patuakhali, Bangladesh.

### References

- Bryceson D (1996). De-agrarianization and Rural Employment in Sub-Saharan Africa: A Sectoral Perspective. *World Development*, 24 (1): 97-111.
- Bryceson D (2000). Rural Africa at the Crossroads: Livelihood Practices and Policies.
- Bryceson D and V Jamal (1997). Farewell to Farms: De-agrarianisation and Employment in Africa. Aldershot: Ashgate.
- DFID (1997). White Paper on international development. Department for International Development: London.
- Ellis F (2000). *Rural Livelihoods and Diversity in Developing Countries*. Oxford:
- Ellis F (1999). Rural Livelihood Diversity in Developing Countries: Evidence and Employment in Africa.
- Ellis F (1998). Survey article: Household strategies and rural livelihood diversification'. *The Journal of Development Studies*. Vol.35, No.1, pp.1-38.
- Hulme D and P Mosley (1996). *Finance Against Poverty*. Vol.1, London: Routledge.
- Kumawat P and V Bansal (2018). A study on problems faced by SHG members in carry out the SHG activities. *International Journal of Current Microbiology and Applied Sciences*.7(1): 420-423.
- Reardon T et al. (1997). Using Evidence of Household Income Diversification to Study of Rural Non-farm Labour Market in Africa. *World Development*, 25 (5): 735-747.
- Simanowitz, Anton and Alice Walker (2002). Ensuring Impact: Reaching the Poorest While Building Financially Self-Sufficient Institutions, and Showing Improvement in the Lives of the Poorest Women and Their Families. Unpublished background paper for the Microcredit Summit + 5, New York, 10-13 November, available at <<http://www.microcreditsummit.org/papers/papers.htm>>.
- Turner BL, Hyden G and Kates RW (1993). *Population Growth and Agricultural Change in Africa*. Gainesville: University Press of Florida.
- Zaman H (2001). Assessing the Poverty and Vulnerability Impact of Micro Credit in Bangladesh: A Case Study of BRAC. Unpublished background paper for World Bank. *World Development Report 2000/2001* (Washington: World Bank).