

Print ISSN: 2288-4637 / Online ISSN 2288-4645  
doi:10.13106/jafeb.2021.vol8.no5.1147

## The Impact of Microfinance Programs on Borrowers' Asset Accumulation: An Empirical Study in Bangladesh\*

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Received: February 10, 2021 Revised: April 05, 2021 Accepted: April 15, 2021

### Abstract

The study aimed to investigate the impact of the microfinance program on loan borrowers' asset accumulation. In doing this, the study used descriptive and statistical methods to achieve the objectives. Primary data were collected from 192 respondents from Bangladesh using survey questionnaires. The data were analyzed using the multiple linear regression model. The result revealed that the majority of the borrowers said their assets such as farm, land, and livestock remained the same, which implies that microfinance borrowers still lag behind accumulating household assets. However, in the case of housing conditions and household appliances, there was a marginal increase. The regression result provides evidence that, among other factors, the amount of loan received from microfinance institutions and time duration with them is the most significant role-playing factor for borrower's sustainable well-being. The age and education level of borrowers are identified as positively related to asset accumulations, but not substantially so. Moreover, training provided by microfinance institutions is not effective and influential for microfinance borrowers' wealth accumulation, which is evidenced by the findings. This study's insights are worthwhile for any microfinance institution's decision-makers, development partners, and government to stress the shortcomings and accelerate the borrower's wealth status.

**Keywords:** Microfinance, Sustainability, Asset Accumulation, Bangladesh

**JEL Classification Code:** G21, G51, I31

### \*Acknowledgements:

The authors gratefully acknowledged the financial support for this research from the Fundamental Research Grant Scheme (FRGS), Project No. FRGS/1/2018/SS01/UNISEL/02/2.

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## 1. Introduction

Microfinance is a socio-economic development approach to improving clients' well-being (Ahmad, Al-jaiifi, & Mostafiz, 2020). It includes offering financial services to low-income clients via institutions where the market does not provide adequate services (Ahmad, Bakar, & Lubis, 2016b). According to the World Bank report, microfinance is "The provision of small loans to help the poor and their families engage in production activities or develop microenterprises" (Helms, 2004). Microfinance Institutions (MFIs) provides services that include micro-savings and insurance, etc. In line with the aim, many microfinance institutions also offer social mediation services such as training and education, institutional support, health, and skills.

There are currently seven hundred microfinance organizations operating in Bangladesh (Awal, 2014).

Among others, Islami Bank Bangladesh Ltd's (IBBL) Rural Development Scheme (RDS) is one of the largest microfinance programs. Based on interest-free financing, RDS follows the profit and loss sharing (PLS) model. RDS provides its services to poor people to decrease poverty and ensure the poor's well-being by small and micro-investment. Besides, Muslim Aid Bangladesh (MAB) is another organization provide *Shariah*-based microfinance since 1993. However, compared to conventional microfinance, *Shariah*-based microfinance institutions have an extremely limited presence in Bangladesh as well as other countries (Abul, Chamhuri, Abdul, & Islam, 2012; Abul, Chamhuri, Abdul, & Tareq, 2013; Bhuiyan, Siwar, Ismail, & Talib, 2011; Bhuiyan, Chamhuri, Ismail, & Basri, 2013; Bhuiyan & Hassan, 2013; Bhuiyan, Ismail, & Rashid, 2011; Bhuiyan, Siwar, Islam, & Rashid, 2012; Bhuiyan, Siwar, & Talib, 2012; Bhuiyan, Siwar, Ismail, & Talib, 2011; Obaidullah & Khan, 2008).

Therefore, it is always argued that some clients use all their earnings and profits for consumption purposes. Some have not been able to spend their additional earnings within the project for the future. A very recent study stated that accumulation is needed for future stability, which can be generated from the financial support of microfinance programs (Abdullah, Zainudin, Ismail, Haat, & Zia-Ul-Haq, 2021). As accumulation is essential for the long-term improvement of the beneficiaries' well-being, it is necessary to see whether this improvement is sustainable? Are clients able to increase their assets? The present literature on this issue is not documented properly, and the actual situations in the fields remain unclear. So, more solid research is needed.

