

THE ISLAMIC MICROFINANCING CONTRIBUTIONS ON SUSTAINABLE LIVELIHOOD OF THE BORROWERS IN BANGLADESH¹

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ABSTRACT

The study investigates the impacts of microfinance on the Sustainable Livelihood (SL) of Islami Bank microfinance schemes in Bangladesh. Towards the achievement of its objectives this study uses descriptive statistical and econometric techniques to assess the Islamic MFIs contributions on sustainable livelihood of the borrowers. The multiple logistic regression model was applied to estimate the parameters that influenced on the position of sustainable livelihood of the poor borrowers. The study found that access to credit has contributed towards reducing the incidence of poverty as well as improving on the status of sustainable livelihood of the borrowers of Islami Bank microfinance schemes. On the other hand, multiple logistic regression model outputs shows that at that place are important positive impacts of microfinance on the position of sustainable livelihood of its poor borrowers. The study recommended for more emphasizing on increase of proper income generating activities, sufficient amount of credit, increase the period of instalment repayment, providing the necessary skills training through complete Zakat based Islamic mode of financing as well as Qard-al-Hasan on the basis of spiritual values as an alternative microfinance model for poverty alleviation in Bangladesh.

Keywords: Islamic Microfinance; Sustainable Livelihood; Islami Bank; Bangladesh.

1. INTRODUCTION

The sustainable livelihood is the key issues over the world. Which comprises of the capabilities, assets and activities required for a means of living where one can cope with

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and recover from external stress and shocks, and maintain or enhance their capabilities and assets now and in the future (Mog, 2004). The human basic rights were deprived since stating times of the civilization through limited income, vulnerability, and a lack of essential assets and opportunities. Chances for anyone to participate in collective decision making are too few in the face of shocks (Roodman & Morduch, 2009). They are surviving in a state of deprivation and face the central problem behind sustainable human development. In the country of Bangladesh, diversity in human poverty is increasing and so is the percentage of the population living under the poverty line every year. The situation of poverty is worsening, with an increasing number of marginal impoverished people every year - from 78.2 million in 1970 to 80.46 million in 2009 (Islam, 2009, Imai and Azam, 2012).

Moreover, the microfinance program is broadly perceived as a pragmatic and attractive method for supplying the poor accessibility to credit, hence bringing down poverty and achieving of sustainable living. In many ways since its design, the idea of microcredit has still been unsuccessful in cutting the overall poverty level in Bangladesh (Amin et al., 2003, Bhuiyan et al., 2012). In the same way, many studies have identified that the interest rate charged by micro-finance Institutions (MFIs), which has a range of 15% to 20% of institutional cases and 33% to 120% in non-institutional cases, as one of the major barriers behind the effective financing solution for the poor in Bangladesh (Amin, Rai, & Topa, 2003; Kabeer, 2001). Moreover, conventional microcredit is stopping the practice of the spiritual, moral and ethical dimensions of human socioeconomic development, which is precious in sustainable human development (Ahmed, 2006; Alam, 2009).

On the other hand, Islamic financing is just a part of daily life among whole parts of activities where Islam wants to provide complete and sustainable ways of human life through establishing justice and goodness in the all virtues of the basic set of social and economic institutions which should be through the ultimate satisfaction of Allah (SWT). Allah (SWT) has clearly communicated in the Quran to assist each other in righteous deeds (Al-Quran, Surah Al Maida, Verse no.2), where an agreement should be written having witnesses with faithfulness between parties where any future transaction is involved (Al-Quran, Sura Baqarah, Verse No.282). But Allah promises you His forgiveness and bounties (Al-Quran, 2:268). In such issues, Islamic microfinance has been recognized as the an alternative to conventional microfinance within the priorities of the spiritual, moral and ethical dimensions of human-socio-economic development. The Rural Development Scheme (*hereafter referred to as RDS*) is the largest Islamic Microcredit program in Bangladesh (Ahmed, 2006, Alam, 2009, Habib et al., 2004, Rahman et al., 2008, Parveen, 2009, Rahman and Ahmad, 2010, Uddin, 2008). In such situations, it is more important to understand how Islamic and conventional microfinancing impact progress towards sustainable development of linking together, in the way of sustainable livelihood of the borrowers.

In such places, it is more important to justify how Islamic microfinancing impact on the progress towards sustainable development of linking together, in the direction of sustainable livelihood of the borrowers. Therefore, this subject proposes to measure the impact of microcredit scheme on sustainable livelihood of the borrowers of of Islami Bank Bangladesh Limited.

