

Small Credit for Big Opportunities: A Case of BRAC's Agribusiness Program in Bangladesh

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Abstract

BRAC provides microcredit to the landless and marginal borrowers to accelerate agribusiness activities in the rural areas. The prime objective of the study was to evaluate the impact of microcredit program on household income of the female borrowers of BRAC. Survey was conducted in the Gazipur district of Bangladesh. Primary data were collected from 417 borrowers who were engaged in agribusiness. Ordinary Least Square (OLS) technique was used to assess the impact of credit on household income. The study shows that the amount of microcredit received by the borrowers made a significant contribution in enhancing their household income. Besides credit, value of agricultural assets, compulsory saving, number of agribusiness pursued by household and training appeared as the key factors in determining income. The study also shows that non-institutional loan and operating cost of agribusiness adversely influenced the household income.

Keywords: agribusiness, impact, microcredit, borrowers, Bangladesh

1. Introduction

The economy of Bangladesh mainly depends on the agricultural sector (Mahmud et al., 2014). A substantial portion of the population of the country is engaged in the agriculture sector (Hossain et al., 2013). In 2014, about 47 per cent of the total labor force was engaged in the agricultural sector (Mahmud et al., 2014). Nevertheless, the socio-economic plight of the farmers of Bangladesh is not at all satisfactory (Hossain et al., 2013). Most of them suffer from lack of education, lack of resources, insufficient income and hunger (Hossain et al., 2013). In fact, a significant portion of the population of Bangladesh is in poverty. The latest Household Income and Expenditure Survey, 2010; traced the incidence of absolute poverty to be about 31 percent at the national level (Ministry of Finance, 2014). Such a situation is not desirable for any developing country. The prime task of the Government of Bangladesh (GoB) is to alleviate poverty by implementing rural development activities. According to Hossain et al. (2013) no significant development can be feasible for the country without the overall socio-economic development of the rural poor. The GoB has emphasized on implementing the poverty alleviation programs by establishing effective partnership with the non-government organizations (NGOs) in order to improve the living-standard of the rural poor (Hossain et al., 2013). In this context, microcredit system can play a vital role in poverty alleviation (Imai et al., 2010; Mahmud, 2010a). In fact, conventional banking system in the LDCs has failed to extend credit support to the poor (Weber & Ahmad, 2014; Mahmud et al., 2014). Weber and Ahmad (2014) also stated that collateral requirement by the formal financial institutions, cultural barriers, and lack of information on how to access to the formal credit support were the major causes which created obstacles for the poor to obtain credit support from the formal financial institutions. One of the salient features of the microcredit program is that it requires no collateral for obtaining credit and this credit support is provided to the poor through group based approach so that they can pursue income generating activities (IGAs) (Sohag et al., 2015; Mahmud et al., 2014; Mahmud, 2010a). In fact, poor people who live in the Least Developed Countries (LDCs) usually have lack of access to the formal financial institutions and the case is even worse for the poor women (Mallick, 2012; Coleman, 1999). The similar situation also prevails in Bangladesh. Therefore, GoB has taken the initiatives to support the NGOs in Bangladesh so that they can extend the microcredit facilities to the rural poor (Hossain et al., 2013). In accordance with the government's poverty reduction policy