Therefore, this study's research goal is to investigate borrowers' opinions on *Shariah*-based microfinance programs to assess the program's effectiveness. It mainly focuses on the impact of borrowers' asset accumulation through income-generating activities and defines the factors associated with them.

## 2. Literature Review and Hypotheses

The literature demonstrates that microfinance is efficient in increasing borrowers earning capacity, spending capability on consumption, and decreasing poverty. For example, household income increased significantly due to the influence of the money invested by microfinance institutions, evidenced by a study conducted on the effectiveness of the Baitul Maal wat Tamwil (BMT) program (Adnan & Ajija, 2015). Other studies conducted on Sri Lanka and Bangladesh perspectives also found a similar result (Ahamad, Bakar, & Lubis, 2016a; Jariya, 2013; Rahman & Ahmad, 2010). The studies further reveal that the micro-investment program contributed significantly and positively to the household's food expenditure and total expenditure. Few studies (Hamdinio & Wan Sabri, 2012; Nur Zaidah,

2011; Saad & Duasa, 2010; Samer, Majid, Rizal, Muhamad, & Rashid, 2015) examine Amanah Ikhtiar Malaysia's (AIM) performance on borrowers household income. The studies reveal that AIM credit services positively impact existing clients' household income and expenditure.

However, researchers argued that the rise in earnings would not have a sustainable effect except they raise the assets, which enable them to be self-sufficient for future investment and growth (Nader, 2008). Asset accumulation is, therefore, reflect on the sustainability of microfinance programs (Creevey, 1996; Nelson, 1996; Sinha & Matin, 1998). accumulation is also an essential indicator for considering the well-being of borrowers (Mago, 2014). It focuses on the improvements in various aspects of human well-being such as increasing personal assets, business assets, etc. A study was conducted on Brunei Darussalam with an in-depth interview of the borrowers of JAPEM's Perkasha Program to measure the effectiveness of the Islamic microfinance program in that country (Morshid & Abdullah, 2013). Repayment rate and business growths were used as dependent variables, and size of the loan and institutional support as the independent variables. The research found that JAPEM is highly effective in increasing the clients' number of business assets. A recent study conducted in Malaysia to explore the women's progress through microfinance intervention found that, after using microfinance loan, borrowers' average household assets increased significantly (Haque, Siwar, Ghazali, Said, & Bhuiyan, 2021).

Rahman and Ahmad (2010) assessed the RDS program of IBBL client's asset accumulation. The study included a house, land, furniture, radio, television, cycle, and cart. The results revealed that over time, all kinds of household assets have increased, suggesting that RDS contains an important impact on their owned assets. Uddin (2008) also found from the RDS program of IBBL that microfinance has a massive impact, which is found in housing and some other socio-economic aspects. A study conducted in seven developing countries with a survey of 13 microfinance organizations and demonstrated that borrowers' assets were raised using microfinance loans (Mosley & Hulme, 1998). Another study measured the effect of Grameen Bank, BRAC, and BRDB's microfinance program on borrowers' asset accumulation and reveal the programs' positive effect on non-land assets (Pitt, Khandker, & Bank, 1996). Different findings, exceptionally mixed results, were reported by few studies that assessed microfinance programs' impact on borrowers' assets in Cairo and Malaysia (Nader, 2008; Saad & Duasa, 2010).

Besides, previous studies (Ameer, 2013; Chowdhury & Mukhopadhaya, 2012; Mawa, 2008; Morshid & Abdullah, 2013; Rahman & Ahmad, 2010; M. T. Rahman & Khan, 2013; Saad & Duasa, 2010; Uddin, 2008), assessed the overall borrowers' performance. The particular focus on asset accumulation still lacks behind. Thus, the present study aims at

the extant body of literature on asset accumulation performance. These previous studies further focused on microcredit loans as the main factor for performance. However, many studies (Atmadja, Su, & Sharma, 2016; Berrone, Gertel, Giuliadori, Bernard, & Meiners, 2014; Rahman & Ahmad, 2010) argued that credit is only one facet of the broader set of issues and microcredit by itself cannot be the single element for success. Some other influential factors, such as training, are also needed to consider. Most of the previous studies examined the effect of training on performance, evidenced by mixed results. This study further considered these factors along with tenure with microfinance origination because very few studies used tenure with microfinance, which is very important to find out the relationship with the indicators of welfare. Besides, borrowers' age and educational status are exposed as the independent variables as these have influencing power.

