

The Myth of Microcredit in Poverty Alleviation: Perspective from the Grameen Bank in Bangladesh

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Abstract: Grameen Bank (GB) provided microcredit facility to the rural poor women to improve their living standard. The objective of this study was to assess the effectiveness of GB's microcredit program on the household income of the borrowers. Primary data were collected from one thousand female borrowers of GB using Simple Random Sampling (SRS) technique. The finding of this study shows that GB's credit program had failed to contribute significantly in improving the household income. Small size of the loan, inadequate training facilities and the lack of rural infrastructural facilities were thought of as the major reasons for not observing the significant changes on the household income of the poor borrowers.

Key words: Poverty • Grameen Bank • Microcredit • Income • Bangladesh

INTRODUCTION

Bangladesh is one of the populous countries of the world. Total population of the country was 149.77 million in 2011 with the density of 1015 persons per square kilometer [1]. A significant number of the population living below the poverty line is leading a low quality of life. These poor people are the worst victims of socio-economic exploitation and deprivation. As per the latest Household Income and Expenditure survey 2010; about 31 per cent of the population in Bangladesh is in the poverty and the incidence of poverty is higher for the rural areas than urban areas [2]. The per capita income of the population is about 838 USD [1]. Not only single factor but multifarious factors are responsible for poverty in Bangladesh and these factors are interlined to each other. The major causes of poverty of Bangladesh which are identified as illiteracy, lack of cultivated land, low wage, low income, inadequate assets and lack of infrastructural facilities [3]. The researchers have identified two major reasons of poverty in Bangladesh which are: (i) lack of access to productive resources and (ii) lack of financial capital [4]. The prime task of the Government of Bangladesh (GoB) is to improve the living standard of the poor by implementing development programs. One of the major objectives of the Millennium

Development Goals (MDGs) is to alleviate extreme poverty and hunger. Thus, the GoB has emphasized on combating poverty with the effective support from other development organizations such as donor agencies and Non Government Organizations (NGOs). In the context of rural Bangladesh, most of the rural poor have low level of financial capacity to get involved in the economic activities even though having adequate skill to pursue income generating activities properly (IGAs). Thus, government has made a provision to provide credit facilities to the rural poor through banking system to enhance their economic participation. However, the traditional banking system has failed to cater the needs of the poor due to collateral requirement [5]. Since, the poor have very limited access to the financial institutions; they largely depend on the local money lender who charges them a high interest rate [6]. Microcredit provides a unique opportunity for the poor by providing collateral free credit support for pursuing IGAs [5, 6]. Professor Dr. Muhammad Yunus started the microcredit program in 1976 in Bangladesh by establishing Grameen Bank (GB). Microcredit has several distinct features which are: (i) collateral is not needed; (ii) small size of the loan (usually 100-150 USD); (iii) group based approach, (iv) intensively monitored by the providers, (v) weekly attendance of the meeting by the borrowers and (vi) participatory approach

[7]. The prime goal of the microcredit program is to provide financial services to the poor for releasing them from the financial constraints for alleviating their poverty. The prime task of the GoB is to alleviate poverty. Being consistent with the MDGs, GoB and NGOs have been implementing microcredit program for alleviating poverty. Microcredit program has been considered as one of the weapons to combat poverty in Bangladesh [7]. In accordance with the poverty reduction policy and strategies of the GoB, microcredit facility has been provided by GB to the rural poor (focusing mainly on poor women) in order to improve their living standard through encouraging IGAs covering all the districts of Bangladesh. In fact, like other development programs in Bangladesh, GB has also failed to eradicate poverty entirely among the borrowers. Mahmud [7] says that about 55 per cent borrowers per year become successful to graduate from poverty by participating in the GB's microcredit program. It is expected that poor would be graduated from poverty due to intervention of GB but it did not happen yet. Thus, the following questions can be raised:

- Does the microcredit program of GB really alleviate poverty?
- Does the microcredit program reach the poorest segment of the society?

GB has been operating microcredit programs for improving living standard of the poor through wide ranges of programs such as crop cultivation, poultry rearing, livestock-rearing, fisheries, small-scale business, social forestry and handicrafts etc. Huge amount of credit provided to the poor for poverty alleviation, nonetheless, poverty stills persists among the borrowers. Thus, it is important to examine the performance of microcredit program operated by GB. In this study, an attempt has been taken to assess the impact of microcredit program on the living standard of the borrowers of GB.

Microcredit Operation of Grameen Bank: Microcredit program was first started in Bangladesh by Grameen Bank.