and strategy, BRAC (a reputed NGO) has been providing microcredit under its poverty alleviation program in order to improve the living-standard of the rural poor of Bangladesh. BRAC sets its goal to accelerate agribusiness activities among the rural poor for sustainable development and to encourage small-scale rural entrepreneurship among the poor (Hossain et al., 2013; Mahmud, 2010a). It is to be noted that rural women in Bangladesh have limited access to the productive resources and decision-making ability as compared to their male counterparts due to existing patriarchal norms of the society (Kabeer, 2001; Goetz & Gupta, 1996; Parveen, 2008; Mahmud et al., 2014). Thus, BRAC has given emphasis to provide credit facilities to the women who make up half the population. BRAC was established in 1972 with an aim to provide relief and rehabilitation services to people to handle post-war situation (Hossain et al., 2013). At present, BRAC has been implementing various development activities for poverty alleviation such as operating microcredit for agricultural and non agricultural activities, non-formal education for children and adults, primary healthcare, women development, legal rights, and environmental pollution social awareness, and socioeconomic research on development issues (Mahmud et al., 2014; Hossain et al., 2013). BRAC, so far, has provided microcredit facilities to the borrowers covering 460 Upazilas (lowest administrative unit) of Bangladesh (Mahmud et al., 2014; Hossain et al., 2013). BRAC provides three types of credit facilities: (i) Poverty Alleviation Loan known as *Dabi Loan*, (ii) Enterprise level Loan known as *Unnoti Loan* (iii) Micro-enterprise Lending and Assistance Loan known as *Progoti Loan* (Hosasin et al., 2013; Mahmud, 2010a). A huge amount of loan disbursed to the borrowers by BRAC by maintaining the highly satisfactory repayment rate (Mahmud et al., 2014). It was estimated that the total disbursement of loans, repayment of loans, number of male and female borrowers of BRAC in 2014 were 151904.9 million (BDT), 132817.2 million (BDT), 0.634 million and 4.87 million respectively (Ministry of Finance, 2014). According to Mahmud (2010a) enhancement of the small-scale agribusiness in the rural areas of Bangladesh would play a vital role in achieving the dream of sustainable development. It is also stated by the various researchers that the agribusiness program has the potentials to uplift the living-standard of poor people (Sonka & Hudson, 1989; Darmansyah et al., 2014; Sartorius & Kirsten, 2007; Ricketts & Rawlins, 2001). Being consistent with this view, BRAC provided microcredit facility to the poor borrowers for accelerating agribusiness activities. It was hypothesized that BRAC's credit facility would improve the household income (generated from agribusiness activities) of the borrowers. Therefore, this study took the effort to assess the impact of BRAC's microcredit program on the household income of the borrowers who took loans for pursuing agribusiness.

2. Literature Review

Mahmud et al. (2010b) found that microcredit program failed to create any significant impact on the total household expenditure of the borrowers of Agricultural Diversification and Intensification Project (ADIP) in Bangladesh who took loan for fisheries. The authors indicated that the short period (two years) of participation in the ADIP program and small loan amount were the major causes of failure. Doocy et al. (2005) found that microcredit program in Ethiopia played a positive role in improving the nutritional status of the borrowers and their family members. Dowla and Alamgir (2003) observed that in Bangladesh, borrowers' savings increased because of the intervention of the microcredit program. Duong and Izumida (2002) found in Vietnam that the agricultural production of the borrowers' increased significantly due to their participation in the microcredit program. Mosley and Rock (2004) observed that microcredit programs in the African countries improved the risk management capacity of the poor households. Hashemi et al. (1996) conducted a study on the women borrowers of Bangladesh and reported that microcredit programs increased their economic security, purchasing ability, mobility, and ability of taking household decisions, political and legal awareness. Mahjabeen (2008) stated that microcredit program had a positive impact on household consumption of the poor borrowers. Hassan and Renteria-Guerrero (1997) indicated that social status of the poor women borrowers of Bangladesh increased because of their participation in the microcredit program. However, microcredit program also had some flaws too. Ahmed (2009) reported that the microcredit program failed to reach the ultra poor people. Mahmud et al. (2014) stated that the microcredit program could not alleviate poverty entirely among the program participants. Microcredit programs in Bangladesh have also been criticized for enhancing social conflicts and stopping inequality in the rural society (Hassan & Khan, 2007; Mesbahuddin, 2010).

Based on the above discussion, it can be depicted that several studies were conducted in Bangladesh and elsewhere to assess the impact of microcredit programs on various outcomes, such as, household income, savings, expenditure, healthcare, nutritional status. However, less attention was paid to the agribusiness activities operated by the rural women borrowers. In this study, an attempt was taken to examine the effectiveness of BRAC's credit program on the household income of the borrowers generated from agribusiness activities.