2. REVIEW OF LITERATURE

The Islamic financing is providing the complete and sustainable ways of human life through establishing justice and goodness in the all virtues of the basic set of societal and economic institutions towards the ultimate satisfaction of Allah (SWT). The theoretical part of the Islamic microfinance shows that there is a great potential to cater to the needs of the poor. Islamic MFIs has some inherent features that can mitigate some of the troubles confronted by conventional MFIs. Ahmed noted that Islamic banks can provide microfinance more efficiently benefiting from its scale of operations. To support some of the theoretical assertions, empirical evidence is given from the experience of Rural Development Scheme, a microfinance program of Islami Bank Bangladesh Limited (Ahmed, 2004). Moreover, Dusuki in 2006 examined the potential of group-based lending scheme of microfinance. It is argued that group-based lending approach is not a subject alien to Islam, as it is deeply inscribed in Ibn Khaldun's concept of 'Asabiyah' or social solidarity (Dusuki, 2006).

Another study assessed the potential of Islamic financing schemes for micro financing purposes. They argued that Islamic finance has an important role in furthering socioeconomic development of the poor and small (micro) entrepreneurs without charging interest (read: *riba*'). The study also found that there is a nexus between Islamic banking and microfinance as many elements of microfinance could be considered consistent with the broader goals of Islamic banking (Abdul Rahman, 2007). Moreover, Akhter et.al recognized Islamic micro-finance as an important component in poverty alleviation strategies. While conventional microfinance products have been successful in Muslim majority countries, these products do not fulfil the needs of all Muslim clients (Akhter, Akhtar, & Jaffri, 2009). However, Obaidullah and Mohamed-Saleem in 2008 highlight the need for creativity and innovation in poverty alleviation efforts using Shariah compliant mechanisms. Contemporary mechanisms in use by mainstream Islamic banks and financial institutions may indeed be grossly inappropriate in the context of local economies and for financing micro livelihood projects (Obaidullah & Mohamed-Saleem, 2008). Finally, Kaleem and Ahmed in 2010 argue that charity-based Islamic MFIs will be financially and socially sustainable as these are to be based on the concepts of brotherhood, local philanthropy, and volunteer services. Charity-based Islamic MFIs will provide money for consumption as well as production purposes and, thus, can broadly target the economic and social needs of the poorest of the poor. They can help minimize indebtedness and reduce unequal distribution of wealth in society (Kaleem & Ahmed, 2010).

Rahman et al. found in 2008 assessed the achievement of the RDS and its impact on the livelihood of the rural people. The study analysed many facets of the RDS and concluded that it was generally a success. Household income and expenditure had increased significantly and clients had a positive opinion towards the micro investment program as it improved their standards of living (Rahman, Jafrullah & Islam, 2008). In the same way, Akhter et al., in 2009 examined of Islamic microfinance organization operating. The findings of the study indicates that it is providing its services for all living below the poverty line including the "extreme poor" and Interest free loans can be used as a powerful tool against poverty (Akhter et al., 2009). However, Parveen examine about institutional, financial and economical sustainability of the above model by using various indicators.

The empirical analysis of the study revealed that RDS of IBBL has been treated as a sustainable MFI in the rural development and poverty alleviation of Bangladesh within a short span of time since its establishment (Parveen, 2009).

Furthermore, Ahmed in 2006 assesses the extent to which this objective has been achieved by RDS of IBBL. He found that the success of a micro finance program depends on its impact on raising the income of its members and ultimately on improving the living standard of the poor. Identification of the contributory factors of RDS in poverty alleviation shall pave the way for diversification of RDS activities and development plans (Ahmed, Petzold, Kabir & Tomson, 2006). The study also acknowledged about the quotations scholars about the potentiality of Islamic Microfinance in Muslim countries especially they mentioned that the Islami Bank microfinance has considered as a successful provider of credit to the poor borrowers (Alam, 2009; Basher, 2010; Bhuiyan, Siwar, Ismail, & Aminul Islam, 2012; Habib, Haque, Mian, & Bashar, 2004; Rahman & Ahmad, 2010).

3. METHODOLOGY OF THE STUDY

The study used quantitative research approach towards the accomplishment of its aims. The descriptive statistical and econometric techniques to analyze field survey data of existing microcredit borrowers of Islami Bank Bangladesh Limited. The Purposive stratified random sample methodology was applied to take samples of respondents. There are 195 samples have been collected from the survey of the Islamic Bank microcredit scheme for the area of Sylhet and Chittagong Division in Bangladesh. The sample size has been also fixed on the basis of total number of members in the respected area.