After that, thousand of organizations were involved in providing microcredit facilities to the poor. Grameen Bank (GB), Bangladesh Rural Advancement Committee (BRAC), Proshika and Association for Social Advancement (ASA) can be thought of as the major providers with respect to area coverage, number of borrowers, amount of disbursement and performance in loan recovery, number of employees. GB provides credit mainly to the women borrowers for various purposes such as crop cultivation, fishery, livestock rearing, poultry rearing, social forestry, handicrafts and small business activates. This can be seen from Table 1; GB provided highest amount of loan to the borrowers and the repayment performance was also satisfactory.

Impact of the Development Programs in Bangladesh:

A study was conducted by the researcher for assessing the impact of microcredit program on household income of the borrowers those who took microloans from BRAC for pursuing agribusiness activities for improving their living standard [5]. The author found that microcredit had a positive impact on improving household income generated from agribusiness activities. The author also mentioned that the magnitude of impact on income was quite small. The author suggested improving rural infrastructural facilities and increasing the amount of loan size for the better performance of the microcredit program. Mahmud et al. [8] conducted a study on the fishermen those who took microloan for fishery activities from BRAC. The authors said that fishery credit received by the fishermen from BRAC had assisted them to improve their household expenditure. They identified that borrower's educational status, land size of the household, food expenditure and possession of animal by the household as the key factors of household expenditure. Ahmed et al. [9] conducted a study on the borrowers of GB in Bangladesh. The prime goal of their study was to assess the impact of credit on the living standard of the rural poor women. They found that microcredit had a positive impact on the living standard on the household in terms of income. Their study shows that proportion of landless family had decreased due to participating in the

Table 1: Status of Microcredit Program in 2012 of the Selected Microcredit Organizations

Organization	Total beneficiary (million)	Disbursement (million BDT)	Recovery (million BDT)
Grameen bank	5.835	104222.1	96897.8
BRAC	4.735	93810.4	69815.8
Proshika	0.1002	143.0	468.0
ASA	8.379	115771.6	107620.8

Source: [1]

Note: 1 USD = 81.15 BDT in 2013 (BDT indicates Bangladeshi currency)

microcredit program and their social status had also improved. Rahman *et al.* [10] conducted a study on the borrowers of Islami Bank Bangladesh Limited (IBBL) in Bangladesh. The authors assessed the impact of credit on the living standard of the rural borrowers in terms of household income and expenditure. The authors observed that due to credit support household income and expenditure had improved. According to the authors' view, age, number of earning member in the family played a vital role in increasing household income and the household expenditure was positively and significantly influenced by the factors like household income, land size and family size. They suggested that financial and technical facilities should be provided to the rural entrepreneurs for improving their living standard. Mahmud *et al.* [6] conducted a study on the landless and marginal borrowers of Agricultural Diversification and Intensification Project (ADIP) in Bangladesh. The prime objective of their study was to assess opinion of the borrowers on the microcredit program those who took loan for agricultural activities. They found that borrowers had become economically benefited due to microcredit intervention of ADIP. They mentioned that educational status of the borrowers; household size, trainings and mobility of the borrowers were significantly related to the economic well-being of the borrowers. Khandker [11] conducted a study on the Bangladeshi borrowers to assess the impact of microcredit on the household consumption. The author found that microcredit program had benefited the poorest and it had a sustained impact on poverty reduction among the program participants. According to the author, it had also positive spillover impact in reducing poverty at the village level but the author also indicated that the effect was more pronounced in reducing extreme than moderate poverty. Matin and Hulme [12] examined the impact of Income Generation and Vulnerable Group Development Program (IGVGD) of Rural BRAC in Bangladesh. They found that the program had a positive impact on the income and living standard of the participants. They also indicated that IGVGD program had reached the very poor households through providing livelihood protection and promotion simultaneously. Based on the IGVGD experience; they suggested that anti-poverty programs must adopt the strategy of providing food relief along with skill building training and microfinance (as a package program) for better performance. Pitt *et al.* [13] estimated the impact of microcredit program on the rural Bangladeshi women's autonomy within the household. They observed that