3. Theoretical Underpinning

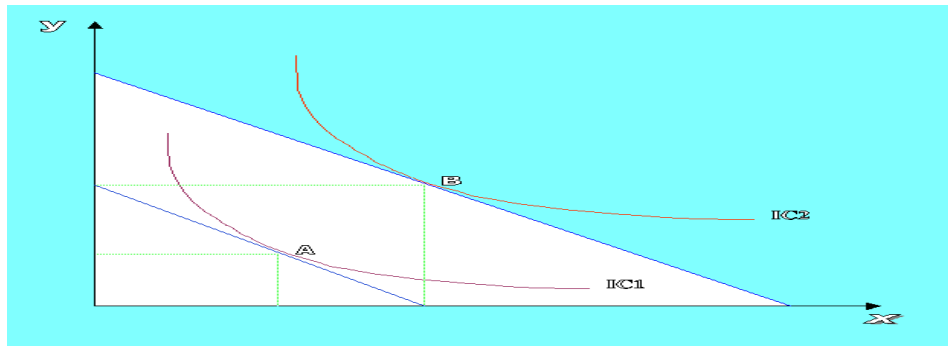


Figure 1. Graphical representation of utility theory

Utility theory indicates that as income increases, budget of the consumer increases, which, in turn, leads them to purchase higher amount to maximize their utility (Figure 1). It is to be noted that sampled households under this study are poor having low level of income. Providing microcredit to the poor would assist them to have higher income which, in turn assists them to have higher level of expenditure resulting in higher living-standard for them. This economic behavior is consistent with the theory of utility maximization. This study tried to examine whether the borrowers were able to move from point A to point B after receiving microcredit support from BRAC (Figure 1).

4. Conceptual Framework

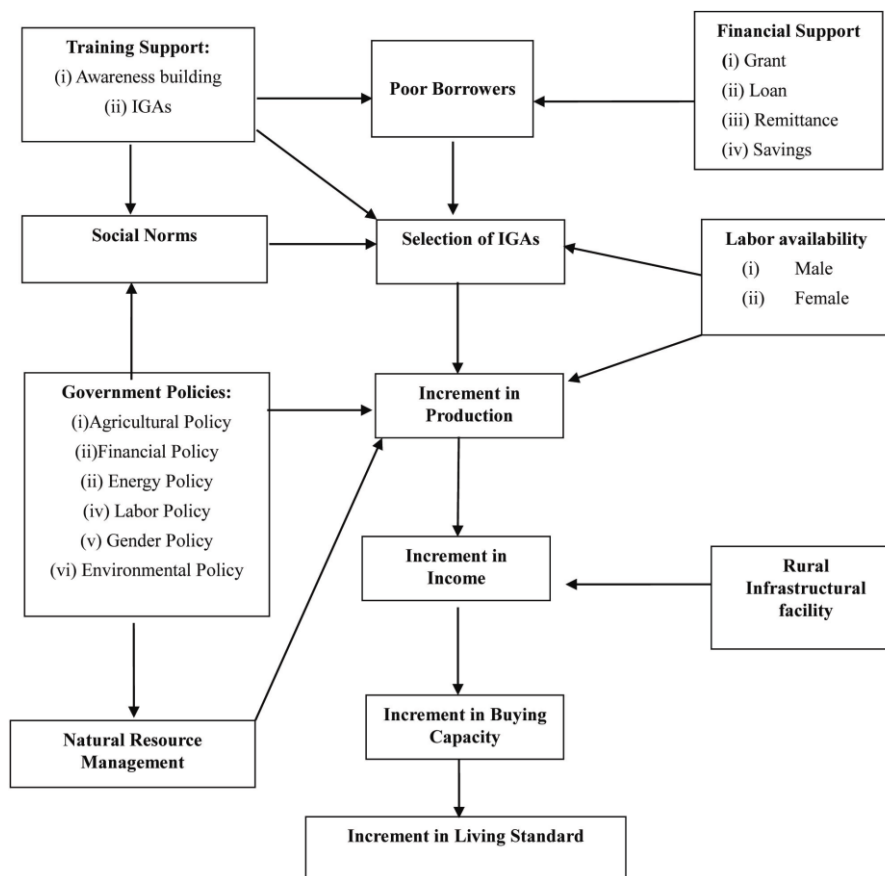


Figure 2. Conceptual framework of poverty alleviation through microcredit program