Table 3.1: Distribution of sample collection by field area

Items	Study field area of Islami Bank (RDS)		Total
	Sylhet Division	Chittagong Division	
Distributions	71	124	195
%	36.4	63.6	100

Source: Primary Data from Survey

The multiple logistic regression model was applied to estimate the parameters that influenced on the position of sustainable livelihood of the poor borrowers. Moreover, there are available literature which had used the logit model in Bangladesh to assess the effect of the microcredit program on loan utilization, awareness towards the living-standards and women empowerment, had found positive effects. Furthermore, Twine et al., in 2007 used multivariate logistic regression analysis to assess poverty and socioeconomic status (Twine, Collinson, Polzer, & Kahn, 2007). Furthermore, Ahmed, in 2011 explored the association between microcredit-based development programmes and domestic violence against women perpetrated by their husbands through logistic regression (Ahmed, 2011). Adhikari et al. in 2010 also used logistic regression to measure household or individual related factors that determine the magnitude and direction of impacts of these factors (Adhikari et al., 2010). In the same way, Chou et al. in 2006 used logistic regression analysis and found that childlessness and possession of stocks, bonds or funds were positively related to the willingness to consider applying for the plan and

the amount of financial asset (excluding their self-occupied properties) was negatively associated with that willingness (Chou, Chow, & Chi, 2006).

Moreover, Lau and Wong in 2008, used the Multivariate logistic regression to estimate the relationships among concern for face, willingness to seek help, and early postnatal depressive symptoms (Lau and Wong, 2008). Moreover, Rodriguez and Smith in 1994 used logistic regression analysis to estimate the effects of variables on urban, rural, farm, and nonfarm poverty among households in Costa Rica. Results showed the complexity of the issue, and implied policies to expand education through the secondary level, to create more opportunities for rural off-farm employment (Rodriguez and Smith, 1994). Salam et al. in 2005 identified the dominant factors necessary for the sustained participation of farmers; logistic regression analyses were performed (Salam et al., 2005). More studies on Logistic Regression Model: (Giddens, 1979; Hosmer & Lemeshow, 2000; Mosley, 1997; Pitt, Khandker, & Cartwright, 2003; Zaman, 1996; Zaman, 1999).

The logistic regression models for Islami Bank respondent are as follows.

$$\ln \frac{P_i}{1-P_i} = Z_j = a + \beta_i X_i + \varepsilon_i$$

where

$P_i = 1$ if the households “livelihood improved”

$1-P_i = 0$ if not improved

X = the list of explanatory variables

$L = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + u$

Where,

L = Household livelihood status (Dummy variables where having improved=1, Not improved =0); X_1 = Borrower Age (on January 2009); X_2 = Borrowers no education (1= No education and 0= Otherwise); X_3 = Borrowers within primary education (1= up to primary education and 0= Otherwise); X_4 = Respondent Occupation in Agriculture (1= Occupation in Business and 0= Otherwise); X_5 = Respondent Occupation in Business (1= Occupation in Business and 0= Otherwise); X_6 = Dependency Ratio; X_7 = Total Amount of Loan Received (In BDT); X_8 = Present Households Assets (In BDT); X_9 = Monthly Income from Others Sources (In BDT); X_{10} = Household Available of Savings; u = Error term; β_0 = Constant (intercept term); $\beta_{1,2,...,10}$ are the coefficients of explanatory variables

4. FINDINGS AND DISCUSSION

4.1. Contributions of microcredit on human capital

Human capital is one of the most important livelihood assets which comprise the household members’ skills, cognition, and ability to work which in combination enables

people to pursue different livelihood strategies. The following survey output would be capable to make an empirical evidence of how credit contributions affect the advance of their livings.

4.1.1. Borrower's skill development

Table 5.1 indicates the level of borrower's skill development after involvement in credit with Islami Bank microcredit schemes. The survey data were categorized on the basis of five observation scales such as: (i) Highly Disagree=1, (ii) Disagree=2, (iii) Normal=3, (iv) Agree=4 and (v) Highly Agree=5. In the case of respondents' personal confidence improvement, the survey reveals that 59.49% of Islamic Bank respondents said that it had increased and 43.53% after involvement with credit, 21.02% of them said no change. On the other hand, only 19.49 % of credit borrowers said that it had decreased their self-confidence. Furthermore, based on the median value of all responses, the current status of self-confidence is average at 3.49 values of household respondents' self-confidence which means that microcredit borrowers overall have increased their self-confidence by using loans in income generating activities thus improving their standard of animation as well.