However, most previous studies assessed the impact of conventional microcredit programs without considering *Shariah* compliance for investment except a few. For example, the study conducted by Rahman and Ahmad (2010); and Bhuiyan et al. (2011) examined the microfinance performances of the Rural Development Scheme (RDS) of Islami Bank Bangladesh Limited. RDS is an associated program of a commercial bank in Bangladesh where other reported interest-free based microfinance provider institutions did not get attention. To observe the broader aspect, the assessment of other interest-free microfinance provider institutions is essential as well.

In addition, these relevant issues are principally interesting to explore in the context of an emerging economy and least developed country such as Bangladesh since more than seven hundred microfinance non-government organizations are working in Bangladesh to reduce poverty and increase financial and asset accumulation capacity (Awal, 2014). Unfortunately, 38.8 million people are still living under the poverty line (Byron, 2017). The capacity building is not evident accordingly. Thus, this study expects to contribute by providing a real scenario along with discussed issues, mainly focusing on borrowers' asset accumulation capacity. Given the backdrop importance of MFIs and emphasis on assets, the following hypothesis are proposed to be tested:

**H1:** Amount of loan has a positive and significant effect on borrowers' household asset accumulation.

**H2:** Tenure with MFIs has a positive and significant effect on borrowers' household asset accumulation.

**H3:** Training has a positive and significant effect on borrowers' household asset accumulation.

**H4:** Age has a positive and significant effect on borrowers' household asset accumulation.

**H5:** Education has a positive and significant effect on borrowers' household asset accumulation.

### 3. Data and Methods

To assess RDS and MAB programs' impacts on borrowers' asset accumulations, primary data were collected from a rural area of south-easternmost parts of the country Chittagong, Bangladesh. This study includes a sample size of 192 respondents following the rules of thumb, that is, a sample size larger than 30 and less than 500 are appropriate for most studies (Roscoe, 1975). Respondents were selected using quota sampling to get information from RDS and MAB microfinance institutions. Ninety-seven respondents from RDS and 95 respondents from MAB were included. Data were collected through interviews. The interviews were face-to-face with beneficiaries involved with RDS and MAB microfinance institutes for at least three years and focused on the program's effect on their household's asset accumulation after joining the program.

**Dependent variables:** This study's main objective is to understand the borrower's asset accumulation with respect to a number of independent variables. It was measured by borrowers' subjective self-reporting. Five items used include improving housing conditions, purchased household appliances, increasing household firm, land, and livestock adopted. All items were anchored on a five-point Likert scale ranging from 1 (decreased greatly) to 5 (increased greatly).

**Independent variables:** The independent variables include the amount of loan, tenure with MFIs, training provided by MFIs, borrower's age, and education level. Amount of loan is defined as total loan received from MFIs and used direct measurement with ratio scale. Tenure is defined as time duration with MFIs and used nominal asked to rate below three years 1 to nine years above 5. Training defined as training received from MFIs and asked to rate if yes = 1 and if no = 0. Age was also directly measured with ratio scale, and for education level, borrowers were asked to rate illiterate 1 to secondary or above 5. Therefore, the multiple regression model used to test the hypotheses and the model has given below:

$$Y_1 = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + u \quad (1)$$

Where  $Y_1$  represents the dependent variable borrower's asset accumulation.  $X_1$  for the amount of loan,  $X_2$  for tenure with microfinance,  $X_3$  for training provided by MFIs,  $X_4$  for the age of borrowers and  $X_5$  for education level. ' $u$ ' for error term, ' $\alpha$ ' represents constant and  $\beta_{1,2,\dots,5}$  are the coefficients of explanatory variables.