Poverty is a complex phenomenon in nature and its causes, and consequences are multi-dimensional too. It goes without saying that poverty is influenced by the various socio-economic factors which are interlinked to each other. Thus, not only the single factor rather emphasis should be provided on the integrated approach to formulate the poverty related policies. It is important to ensure the access of the rural poor to the following capitals which includes financial, social, natural, and physical capitals in order to achieve sustainable development of the living-standards of the rural poor. Providing credit, agricultural trainings, conservation of bio-diversity, building awareness on gender disparity, and development of rural infrastructure can be effective strategies for poverty alleviation. Access to credit makes a person take more risk-bearing initiatives on IGAs (Hossain et al., 2013). The microcredit loan receivers have more options in term of purchasing and spending money on the food, health, and education. Training assists the borrowers to increase their awareness level and enables them to become technologically sound (Mahmud et al., 2014). Borrower's ability for decision-making on analyzing the agribusiness activities can be increased by effective trainings (Mahmud et al., 2014). Possession of land can be thought as an important factor for permanent income and consumption of rural households. A household having more land are in the advantageous position in term of negotiation, investment, production, and risk- bearings as compared to the households with no land or small pieces of land. Improvement of the rural infrastructural facilities (which includes roads, markets, banks, landing stage, cold storage etc.) would enhance the rural people's participation in the economic activities (Hossain et al., 2013) resulting in higher production, income, and expenditure. The conceptual framework of poverty alleviation has been adopted and modified from Mahmud et al. (2014) and Hossain et al. (2013) which is presented in Figure 2.

5. Methodology

A comprehensive borrowers' list was collected from the respective branch offices of BRAC. Based on the list, using Simple Random Sampling (SRS) technique, borrowers were chosen to be interviewed. The survey was conducted in February, 2015 covering two Upazillas (lowest administrative unit) of the Gazipur district. A total of 417 borrowers were selected as sample from the total population of 1365 borrowers using the online sample survey calculator. Following criteria were used in order to develop the sampling frame: (i) only landless and marginal female borrowers were considered, (ii) borrowers age must be within 18 to 55 years, (iii) borrowers must be permanent resident of the village, (iv) borrowers who did not take loan from the other NGOs or financial institutions in the last three years, (v) borrowers must be involved in agribusiness activities, and (vi) borrower who took loan for the first time in June, 2013 and utilized the loan at least for twelve months. In this study, agribusiness activity includes crop, poultry, livestock, fishery, fertilizer, nursery and food-selling. For this study, data were mainly collected on borrower's demographic profile, resource base, household income, expenditure, credit management and their opinions about the BRAC's activities.

To measure the influence of microcredit program on rural borrowers, various authors used several techniques such as: (i) Descriptive Method, (ii) Ordinary Least Square (OLS) Method, (iii) Weighted Least Square (WLS) Method (Mahmud, 2010a; Mahmud et al., 2010b; Mosley & Rock, 2004; Duong & Izumida, 2002). OLS technique was used in this study to measure the impact of microcredit on household income of the borrowers. Heteroscedasticity is a serious problem which needs to be solved if detected (Gujarati, 1998; Mahmud, 2010a). The problem of heteroscedasticity can be solved in following ways, which are: (i) Weighted Least Square (WLS) technique and (ii) White methods (Asteriou & Hall, 2007). In this study, we conducted BPG test and the existence of heteroscedasticity was detected. This problem was solved by following the White methods. The Household Income Model was specified as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \mu \quad (1)$$

Where,

Y = Total income of the household in 2014 (BDT)

X1 = Total amount of loan repaid in 2014 (BDT)

X2 = Total amount of compulsory saving of the borrower in 2014 (BDT)

X3 = Number of training received by borrower after joining the BRAC program

X4 = Total number of family member involved in agribusiness in 2014

X5 = Number of years of schooling of the borrowers

X6 = Distance of agricultural office from the borrower's house (kilometer)

X7 = Time spent on agribusiness activities by family members (hours / day)

X8 = Total value of agricultural assets of the household in 2014 (BDT)

X9 = Total amount of loan received by borrowers in 2014 (BDT)