On the other hand, in the case of respondents capability of solving own problems, the study found that 56.41% of respondents stated that it had increased and 40.39%. Moreover, 25% of respondents mentioned there is no impact done after involved with credit, but 18.46% said that it had decreased their self-confidence. Furthermore, based on the average value is about 3.47 of the respondents capability of solving own problems respectively. The survey discovered that Islami Bank respondents increased their self-capability of solving own problems through access of credit. In the case of respondents' increase of personal obligation towards the household, the study discovered that 62.56% of respondent's agreed to the increase in their personal responsibility after involvement with credit. 12% of them said no change in their level and only 25.64% of mentioned it decreased their personal obligation towards the family after access of credit. Furthermore, based on the median value of all responses, the current status of personal obligation towards the family is fair at 3.47 respectively.

Furthermore, in the case of growth of personal capacity for operating income generating activities (IGAs), the survey shows that 50.77% of respondents concurred that it had increased their personal capacity for operating income generating activities after involvement with credit. 24% of them said no changes. Moreover, 25.13% of credit borrowers said it decreased. In the same way, based on the average value of the borrower's status of personal capability for operating income generating activities is 3.31 out of five ranks. The overall effect of the survey indicates that micro credits influence the borrowers to operate the businesses for increasing income and improve livelihood status as well. In the case of increase of respondents' capability for controlling loan usage the study shows that only 31.28% of them said it had increased their capacity to control loan usage, 23% mentioned that there are no changes but 47.18% said it had decreased their capability to control loan usage. In the same way, based on the average value borrower's status of capability for control loan usage is average at 2.64 out of five scales. The survey result denoted that males or husbands of the female borrowers are still checking the performance of loan purposes as we know about 95% of the microcredit borrowers are female. That

means the females still don't have enough freedom in the decision making of controlling borrowed money from the MFIs.

In the same manner, in the case of increase in respondents' capability to control household expenditure, the survey establishes that only roughly 29.23% of respondents concurred that it had increased their capacity to control household expenditure. Yet about 30% of them said no changes, but 41.03% of respondents stated that it had decreased their capability to control household expenditure. On the other hand, study also observed that the mean values of capability for control household expenditure is average are about 2.82 respectively. The survey also concluded that still women borrowers are ignored by male members in the decision about household expenditure. The study also found for the capability to control overall household activities, only about 27.69% respondents said it had increased their capability to control overall household activities, 28% said no changes but 44.10% said it had decreased their capability to control overall household activities. The survey also noted that there is an average score of capability for control household expenditure about 2.67 out of five scales. The study result denoted that males or husbands of the female borrowers are still controlling overall household activities.

Table 4.1: The distribution of the level of borrowers skill development after joining microcredit schemes

Issues	Observation Scale					Average Value of Scale	S.D	Proportion of	
	1	2	3	4	5*			high (4 and 5)	Low (1 and 2)
My confidence has increased	18	20	41	80	36	3.49	1.18	59.49%	19.49%
Capability of solving own problems	12	24	49	80	30	3.47	1.09	56.41%	18.46%
Increase my capability of responsibility	24	26	23	79	43	3.47	1.31	62.56%	25.64%
Increase my capability for IGAs	14	35	47	75	24	3.31	1.13	50.77%	25.13%
Increase my capability for control loan usage	54	38	42	46	15	2.64	1.31	31.28%	47.18%
Increase my capability for control household expenditure	33	47	58	36	21	2.82	1.23	29.23%	41.03%
Increase my capability for control my household activities	60	26	55	26	28	2.67	1.41	27.69%	44.10%

Notes: *Highly Disagree=1, Disagree=2, Normal=3, Agree=4 and Highly Agree=5

Source: Primary data from survey

4.2. Contributions of microcredit on physical capital

Physical Capital is one the most important element which belongs to sustainable livelihood issues. Physical capital is significant not just for satisfying people's needs directly, but also for offering access to other capital (e.g. through transport and infrastructure). In particular, Physical Capital means the resources created by people to support their livelihood (at household level: buildings, boat, bicycle, Agricultural equipment's, drinking water, electricity, communication systems as well as equipment and machinery needed to support livelihoods) (Fan et al., 2011, Kuhinur and Rokonuzzaman, 2009) Furthermore, out of these tangible and intangible assets, people construct and contrive a living, using physical labour, skills, knowledge, and creativity. Thus, people pursue a range of livelihood outcomes (more income, food security, health

security, reduced vulnerability, etc.) through different activities, by drawing on a range of assets (Chambers et al., 1992).

4.2.1. Households assets

Household assets are the most important elements for sustainable livelihood and the available sources of household's assets denoted that they have enough resources to continue to support their life by meeting basic needs smoothly. Household total assets have been fixed in this study based on respondent's memory records. The study shows that the total value of respondent's household assets has increased over the last five years. The average value of household assets of respondent's is at present about USD 8542.25 and it was about USD 4553.87 five year ago respectively. The survey reveals that Islami Bank respondent's households were able to increase their average value of household assets by 53.31% compared to five years ago. The above results indicate that microcredit borrowers have made out good in increasing of their household's assets by using the borrowed credit in income generating activities potentially.