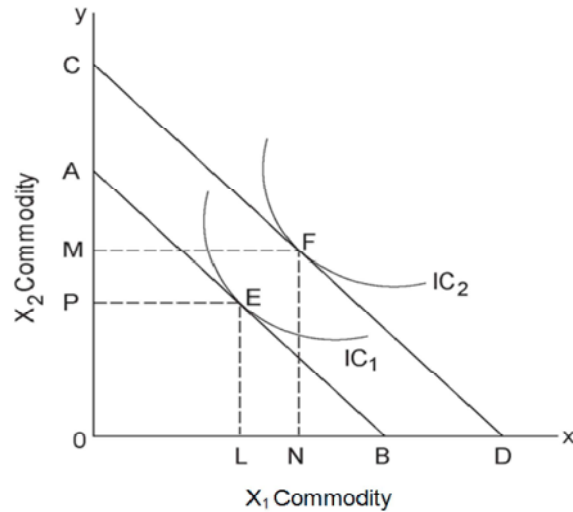


Fig. 1: Graphical Representation of Utility Theory

women's participation in the microcredit program had helped to increase women's empowerment in terms of household-decision making ability, access to financial and economic resources, women's social networking and mobility. However, microcredit program was criticized by various authors in many cases for being unsuccessful in alleviating poverty. For example, the researchers criticized the microcredit program for charging a high interest rate. According to the researchers debt burdens and poverty had increased among the borrowers due to charging high rate of interest [4, 14]. A study on the BRAC borrowers' showed that the microcredit program of BRAC failed to reach the ultra poor people in Bangladesh [15]. It was also observed by the researchers that microcredit programs were highly dependent on the donors' financial support and these programs also ignited the social inequality and religious conflicts in Bangladesh [14].

Theoretical Framework: According to utility theory, as income increases budget of the consumer increases which in turn leads them to purchase higher amount to maximize their utility. Providing microcredit would assist the poor borrower to have higher income which in turns improves their living standard in terms of expenditure. This economic behaviour is consistent with the theory of utility maximization which is graphically presented in Figure 1. This study tried to examine whether the program participants became successful to move from point E to point F after receiving microcredit support (Figure 1).

Conceptual Framework: Assuming that household utility function is:

$$U = f(F_h, F_m, D_h, W_h) \quad (1)$$

where

U = Utility gained from food consumption
 F_h = Food items produced by the household
 F_m = Food items purchased from the market by household
 D_h = Demographic characteristics of the household
 W_h = Total time spending on IGA by hired and family labor

The farm household acts as both producer and consumer [16]. The household, as both producer and consumer, is assumed to maximize its utility from the consumption of the goods subject to farm production and income and number of rural infrastructural facilities such as:

$$C(Q_i, Y, R_i) = 0 \quad (2)$$

It is also assumed that household produces and consumes the few portion of the production. Thus the household surplus is $(Q_i - F_i) = S_i$ where, Q is total household farm production of the household and F is the portion of farm production consumed by household. Household needs to purchase market goods for consumption at market price. Household uses its family members and also hires labor for farm activities. It is also assumed that household receives revenue from non-farm activities denoted by N. Therefore, household total revenue function is:

$$TR = P_i(Q_i - F_i) + wL_f + N \quad (3)$$

Where, unpaid labor cost wL_f

Assuming that, household has cost functions:

$$TC = wL_h + B_c + F_m P_m + L_c \quad (4)$$

Thus, Profit:

$$[P_i(Q_i - F_i) + wL_f + N] - (wL_h + B_c + F_m P_m + L_c) = 0 \quad (5)$$

Where,

P_i = Price received by the farmer for their production
 P_m = Price of the food purchased from the market

wL_h = Wages paid to the hired labor

B_c = Cost of borrowing

L_c = Cost of using land

Profit or surplus earning of the household,

$$Y^* = Y^*(Q_i, P_i, P_m, wL_h, B_c, L_c, N, wL_f) \quad (6)$$

As it can be assumed that household uses labor, agricultural land, agricultural credit, grant, fertilizer, pesticides, irrigation as inputs for household agricultural production. Thus household input function is:

$$I = I(P_r, wL_h, G, Cr, Ld, T, A)$$

Where,

I = Demand for input; wL_h = wage for hired labor;
 T = agricultural training received by the household and
 P_r = average price of inputs used for producing S_i ;
 G = amount of grant; Cr = amount of credit; Ld = total land of the household, A = physical and biological asset of the households

$$I^* = I^*(P_r, wL_h, G, Cr, Ld, T, A) \quad (7)$$

Household farm production will depend on the household input demands. Thus,

$$Q_i = Q(I) \\ Q^* = Q^*(P_r, wL_h, G, Cr, Ld, T, A) \quad (8)$$

From equation (5), it can be written:

$$Y^* = Y^*(Q_i, P_i, P_m, wL_h, B_c, L_c, N, wL_f) \\ Y^* = Y^*[(P_r, wL_h, G, Cr, Ld, T, A), P_i, P_m, wL_h, B_c, L_c, N] \\ Y^* = Y^*(P_r, Cr, G, Ld, T, A, P_i, P_m, wL_h, wL_f, B_c, L_c, N) \quad (9)$$