### 4. Results and Discussion

First, the impact of microfinance loans on the borrower's household asset accumulations was analyzed using the descriptive method. Data explained descriptively using

frequency and percentages to see whether there are any significant differences between borrowers who experienced an increase in their household after receiving the microfinance loans with those who did not experience any changes. Then the quantitative method followed to test the hypotheses. The findings are described as follows:

#### 4.1. Housing Condition

House is the basic need and shelter of human being. Better housing condition indicates a better quality of life. Lack of safe, decent and livable housing may actually hamper productivity. Low income may be the cause of poor housing quality. Table 1 showed that 88.4% of MAB clients reported that their housing condition improved, while 10.5% reported no change. In the case of RDS, 66.0% improved, but a significant number (33.0%) of clients could not improve the housing condition.

#### 4.2. Household Appliances

Household appliances are also important for household living, and it reflects the living standard of people. Generally, rural poor people suffer from home appliances. Through microfinance loans, poor people are trying to improve their living standards through income-generating activities. This study found that, after three years of receiving and using RDS and MAB loan, clients have partially increased their living standard in household appliances. Table 2 reveals that 80% of clients have increased it, where only 18.9% reported

no change. But in the case of RDS, 62.9% mentioned an increased, while a significant number (36.1%) could not.

#### 4.3. Household's Farm

Agriculture, fisheries, forestry, poultry, small-scale production, small agri-businesses are the main household farms where family members use their labor for productivity. Microfinance clients receive a loan to run these types of business to improve their income, expenditure and living standard. Following this criterion, RDS and MAB also provide a loan to the poor people to run these businesses. Therefore, this study found that clients could not increase the size and type of farm adequately. 57.9% of MAB clients and 64.9% of RDS clients reported that they saw no change, where 41.0% and 34.1% said there was change. This result indicated that, though some clients could increase, most of them could not.

#### 4.4. Household's Land

The household land is the more useful capital asset for rural poor people than any other socio-economic factors. It can be seen in Table 4 that only 27.4% of MAB respondents were able to increase land after joining the program, where 71.5% of respondents saw no change. On the other hand, the number of landless respondents decreased by 1.1%. In the case of RDS, it is also almost the same as for MAB. Some clients could purchase land with the financial gain derived by using RDS and MAB investments, but most of them could not.

**Table 1:** Improvement of Housing Condition After Joining the RDS and MAB Program

Item	Categories	RDS		MAB	
		Frequency	Percent	Frequency	Percent
Housing Condition	Increased	64	66.0	84	88.4
	Remain the same	32	33.0	10	10.5
	Decreased	1	1.0	1	1.1
	Total	97	100.0	95	100.0

**Table 2:** Improvement of Household Appliances After Joining the RDS and MAB Program

Item	Categories	RDS		MAB	
		Frequency	Percent	Frequency	Percent
Household Appliances	Increased	61	62.9	76	80.0
	Remain the same	35	36.1	18	18.9
	Decreased	1	1.0	1	1.1
	Total	97	100.0	95	100.0

**Table 3:** Improvement on Household's Farm After Joining the RDS and MAB Program

Item	Categories	RDS		MAB	
		Frequency	Percent	Frequency	Percent
Household's Farm After Joining the Program	Increased	33	34.1	39	41.0
	Remain the same	63	64.9	55	57.9
	Decreased	1	1.0	1	1.1
	Total	97	100.0	95	100.0

**Table 4:** Improvement of Household Land After Joining the RDS and MAB Program

Item	Categories	RDS		MAB	
		Frequency	Percent	Frequency	Percent
Household's Land	Increased	23	23.7	26	27.4
	Remain the same	74	76.3	68	71.5
	Decreased	–	–	1	1.1
	Total	97	100.0	95	100.0

**Table 5:** Improvement of Household Livestock After Joining the RDS and MAB Program

Item	Categories	RDS		MAB	
		Frequency	Percent	Frequency	Percent
Household's livestock	Increased	45	46.4	54	56.8
	Remain the same	52	53.6	40	42.1
	Decreased	–	–	1	1.1
	Total	97	100.0	95	100.0

#### 4.5. Household's Livestock

To calculate the productivity and income, the number and type of animals owned by the household are essential. Livestock is an critical asset for the family. It is also considered for better household's well-being. Livestock also reflects the household's capacity to reduce the risk and manage consumption necessity in the long run. Therefore, Table 5 showed that 56.8% of MAB respondents reported increased livestock, where 42.1% reported no change. In the case of RDS, the result is also almost the same as for MAB. It indicates that, though the improvement of household livestock increased, a large number of clients could not succeed.