Table 4.2: Distribution of household assets before and after joining with Islami Bank credit (Amount in USD)

Households Assets Before and after		
	Before	After
Average Assets	4553.87	8542.25
Changed		53.31%

Source: Primary data from survey

4.2.2. Range of Households' assets before and after

The table 4.3 shows ranges of total household assets before and after joining with Islami bank credit. The ranges values of household assets were classified on the basis of six categories such as: (a) <USD 500 and Less >, (b) <USD 501-1500>, (c) <USD 1501-2500>, (d) <USD2501-3500>, (e) <USD3501-5000> (f) <USD 5001and above >.

Table 4.3: Distribution between range of household assets before and after involved with credit

Ranges of Households Assets before and after involved with credit				
Ranges	Before		After	
	Distributions	(%)	Distributions	(%)
500 and Less	12	6	0	0
501-1500	65	33	29	15
1501-2500	39	20	31	16
2501-3500	25	13	26	13
3501-5000	16	8	36	19
5001and above	38	20	73	37
Total	195	100	195	100

Source: Primary data from survey

The survey found that at present nearly 37% of household have hold ranges of assets from <USD 5001 and above > categories which is considered highest ranges while it was 33% in ranges of <USD 501-1500> before joining with credit. Overall, the study output denoted that Islami Bank respondents' households did well to increase their range of value of household assets over the time period respectively.

4.2.3. Microcredit impacts of household assets

Another query was asked about the changes of the assets, i.e. increased, lessened and no changes after involvement with credit. The survey found the following results: 80% of Islamic Bank credit users agreed that it had increased their assets by using credit. In the same way, 16% borrowers think credit did not influence to increase their assets. Moreover, 4% of respondents alleged that after involving with credit, their household assets had fallen. Therefore, the study output revealed that microcredit has a firm influence in increasing the household's income generating activities which has prompted them to enlarge their clientele as well as livelihood assets.

Table 4.4: Changes of Household Assets after Joining MFIs

Items	Household Assets Changed after joint with credit			Total
	Increased	Decreased	No Changed	
Distributions	156	7	32	195
(%)	80	4	16	100

Source: Primary data from survey

4.2.4. Household ownership of house

The ownership of the household is another significant indicator to see the condition of household livelihood. Table 4.5 reveals that at present, 86% of Islami Bank respondents have their own house for residence while it was 85% of them had own house before five years ago. The survey also discovered that Islami Bank respondents are telling their own house is it is increasing movement in the way sustainable livelihood

Table 4.5: House ownership five years ago and at present of Islami Bank borrowers

MFIs	Household house ownership before and after				Total	
	Before		After		Before	After
	Others	Own House	Others	Own House		
Distributions	31	164	27	168	195	195
%	16	84	14	86	100	100

Source: Primary data from survey

4.3. Contribution of microcredit on financial capital

The financial capital is one of the main supporting factors of resources which are indispensable for the pastime of any livelihood strategy such as: Cash income, savings, supplies of credit and regular remittances or pensions.

4.3.1. Amount of loan received

The financial access of respondents is one of the prime livelihood resources for sustainable livelihood and the available and sufficient sources of household's financial assets denote that they receive enough imaginations to suffer to operate income generating activities thus continue their spirit by satisfying basic needs smoothly. The respondent's total amount of the loan has been accounted in this study based on weekly book records. The table 4.6 displays that the respondent's average amount of loan received from the Islamic Bank where it is roughly USD 633.82. The study also summarized that access of sufficient of loan indicates that Islami bank microcredit borrowers have enjoyed more access to finance where they are able to increase their household income by using the borrowed credit in income generating activities potentially.

Table 4.6: Distribution of the total amount of loan received from Islamic Bank borrowers (Amount in USD)

Amount of loan received from Islami Bank	
Frequency	195
Mean	633.817
Std. Deviation	543.184

Source: Primary data from survey

4.3.2. Availability of savings

In the same way, the able 4.7 shows that in the case of availability of savings for the borrowers, 64.6 % of Islami Bank respondents agreed that they are keeping savings. Where there are also 35.4% of them unable to keeping savings from the monthly income.

Table 4.7: Distribution of availability of savings by Islami Bank borrowers

Items	Availability of Savings		
	No Savings	Available Savings	Total
Distributions	69	126	195
(%)	35.4	64.6	100

Source: Primary data from survey

4.3.3. Change in household income

Table 4.8 indicates that in the event of an increase in borrower household income through the influences of credit the study found that nearly 68.7% of respondents agreed microcredit has played a central role to determine them for using the credit money in income generating activities; that's why they are able to increase their total family income.

