

# Determinants of Rural Poverty: A Case Study of Trishal Upazila Under Mymensingh District, Bangladesh

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## Abstract

This study has been conducted to examine the socio-economic condition of the respondents; to identify the factors that influence over the income of the family members; to reduce poverty by generating agro-based employment opportunity. The study area is the Solimpur village of Trishal, Mymensingh. The samples are homogeneous in terms of income, religion and character. Among the respondents one hundred and eighty five households are selected as sample. About 68 percent villagers are illiterate and 50 percent directly involved with agriculture. The 50 percent respondents spent their income to purchase food. The age of the respondents, family size, earning member, land holding was significantly influence over the income of the family The efficient use of these factors can increase income of the households and reduce poverty of the study area. This study suggests integrated family system and enhancement of land productivity to increase income of rural household.

**Key words:** Agriculture, income and Poverty

## 1. Introduction

Bangladesh is one of the world's most densely populated countries with 150 million people, 49 percent of whom live below the national poverty line. In addition, child malnutrition rates of 48 percent are the second highest in the world, a condition that is tied to the low social status of women in Bangladeshi society (BBS, 2011).

Poverty is an inability of a people to minimum standard of living (World Bank, 2010) It is one of the biggest challenges for Bangladesh, as elsewhere in South Asia. Poverty alleviation has given the highest priority on the development agenda of Bangladesh as evidenced in all five-year plans. As a result, poverty has been decreasing gradually in Bangladesh. Then about 49.64 percent of the population is living below \$1.25 Purchasing Power Parity (PPP) a day according to the Human Development Report (HDR) 2010 of UNDP (United Nations Development Programme). It is also revealed from this HDR that Bangladesh ranked 129th in HDI with Multidimensional Poverty Index (MPI) 0.291, whereas, South Asian countries like India, Pakistan and Sri Lanka ranked 119, 125 and 91 with MPI 0.296, 0.275 and 0.021 respectively (BBS, 2011). In these circumstances, government has laid special emphasis on poverty alleviation and has pledged to eradicate poverty through planned economic development. Even though it is to be noted that yearly average rate of poverty reduction increased from 0.5 to 1.5 while human poverty index went down to 32 from 41.6 due to adoption of different innovative programmes during 1996-2001 (BBS, 2011).

It is quite clear that poverty is one of the biggest hinder for economic development of this country from the above statement. In this study, it is revealed that, most of the peoples in the study area was dependent on agriculture for their livelihood. Most of the farmers are involved with the production of food grains (mainly paddy), fisheries and poultry. Education facility, health service and housing facility are very limited. Most of the people live below the poverty line. In this circumstance, they are not in a position to satisfy of their basic needs such as food, clothing, housing, health and education. Solimpur is the village of Trishal Upazilla having area of 1439 acres, 1556 households having 7078 population which includes 3687 male and 3391 female ( Trishal Municipality). Literacy rate of the villagers is 39.12 percent (Field survey, 2012) where as the literacy rate of Bangladesh is 57.99 (BBS, 2012). It denotes low rate of literacy exists in this village than the national level of Bangladesh. Total number of unemployed person of this village is about 1513 and about 120 persons are looking for job, bout 1079 persons directly depend upon agriculture and about 197 persons depend upon business for their living, approximately 300 people doing other jobs like day laborers, van pullers etc ( Field Survey, 2012). Total cultivable land of this village is 1120 acres and about 135 acres of land used as fisheries (Field survey, 2012). From this study the most of the villagers related with agriculture directly or indirectly. The social indicators of this village are very poor. Education facility, health service and housing facility are very limited. Most of the people live below the poverty line. In this circumstance, they are not in a position to satisfy the basic needs such as food, clothing, housing, health and education.