Consumption demand can be solved in terms of income, amount of grant, assets, quantities produced, amount of credit and household demographic characteristics.

$$C^* = C^*[Q_i(P_r, wL_h, G, Cr, Ld, T, A); Y^*(P_r, Cr, Ld, P_i, P_m, wL_h, wL_f, B_c, L_c, N); R_i; D_h] \quad (10)$$

It is to be noted that the conceptual framework of this study was adopted and modified from Faridi and wadood [16].

MATERIALS AND METHODS

Data Collection: Primary data were collected from the female borrowers of GB in the district of Comilla, Rajshahi and Khulna of Bangladesh. A total of 1000 borrowers were selected as sample for this study from the total 16207 number of borrowers. Sample size was calculated using online survey calculator by convincing three percent of error at the 95 percent significance level. Simple Random Sampling (SRS) technique was used in this study for selecting the sample as the comprehensive borrowers list was available. Information had been gathered mainly on the various aspects of living standard such as demographic profile, asset holdings, condition, credit management, household income and expenditure, agricultural productivity and problems encountered by the borrowers in participating the program.

Econometric Techniques of Assessing Impact of Rural Development Program: Various econometric techniques were used by the researchers in assessing the impact of development project such as (i) Ordinary Least Square (OLS), (ii) Weighted Least Square (WLS), (iii) Two Stage Least Square (TSLS), (iii) Weighted Two Stage Least Square (WTSL) and binary logistic regression [5, 7]. For instance, OLS technique was used by the reserachers to measure the impact of credit on household income and expenditure [10]; WLS technique was used to assess the impact of microcredit program on the household income of the Bangladeshi poor borrowers [5] and both TSLS and OLS techniques in order to assess the impact of microcredit program on risk management in the context of African countries [17]. Logit model was used in Bangladesh to assess the opinion of the borrowers on their economic well-being [6]. However, these techniques are not completely flawless [5; 8]. OLS cannot be applied if heteroscedasticity problem arises and in that situation WLS technique is more applicable; TSL and WTSL techniques are appropriate to apply when endogeneity problem arises which OLS and WLS fail to solve [5, 8]. The author also adds that the logit model is appropriate technique to use when the dependent variable is dichotomous [5, 6]. In this study, dependent variable had two categories such as household income would increase under GB program coded as one otherwise coded as zero. Therefore, the model can be specified as:

$$\ln (P_i / (1 - P_i)) = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + \mu \quad (1)$$

Where,

P_i = Probability that household income of the borrower would increase

$1 - P_i$ = Probability that household income of the borrower would not increase

X_1 = Age of the borrower (years)

X_2 = Education of the borrower (number of years of schooling)

X_3 = Amount of credit received by the borrower (BDT)

X_4 = Years of borrowing (number)

X_5 = Number of children in the family

X_6 = Number of loan taken by borrowers

b_0 is the constant for equation one

b_i = Coefficients of independent variables

μ is the error term for the equation one

RESULTS AND DISCUSSION

Due to financial constraints rural poor people often fail to start up or continue IGAs properly even though having adequate skill. Microcredit provides them the opportunity to meet up their credit needs which is collateral free. It is expected that borrowers would be provided loan on time as per their need and based on the nature of IGAs pursued by them. They would be eligible to get another loan after repaying the previous loan. In fact, to get desired level of output from agricultural activities, it is important to maintain the cash flow continuously through credit system. In fact, long term suitability of IGA depends largely on the investment ability and credit utilization ability of the borrowers. It is generally assumed that a borrower who receives credit for a long period of time would be in advantageous position in utilizing and investing credit on IGAs as compared to borrowers who involves in the program a short period of time. This study shows that number of years borrowing is positively and significantly related to the dependent variable. The study reveals that the probability of increasing household income would increase by 52.896 per cent as the years of borrowing increases by one year (Table 2).