Table 4.8: Increase in borrower household income after involved with credit

Items	Increased your family income		
	No Savings	Yes	Total
Distributions	61	134	195
(%)	31.3	68.7	100

Source: Primary data from survey

4.4. Contribution of microcredit to social capital

Social assets include social resources such as nets, social calls, social relations, affiliations, associations, etc. In particular, the poor access within their Networks and connectedness that increases people's trust and ability to knead together and amplify their access to wider institutions, such as political or civic bodies. On the other hand, the membership of more formalized groups which often entails adherence to mutually agreed or commonly accepted patterns, norms and sanctions; and the relationships of trust, reciprocity and exchanges that facilitate co-operation reduce transaction costs and may provide for informal safety nets amongst the hapless.

4.4.1. Social participation and development

Table 4.9 indicates the level of borrower's social development after involvement with credit of Islami Bank credit schemes. In the case of respondents' social participation, the survey discovered that 55.90% of respondents increased their social participation after involvement with credit where 21.02% of them said no changes and 31.28% them noted decreased their active social participation respectively.

Table 4.9: Distribution of impact of credit on the status of Social Capital of the Borrowers

Issues	Observation Scale					Average Value of Scale	S.D	Proportion of high 4 and 5	Proportion of Low 1 and 2
	1	2	3	4	5*				
	Borrowers increase their social participation	8	53	25	75				
Borrowers increase close relationship with group members	14	33	25	89	34	3.44	1.17	63.08%	24.10%
Borrowers cooperate each other for success in their project	35	16	39	74	31	3.17	1.36	53.85%	26.15%
Increased borrowers respect within group members	41	15	55	66	18	3.03	1.28	43.08%	28.72%
Borrowers improved knowledge of social awareness	24	40	37	90	4	3.05	1.12	48.21%	32.82%
Increased borrowers relationship with neighbors	48	26	23	80	18	2.64	1.33	50.26%	37.95%

Notes: *Highly Disagree=1, Disagree=2, Normal=3, Agree=4 and Highly Agree=5

Source: Primary data from survey

The above statistical records revealed that microcredit has influenced the borrowers' participation actively with social organization. On the other hand, study also observed that in the case of respondents close relationship with group members, the study found that some 63.08% of agreed that microcredit significantly motivated them to increase their close relationship with group members while only 24.10% said it decreased their relationship with group members respectively. The study summarized that the Islami Bank respondents increased their good relationship among group members in the way of seeking of sustainable livelihood.

Moreover, in the case of respondents increasing personal cooperation with each other in succession in their own line, the survey discovered that 53.85% of respondents concurred that it improved personal cooperation with each other in succession in their own occupation but still 26.15% of them decreased their personal stage of cooperation among each other respectively. Furthermore, in the case of respondents respect within group members, the study indicates 43.08% of respondents concurred that it had increased their personal respect within group member's perceptions after involvement with credit; whereas about 28.72% said it decreased relationship respectively. In the case of increase in respondents' consciousness regarding social awareness, the survey recorded that just 48.21% of them increased their awareness regarding social awareness, while 32.82% stated that it had decreased their consciousness regarding social awareness. In the same manner, in the case of borrowers' relationship with neighbors, the survey recorded that only 50.26% of increased their relationship with neighbors, while 37.95% stated that it had decreased their relationship with neighbors.

4.5. Impacts of microcredit on livelihood improvement

Table 4.10 shows that in the case of an increase of borrower's livelihood improvement in borrowing loan, 70.30 % of respondents agreed that microcredit has played a key role in influencing them to use the credit money in income generating activities; that's why they are able to increase their livelihood status. Likewise, only 29.70 said microcredits did not play any role in increasing their family livelihood status, which means that they did not use the borrowed credit in income generating activities and instead applied it for consumption and other less potential sectors. In comparison, Islami Bank members are using their borrowed credit in income generating activities potentially.

Table 4.10: Distribution of overall improved Livelihood after access of credit

Items	Overall Improved Livelihood after access of credit		
	No	Yes	Total
Distributions	58	137	195
(%)	29.7	70.3	100

Source: Primary data from survey

Finally, it is clearly denoted that both Islami Bank microcredit schemes are contributing to the improvement of their borrowers' standard of living by providing access to credit for income generating activities.