## 2. Literature Review

Hossain & Rahman (2007) describe the impact of microcredit on poverty alleviation. This study indicates that microcredit alleviates poverty through generating the income, Savings and assets of the borrowers. The impact of microcredit is found better on the higher income borrowers compared with the lower income borrowers. Nabi (2010) shows that Microfinance Institution (MFIs) have been able to reach half of the poor in Bangladesh. Microfinance has positive impacts on the poor's employment, savings and health care and employment of women. Microfinance institutions have failed to reduce poverty in economically poor areas. Haque & Sharmin (2010). The role of women could be enhanced if their resource base were expanded by the addition of complementary resources. Improved access of credit for women will help to generate income and improve their economic status in the society and contribute to alleviate their poverty. Mukhopadhaya & Chowdhury (2011) shows that government organization agencies are more efficient than Non-government Organizations in delivering services to the rural poor. Hasan & Rahman (2011) shows the socio-economic profiles of women. The objective of this study is to examine the contribution of women to household income. The result shows that age of the respondents, family size, land holding, number of earning members significantly influence over income and employment.

## 3. Methodology

This study has been carried out from July 2011 to March, 2012 in Salimpur village at Trishal Upazila in Mymensingh district. The village is selected as a model of Bangladesh because most of the villages in Bangladesh are as Salimpur. To find out the factors that affect income generating activity (Gujarati, 1998) of the respondents households, a log-linear regression model is used as follows (Hasan & Rahman, 2011):

$$\ln Y = \ln \alpha + \beta_1 \ln X + \beta_2 \ln F + \beta_3 \ln L + \beta_4 \ln EM + u_i$$

Where, Y = Average monthly income per household  
X = Age of the respondent (Year)  
F = Family size (Number of family members)  
L = Land holding (percentile)  
EM = Number of earning members per household (Number)  
ln = Natural logarithm  
 $u_i$  = Stochastic errors

Primary data has been collected with the help of an open structured questionnaire. The questionnaire consists of questions related to socioeconomic, demographic and health indicators. The study area is Solimpur village in Trishal Upazila. Solimpur is chosen as study area because it is a remote village in this Upazila. The household in this village is about 1556. The numbers of respondents were selected on the basis of the characteristics of data.

The study has been done by empirical and descriptive in nature. Both qualitative and quantitative data has been presented in this study. This study presents the variables using tables and graph to get a clear picture of the status of the people in the village. The regression model has been used to assess the factors which affect the quality of life. Economic Views (EViews) and Statistical Package on Social Science (SPSS) are used to estimate the model.

The secondary data has been collected from Upazila Health Complex, Agricultural Extension Office of Trishal. Data are collected from Bangladesh Economic Review, data the Bangladesh Bureau of Statistics (BBS), scholarly articles by academics, documents from Trishal Paurashava, news paper articles and relevant websites. Important books, Journals and relevant information where appropriate also considered for maintenance the quality of data. Primary sources of information include interviews with key informants and candidates who directly involve with agricultural production. Economic Views (Eviews) was used to estimate the model.

## 4. Results and Discussions

The poor are those who must live below what most people in a particular time and place regard as the minimum subsistence level /acceptable standard. Poverty is linked with starvation, malnutrition, illiteracy, substandard clothing and housing Poverty can be measured by Household Per Capita Income and Per Head Calorie Intake (Debraj Ray, ). According to the World Bank, absolute poor are those whose income is below \$2 per capita per day. There is a relationship between employment and poverty. If employment is provided poverty will be reduced and people will get the basic needs (Food, Clothing, Housing, Education and Health). In the study area,

researcher find out the agricultural employment opportunity such as production of food grains, fisheries, poultry, livestock and social forestry programme. Quantative analysis is used to reduce poverty by providing agro-based employment opportunity.

#### Present socio-economic scenario of this study area

The study reveals that, 34 percent people in this area are directly involved in agriculture for their livelihood. 20 percent people are day laborer who is indirectly related with agriculture. Most of the farmers are involved with the production of food grains (mainly paddy), fisheries and poultry.