#### 4.6. Discussion

A reliability test was carried out before the variables were used for further analysis. Ideally, a Cronbach's alpha

( $\alpha$ ) coefficient of a scale should be more than 0.7 (DeVellis, 2016). Consequently, Cronbach's alpha for the dependent variable shows in the values of 0.765 with five items that are generally higher than 0.70. Thus, it can be decided that the measure has an acceptable level of reliability.

This study identifies five factors as the independent variables based on previous studies. The five factors include the amount of loan, training provided by IMFs, tenure with IMFs, age and education of borrowers. These five factors were tested against asset accumulations that have been adopted as the dependent variables of the study. It can be seen in Table 6 that only two of them have a significantly influence. The R-square was 0.308%, which means that all the variables can explain 30.8% of the variance in household assets.

Based on the regression analysis results shown in Table 6, the amount of loans had the most significant effect on borrowers' household assets with a positive relationship. The result describes that if the amount of loan increases, microfinance

**Table 6:** Regression Results for the Assets Accumulations

Variables	Beta	T-Ratio	Sig. t
Amount of Loan	0.300	2.594	0.010*
Tenure	0.197	1.698	0.093**
Training	-0.128	-2.006	0.046*
Age of Borrowers	0.047	0.749	0.455
Education	0.108	1.588	0.114

The significant level at 5\* and 10\*\* percent level;  $R^2$ : 0.308.

borrowers can accumulate more household asset by using that amount of loan. The finding is corroborated with Rahman and Ahmad (2010); and Morshid and Abdullah (2013). Tenure with microfinance was also found to have a significant positive effect on asset accumulation. This result also explains that, if time duration with microfinance institution increase, borrowers can accrue more assets for their household. Therefore, training provided by microfinance institution was found a have a significant effect on assets, but the coefficient is negative. This finding denotes that training provided by microfinance institutions is not much effective for asset accumulation. Age of borrowers and education were found no significant effect on assets, but found a positive relationship. The result shows that the education level and age of borrowers have a positive influence, but the factors do not play a vital role for accumulating household asset. Hence the hypotheses for age and education were not fully supported whereas hypotheses for the amount of loan and tenure were substantially accepted.

## 5. Conclusion

This study aimed to investigate RDS and MAB microfinance loans' impacts on one of the sustainable goals, the asset accumulation of rural borrowers. RDS and MAB have tried from the beginning to raise the socio-economic status of the client. The results show that RDS and MAB failed to change the client's household as expected. The majority of RDS and MAB clients said their assets, such as farm, land and livestock, remained the same, but in the case of housing conditions and household appliances, there was a marginal increase. Since this study asserted that borrowers were poor, they spent their income on necessary consumer spending and mandatory savings using as few loans as possible. This could be the reason why households' fixed assets have not changed much after using microfinance loans.

The findings also show that "amount of loan" and "tenure" had the most significant impact on assets and had a positive relationship. The result is aligned with Rahman and Ahmad (2010); Rahman and Khan (2013); Saad and Duasa (2010) in

Malaysia and Bangladesh. The factor "training provided by RDS" seems to have a significant effect, but shows a negative relationship on asset accumulation. On the other hand, "age" and "education" level were found to have no significant effect on asset accumulation. However, the result indicates that the asset accumulation is important because it is the future capital of households and their businesses. Therefore, some aspects such as household farm, land, livestock did not improve as expected. Since these are future investment tools, RDS and MAB need to take certain steps for borrowers to build these assets. The results showed that asset accumulation is directly related to the amount of the loan. Based on these results, MAB, RDS and other microfinance institutions can focus on increasing loan size. Long time with microfinance institution is also important evidenced by the findings. This also suggests that microfinance institution should continue with borrowers for long-time duration and vice versa to enhance their sustainable well-being. A follow-up study should be conducted to determine the impact on different types of household items to see the effect of the limits on wealth accumulation.

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