4.5.1. Logistic regression result of islami bank

The logistic regression model was made to explain the components bearing on the improvement of household livelihood through the access of microcredit. The aim is to get a set of factors of respondents which best allows one to explain their level of household status to be decided if it has bettered. The results of the model were found to be quite satisfactory. The Cox and Snell R^2 are 0.628 and most of the predictions are correct. Moreover, as a modification of the Cox and Snell R^2 , Nagelkerke was also estimated where it was 0.889. Furthermore, the prediction success table is very nicely symmetrical, suggesting that the model does well at predicting both the "improved livelihood" and "not improved livelihood" responses.

The Hosmer and Lemeshow statistic was also estimated, which provides useful data about the calibration of the model that was 4.568. The observed significance level of chi-square value was found to be 0.803 level of significance, which has also been accepted the alternative hypothesis of the manikin. Furthermore, the chi-square tests the alternative hypothesis also accepted that the coefficients for all the terms in the present example, except the constant are 0, which is comparable to the overall F-Test for regression. On the other hand, in the present model, the chi-square value of 192.719 at “P<0.01” significance level indicates that logistic regression is also meaningful in the sense that the dependent variable is related to each specified explanatory variable. Moreover, Log Likelihood statistics are at 46.359 as well as Wald Chi-Square is 28.698 also supports the above output respectively. In the same way, the correlation matrix of the variables was also studied to identify the occurrence of multicollinearity. The model also confirms no multicollinearity, that is, there are no two variables that had a correlation in excess of 0.80.

Table 4.11: Result of logistic regression on livelihood status of Islami Bank

Variables	B	S.E.	Wald	Sig.	Exp (B)
Constant()	-4.538NS	3.114	2.124	.145	.011
X ₁ = Total Amount of Loan Received (In BDT)	.000***	.000	7.741	.005	1.000
X ₂ = Borrower Age (on January 2009)	-.038NS	.057	.427	.514	.963
X ₃ = Borrowers within primary education 1= Within primary education 0= Otherwise	-21.794NS	5100.022	.000	.997	.000
X ₄ = Borrowers above primary education 1= Above primary education 0= Otherwise	1.387**	.832	2.777	.096	4.002
X ₅ = Respondent Occupation in Agriculture 1= Agriculture 0= Otherwise	-.807NS	1.035	.607	.436	.446
X ₆ = Respondent Occupation in Business 1= Business 0= Otherwise	1.720**	1.028	2.799	.094	5.587
X ₇ = Dependency Ratio	.741NS	.532	1.934	.164	2.097
X ₈ = Total Amount of Loan Received (In BDT)	.000***	.000	7.741	.005	1.000
X ₉ = Present Households Assets (In BDT)	.000NS	.000	.009	.925	1.000
X ₁₀ = Monthly Income From Others Sources	.000**	.000	2.625	.105	1.000
X ₁₁ = Household Available of Savings	2.175***	.921	5.572	.018	8.802
Number of Observations= 195					
Chi-square= 192.719					
Wald Chi-Square= 28.698					
Cox and Snell R- Square= 0.628					
Log Likelihood= 46.359					
Nagelkerke R- Square. = 0.889					
Hosmer and Lemeshow Chi-Square= 4.568 at 0.803 Level of significance					
Overall Percentage Correct of predicted= 96.4					

Notes: *** Indicate significant at 99%, ** Indicate significant at 95%, and NS Indicate significant at 90% level respectively.

Source: Primary data from survey

The variable of the borrower's total amount of credit has shown statistically positive significant ($\beta = .0001$ & $P > .005$) variability to the status of livelihood improved and not

improved of Islami Bank borrowers. It is mean that borrower's total amount of credit has strongly influenced to increase opportunity of income generating activities and decrease the status of livelihood vulnerability category respectively. In the same way Imai, Gaiha, et al. in 2012 found that amount of credit significantly reduces poverty at macro level and thus reinforce the case for channeling funds from development finance institutions and governments of developing countries into MFIs (Imai, Gaiha, Thapa & Annim, 2012). However Chowdhury, and Mukhopadhaya in 2012 also find that microcredit are more effective in enhancing the economic wellbeing of the poor as well as contributing more in the social aspects of wellbeing (Chowdhury & Mukhopadhaya, 2012). In the same way, Imai and Azam in 2012 have applied the treatment effects model and PSM to each cross-sectional component of the panel data shows that the MFI effect of reducing of poverty at significantly over the years. (Imai & Azam, 2012). Furthermore, Li, Gan and Hu in 2011 empirically evaluated the impact of microcredit on household welfare outcomes such as income and consumption in rural China. The empirical results favor the wide belief in the literature that the joining microcredit program helps improve households' welfare such as income and consumption (Li, Gan, & Hu, 2011). Furthermore, the variable age of respondents of Islami Bank shows positive effect at the significant level ($\beta = -.038$ & $P > .514$) on the status of livelihood improved and not improved. The study also found that most of the respondents about 56% of their age within 35 years old participating in the microcredit program in Islami Bank. Thus, study summarizes that age is not considered significant as an important factor for poor borrowers rather properly uses of opportunity for income generating activities by using credit accordingly.