X10 = Total cost of operating the agribusiness in 2014 (BDT)

X11 = Total number of agribusiness pursued by household in 2014

X12 = Total amount of non-institutional loan taken by the borrower in 2014 (BDT)

β_i = Coefficients to be estimated

μ = Error term of equation one

6. Results and Discussions

Table 1. Factors of household income

Variables	Coefficient	t-value	Level of significance
Constant	4331.878	4.839033	0.0000
Repayment of loan (BDT)	-20.13924	-1.323603	0.1864
Compulsory saving (BDT) ***	0.150348	3.263078	0.0012
Number of training received*	175.0118	1.671096	0.0955
Number of family members involved in agribusiness	74.46535	0.652537	0.5144
Number of years of schooling of borrowers	25.50101	0.220000	0.8260
Distance of agricultural office (kilometer)	-65.21642	-0.583379	0.5600
Time spending on agribusiness by family members (hours /day)	131.0587	1.039449	0.2992
Value of agricultural assets (BDT) ***	0.161618	2.511573	0.0124
Amount of credit taken from BRAC (BDT)**	0.253136	1.904111	0.0576
Cost of operating agribusiness (BDT) ***	-0.323022	-2.623888	0.0090
Number of agribusiness pursued by households*	310.9826	1.844822	0.0658
Amount of non-intuitional loan taken by borrowers (BDT)***	-289.1093	-2.730325	0.0066
R-squared: 0.249022			
Durbin-Watson: 1.6125			

Note. ***Significance at 1% level, ** Significance at 5 % level, * Significance at 10 % level.

BDT indicates currency of Bangladesh

1 US\$ = Approximately 77.72 BDT in 2014 (Ministry of Finance, 2014).

Source: Survey 2010.

In the context of Bangladesh, rural poor especially women have limited access to the formal financial institutions due to several reasons, such as, inability to meet the collateral requirements, conservative norms of the society regarding women's mobility, gender disparity, lack of education and inadequate resource base. However, the rural poor have the potentials to pursue IGAs. It is important to encourage rural entrepreneurship among the poor by providing microcredit facilities. It is expected that BRAC program would accelerate the economic participation of the borrowers' household. The borrowers under this study were very poor. Due to severe economic hardship they did not even have the ability to pursue agribusiness activities properly. In fact, the amount of microcredit they received from BRAC was not even adequate for them to operate the agribusiness activities smoothly and efficiently. They had to take the loan from other non-institutional sources, such as, relatives, friends and mainly from the money lenders. Non-institutional loans were thought to be risky for a number of reasons such as (i) untimely disbursement, (ii) higher interest rate and so on. Thus, borrowers were discouraged to take non-institutional loans. This study shows that the amount of non-institutional loan taken by the borrowers was negatively and significantly related to the household income (Table 1).

BRAC provided microcredit facilities to the borrowers for pursuing various types of business activities such as crop selling, fruit selling, nursery, small-scale agricultural trade, livestock and poultry business, seed production and selling, fertilizer business and selling of fish and fishery products. BRAC also provided necessary trainings to the borrowers to improve their skills in pursuing agribusiness activities. It was expected that borrower's household would be better off in terms of household income after utilizing the credit facilities productively. The study shows that amount of loan the borrowers had received from BRAC was positively and significantly related to the dependent variable. It indicates that providing more microcredit would increase household income more (Table 1).

Saving assists in increasing borrower's ability to invest, risk management, bargaining power in the agribusiness. Borrowers under this study had a small amount of saving of their own. Due to inadequate saving they could not invest in their income generating activities properly, thus, obtaining lesser returns. They were also in disadvantageous position due to insufficient saving in managing risks. Thus, BRAC took the effort to encourage borrowers to save through weekly saving activities. It was expected that after participation in the BRAC program, borrower's saving would increase. The study shows that borrower's saving was significantly and positively related to the dependent variables. It indicates that as saving increases the income increases (Table 1).