Table 1: Age distribution of the respondents

Age Group	Number of People	Percentage
< 18	04	2
18-59	147	78
Above 59	37	20
	188	100

Source: Field Survey, 2011-12

**Age distribution of the respondents:** The large number of people (78 percent) in the age group between 18 and 59 who are involved in production process usually as workforce. They can earn to increase their income to reduce poverty. Only 2 percent of the respondents are below the age of 18 and those of 20 percent are above age 59 of both are considered to be lower age and retired respectively. This indicates that about 22 percent are dependent.

Table 2: Occupational Status of the respondents

Occupation	Number of people	Percentage
Agriculture Only	97	50
Small Business	15	8
Service	26	13
Day labourer	57	29
	197	100

Source: Field survey, 2011-12

**Occupation of the respondents:** Agriculture is the main sources of employment (about 50 percent of people) are directly dependent on their livelihood. Wage labour work usually is the 2<sup>nd</sup> major source of employment in the study area. Wage laborer work in the agricultural field as day laborer. 13 percent of people are working in services such as school teacher, bankers. 8 percent people are involved with small business such as shop keepers and local businessman.

**Educational status of the respondents:** Sixty eight percent people are illiterate. Twelve percent people are literate up to primary level and 20 percent people are literate up to secondary and above. It is indicated that the most of the people of this village are illiterate.

Table 3: Educational Status of the respondents

Level of Education	Number	percentage
Illiterate	126	68
Up to primary level	22	12
Up to Secondary level and above	35	20
	185	100

Source: Field survey, 2011-12

Table 4: Expenditure of the Respondents

Item	Expenditure	percentage	Expenditure as percent of income
Food	1111900	58.5	49.05
Clothing	230340	12.22	10.15
Education	314500	16.54	13.86
Health	242100	12.73	10.67
Total	1900340	100	100

Source: Field survey, 2011-12

**Expenditure Pattern of the respondents:** From the table 5, it is clear that about 49 percent people in this area spent their income for taking food. It indicates that half of the income of the people was expended only for food. Only 10 percent of income of the people was expended for health care. Education expenditure was 13 percentages and clothing expenditure was 10 percent.

The social indicators of this village are very negligible. Education facility, health service and housing facility are very limited. Most of the people live below the poverty line. The data has been collected from 220 households out of 1556. In this study, to focus on how much people fulfill their basic needs (i.e. food, clothing, housing, health and education) in this village. This study shows the monthly expenditure on food, clothing, housing, health and education of the respondents. The monthly income of the majority of the people was less than Tk.5000. Food expenditure of the people is more than other expenditures. Education is the second highest followed by health and clothing respectively.

In Table-5, it is seen that VIF value is less than 10 which indicates that there are no multicollinearity among the independent variables. Since DW is 1.42, there is a serial positive correlation or autocorrelation problem exist. This autocorrelation problem does not produce efficient results. Autoregressive (AR<sub>1</sub>) Error Specification method is used to correct this autocorrelation problem. After using Autoregressive (AR<sub>1</sub>) Error specification method DW is 2.05 (Table-6). Since DW is 2.05, it is free from autocorrelation problem. Table-6 shows that R<sup>2</sup> is 0.35. That is independent variables can explain 35% variation of the dependent variable. Since primary data are used the magnitude of R<sup>2</sup> is low.

**Factors influencing the level of family income**

**Age of the respondents (X):** Results presented in the table 6 shows that the age coefficient of the respondents is negative and statistically insignificant. This indicates that 1 percent increase in age of the respondents would decrease average monthly income by 0.10 percent.