Majority of the borrowers under this study had lack of education due to their poverty. It creates major problem for them in operating IGAs properly because of lack of analyzing power, low level of bargaining and risk

Table 2: Determinants of Household Income

Variable	(B)	Wald	Level of Significance	Odd ratio
Age of the borrower	-0.041	11.213	0.001	0.960
Years of schooling of the borrower	0.151	4.062	0.044	1.163
Credit received by borrower	0.000	0.897	0.343	1.000
Number of years of borrowing	0.116	29.859	0.000	1.123
Number of children in the family	-0.143	4.322	0.038	0.867
Number of loan taken by borrower	-0.518	4.972	0.026	0.596
Constant	0.282	0.270	0.603	1.326

Cox and Snell R square: 0.060

Nagelkerke R square: 0.096

H-L Chi-square:4.590 with df (p-value 0.800)

Overall accuracy: 80.7

Source: Survey, 2012

Note: Probability = [Odd / (1- Odd)]

management ability which leading them to have the low level of returns. In fact, education (years of schooling) is a factor that is related to human knowledge. It is generally believed that educated people are more skilled in using technology and overcoming the adverse situation [7]. This study shows that level of education of the borrower was significantly and positively related with the dependent variable. The study reveals that the probability of increasing household income was about 53.767 per cent due to increase of one year schooling of the borrowers (Table 2).

Age of the borrowers is an important factor for taking economic decision such as production and consumption. Young people are more energetic, dynamic and they quickly adopt new ideas and technology rather than aged persons. It is generally believed that because of aging factor people lose their physical, psychological and financial capability which may create adverse effect on their productivity. This study shows that borrower’s age was negatively and significantly related to the dependent variable. It indicates the likelihood of income would decrease as the age of the borrowers increases (Table 2).

As earlier mentioned that the sampled household under this study were poor. Increasing the number of the children would enhance financial hardship for the family and it would also increase the probability for the family to be fall in poverty. The researchers’ observed that the incidence of poverty was higher among large families as compared to small families [18]. This study shows that number of children was negatively and significantly related to the dependent variables. It indicates that the probability of reducing household income would increase by 46.695 percent due to increase of one additional child in the family (Table 2).

In the microcredit program, borrowers are usually provided single loan for IGAs rather than pursuing multiple loans simultaneously. Borrowers are allowed to take further loan when the first loan is repaid. The interest rate which is charged by the NGOs is usually much higher than the commercial banks in Bangladesh. The poor borrowers may find obstacle to repay their loan if the loan number increases for conducting multiple IGAs at a time as they usually suffer from low level of savings and lack of pursuing IGAs opportunity. They might not be able to utilize and invest loan money on the productive purposes properly which may increase their indebtedness. Thus, taking more number of loans would increase their economic burden. This study shows that number of loan taken by the borrowers was negatively and significantly related to the household income. The probability of reducing household income would increase by 37.343 per cent due to increase in one additional number of loans (Table 2).

CONCLUSION AND IMPLICATIONS

Microcredit facility was provided to the rural poor by GB for the purpose of increasing their household income. It was found in this study that the amount of microcredit which was received by the borrowers had failed to create any significant impact on the household income. Lack of rural infrastructural facilities, lack of employment opportunities in the rural areas, inadequate training facilities for the borrowers and small amount of fund for pursuing IGAs may be the major reasons for such failure. Socioeconomic variables like age of the borrower, educational status of the borrower, loan number, years of borrowing and number of children in the family had

played a crucial role in determining household income. Policy makers should focus on the following steps for the purpose of improving the household income of the borrowers.

It is important to focus on the age of the borrowers during formation of group. It would be unwise to select a person as a group member whose age is less than 18 years or more than 65 years. Necessary government documents related to age must be provided to the lenders by the interested persons for getting loan. Field staffs who are working in the root level should be more aware about the age factor in forming the group.

Steps should be taken to provide non-formal educational facilities to the poor household at a nominal charge. Necessary books and other materials needed for study should be provided at free of cost. This is important to encourage the borrowers to send their children to schools. Food for education program should be strengthened to motivate poor families to send their children to school. A provision should be made to provide stipend to the meritorious students. Night schools can be established in the rural areas for aged population. Qualified and trained teachers should be employed in the rural areas with good remuneration package. It is also important to prepare course contents with the conformity of the needs of the poor.

Steps should be taken to enhance family planning program in the rural areas to motivate the people to adopt family planning. Awareness building programs should be launched to aware rural people about the adverse effect of having large family, gender disparity and superstitions. It is also important to create job opportunity in the rural areas through developing industries so that they can be employed as full time or part time basis.

A provision should be made for providing loan to the borrowers for a long period of time. Repayment schedule should be made in such a manner so that borrower may get adequate time to repay their loan installment without any inconvenience. Loan should be provided on time as per the demand of the borrowers.

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