Agriculture consists of complex and diversified activities. Therefore, to pursue agribusiness smoothly, it requires frequent inflows of financial capital and adequate number of agricultural equipments. In this study, households' value of assets indicates value of agricultural tools (such as plough, power tiller, hammer, sickle, shovel, seed-drill, and spade); cycle; radio; boat; agricultural land; poultry and livestock. A household having more agricultural assets would be in an advantageous position as compared to households having less asset-base in case of capital accumulation, business negotiation and risk management. It was expected that borrowers' agricultural asset would increase due to participating in the BRAC program which would ultimately assist them in improving their household income. This study showed that value of asset of the household was positively and significantly related to the dependent variable. It indicates that the households' income would increase as the value of agricultural assets increases (Table 1).

It is important to minimize the cost of business operation in order to maximize profit. It can be assumed that increase of the cost of operating agribusiness would affect the household income. In this study, borrowers' agribusiness operation cost was mainly comprised of cost of hired labor, cost of building infrastructure, cost of purchasing inputs and cost of marketing. To minimize the business operating cost, it requires both sound technological and managerial skills. The borrowers under this study were having low level of education and training which were the major obstacles for them to acquire adequate knowledge and skills in minimizing the agribusiness operating cost. This study reveals that borrowers' cost of operating agribusiness was significantly and negatively related to the dependent variable. It indicates that households' income would decrease as the operating cost of agribusiness increases (Table 1).

In the rural areas, opportunities for income generating activities are less as compared to urban areas due to lack of income, education, training and infrastructural facilities. Thus, it is important to increase income generating opportunities in the rural areas. Thus, BRAC took the initiative through providing microfinance for pursuing agribusiness and training facilities for the rural household so that they can participate in the multiple economic activities. It can be assumed that a household involved in multiple income generating activities (related to agribusiness activities) would be in advantageous situation than a household having single IGA in terms of production and income. Pursuing multiple agribusiness activities would also assist the households in increasing their risk management, investment and negotiation capacity. This study confirms that number of agribusiness pursued by the household was positively and significantly related to the household income. It indicates that more income can be achieved by increasing the number of agribusiness activities (Table 1).

Borrowers under this study have no or little skill in pursuing agribusiness activities. Due to lack of skill they fail to operate their agribusiness activities efficiently yielding low production and profit for them. Training program may assist borrowers to understand the nature of agribusiness activities, customer demands, adopting effective business strategy and to cope up with the adverse situation. Therefore, BRAC conducted several training programs for the borrowers in improving their skills in pursuing agribusiness activities. It was expected that borrowers would be benefited in terms of adopting modern technology, production and income due to receiving training from BRAC. This study shows that the training was positively and significantly related to the household income of the household. It indicates that household income increases as the number of training increases for the borrowers (Table 1).

7. Conclusion

Borrowers were provided microcredit facilities to improve their living-standard (in terms of household income) through accelerating their agribusiness activities. The study showed that amount of microcredit received by the borrowers from BRAC assisted them to increase their household income. The study also showed that some factors such as savings, value of agricultural assets, number of agribusiness pursued by the household and training played a positive role in increasing household income. On the contrary, non-institutional loan and the cost of operating agribusiness adversely influenced their household earnings. Policy makers have to take following initiatives to improve the living-standard of the poor borrowers:

Loans should be provided on time based on the specific demand of the borrowers. Prohibition of Loan should

be expanded based on the nature of the income generating activities. It is also important to make the loan procedures free from all complexities.

Steps should be taken to discourage borrowing from non-institutional sources. Appropriate laws should be made and implemented to stop high interest rates charged by money-lenders. It is important to make the rural people aware of the adverse effects of taking non-institutional loans. Emphasis should be given on establishing more rural financial institutions and NGO branches in the remote areas to provide credit facilities easily and promptly.

Steps should be taken to increase rural savings. Necessary inputs for agribusiness can be provided by the NGOs or Agricultural Offices (located in the Upazilla) at a nominal charge. Rural employment opportunity needs be created by establishing industries in the respective areas. Initiatives can be taken to encourage the household to practice integrated farming systems which would help in reducing agribusiness operating costs.

Steps should be taken to provide effective training to the borrowers as per their demand. Training materials should be updated and provided to the trainees free of cost. Adequate training allowances should be provided to them for encouraging their participation in the future training program.

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