Table 5: Estimated Coefficients and related statistics of the log-linear regression model

Explanatory variables	Estimated Coefficients	t-values	p-value	VIF Statistics
Age ( X)	1.661661**	18.34430	0.6454	1.030
Family Size ( F)	1.235964**	6.851560	0.0000	1.076
Land holding ( L)	0.190092**	3.575167	0.0001	1.035
Earning Members ( EM)	0.069321	0.324226	0.0515	1.039
R-squared	0.28			
Adjusted R-squared	0.690419			
F-Value	18.54			
DW	1.429			

Source: Field Survey, 2011-12

\*\* = footnote indicate the sign of significance

Table 6: Estimated Coefficients and related statistics of the log-linear regression model

Explanatory variables	Estimated Coefficients	t-values	p-value
Age ( X)	-0.104472	-0.894509	0.3723
Family Size ( F)	0.753553**	6.565071	0.0000
Land holding ( L)	0.140800**	4.018621	0.0001
Earning Members ( EM)	0.332202**	2.209124	0.0285
AR (1)	0.29657**	4.035934	0.0001
R-squared	0.355		
Adjusted R-squared	0.336		
F-Value	18.74		
DW	2.05		

Source: Field Survey, 2011-12

\*\* = footnote indicate the sign of significance

**Family Size of the Respondents (F):** The coefficient of family size was positive and statistically significant. The result indicates that 1 percent increase in active family members of the respondents, keeping other factors constant, would result to increase in average monthly income by 0.75 percent ( Table-6).

**Land holding of the respondents (L):** The coefficient of land holding of the respondents was positive and statistically significant. The result indicates that 1 percent increase in the land holding of the respondents, keeping other factors constant, will increase average monthly income by 0.14 percent (Table-6).

**Number of Earning Members (EM):** The coefficient of the number of earning members was positive and statistically significant. The result indicates that 1 percent increase in the number of earning members of the respondents would result to increase monthly average income by 0.33 percent (Table- 6).

#### Problems of agricultural production in this area

A view exchange meeting was held with the villagers including farmers, people representatives, agricultural officers, NGO workers, service holders. The villagers opened that more than half of the people (68 percent) of this village are illiterate only 10 of their income they expend for the health service. About 30 percent people live in the substandard house. 50 percent people are involved with agriculture. The farmers are generally produced food grains including paddy, vegetables and so on. The major problems of foodgrains production in this area were lack of good and high price of seed, lack of fertilizer, irrigation (due to interruption of electricity) and lack of available technology (i.e., Mechanization). In addition, people are not able to use inputs for increasing production due to lack of capital. People may lend money from the Non-Government Organization (NGO) which interest rate is very high (30 percent). The return from output in agricultural production was less than expenditure for cost of inputs.

#### 5. Conclusion

This study reveals that 60 percent people are active workforce. Among them about 50 percent people are involved in agriculture. The results of the study indicate that the people can be increased output and income by efficient of factor inputs with required capital at low interest rate. It is evident from regression coefficients that the age, family size, land holding and earning of the member emerged as crucial factors. In this area 68 percent people was illiterate. They were generally dependent on agriculture rather than industry and service sector. The empirical result shows that age, family size and land holding are positively related to the income of the farmers. If family size and land holding can be increased income will be increased and poverty will be reduced. The policy suggests that integrated family can be a good alternative to increase income and reduce poverty. It is far from reality to increase land holding in Bangladesh. To increase land productivity can be a good suggestion as an alternative to increase land holding. Land productivity can be increased through the improvement of land quality. To improve land quality biomass content is to be increased

There are some problems identify from this study such as the supply of electricity does not satisfy the irrigation need. Farmers do not get good seeds and required fertilizer during the time of production season. The capital of the farmers for investing to the production process is very low. They are not interested to go for loan from the national and also private bank due to many formalities. They try to get loan from some NGOs and private lenders where the rate of interest is very high.

It may be suggested that the fertilizer is to be provided through rationing system. Seed production project is to be implemented in each union for providing good seed at the proper time. Capital can be provided from the banking system where the rate of interest is low and also easy loan formalities. Cooperative society can be established in each village to produce product jointly by providing proper training. Thus, cooperative society can play an important role to generate income and reduce poverty in the study area.

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