However, Islami Bank microcredit respondents within primary education show negative relationship ($\beta = -21.794$ & $P > .997$) on the status of livelihood improved and not improved. On the other hand, the respondent's above primary education and above shows positive coefficient insignificant level ($\beta = 1.387$ & $P > .096$) on the status of livelihood improved and not improved. Thus, these findings revealed that respondents who have received a high level of education are likely to make more income in their family and move out of poverty compared to respondents who do not have primary education. So it can be concluded that higher educated respondents are able to lead high livelihood status in Bangladesh. However, the Islami Bank respondents' occupation in agriculture has negative coefficient ($\beta = -.807$ & $P > .436$) but statistically not significant in the status of livelihood improved and not improved. On the other hand, respondent's occupation in business or income generating activities (IGAs) shows positive coefficient ($\beta = 1.720$ & $P > .094$) on the status of livelihood improved and not improved. The study output revealed that respondents who have invested their borrowed credit in a business or any form of income generating activity, they are earning more income rather than agriculture or other occupations. On the other hand, Rodriguez and Smith in 1994 used logistic regression analysis to estimate the effects of microcredit on urban, rural, farm, and nonfarm poverty among households in Costa Rica. Results showed the complexity of the issue, and implied policies to expand education through the secondary level, to create more opportunities for rural off-farm employment (Rodriguez & Smith, 1994).

Dependency Ratio of Islami Bank respondents shows statistically significant ($\beta = .741$ & $P > .164$) positive influence, but in the significant level on the status of livelihood improved and not improved. The study result indicates that the Islami Bank respondents' households have less opportunity to engage their family members for income generating

activities, but those families have more number of earning members in income generated activities than they are moving from the status of livelihood improved and not improved respectively. Moreover, Stiglitz in 1999 also find that increase household size will lead to increase in dependence rate, which may result to increase poverty (Stiglitz, 1999).

However, present households assets, has also shown positive influence, but not in the significant influenced ($\beta = .0001$ & $P > .925$) level on the status of livelihood improved and not improved of Islami Bank respondents. The output also indicates that the borrowers who increased their family income, those who have large amounts of assets in income generating activities. At the same times, the monthly income from other sources of household has also shown statistically positive significant ($\beta = .0001$ & $P > .0001$) influence on the status of livelihood improved and not improved of Islami Bank respondents. The findings also indicate that income from other sources also influences on the total income of the family and helps to improve the standard of living in the sustainable stage. It also revealed that other earning members of the family have also strong contribution to the family's livelihood to move out from poverty compared to income from microcredit respectively. Finally, Household Savings has also shown statistically positive significant ($\beta = 2.175$ & $P > .018$) influence on the status of livelihood improved and not improved of Islami Bank respondents. The findings also indicate that savings has influenced on the total income of the family and helps to improve the standard of living in the sustainable stage.

5. CONCLUSION

The study aims to assess microcredit contributions on five categories of sustainable livelihood assets for a smooth, sustainable life in the form of human assets, physical assets, financial assets, social assets, and natural assets. In the context of human capital, Islami Bank respondents have done well to improve their human capital after getting access to credit respondents' personal capacities and skills have improved in the case of self-confidence, capability of solving own problems, personal responsibility towards the family, personal capability for operating income generating activities but still poor in terms of respondents' capability to control loan usage, capability to control household expenditure and capability to control overall household activities. Furthermore, Islami Bank credit also contributed to the increase of participation of children's education as well. In the context of physical capital, the study found that credit contributed to the increase of household's assets, own house and structure of the house based on before and after situation. The overall result of respondent's physical capital shown that the excess of credit given the opportunity to earn increasing the household's income generating activities which has motivated them to expand their business as well as livelihood assets. Furthermore, the study result revealed from the financial capital that providing the loan is not sufficient enough for starting a business or income generating activities as per the situation demand. Moreover, study also observed that microcredit could not able to influence more enough to influenced borrowers to keep savings from the monthly income. On the other hand, the study shows that Islamic Bank respondents have done a good record for improving their social capital after getting access to credit. Especially in the context of respondents social participation capacities and skills had improved in areas of respondents membership of social organization, respondents close relationship with group

members, respondents personal cooperation within the group members, respondents respect within group members, respondents consciousness regarding social awareness and borrower relationship with neighbors.

The study also assessed how the contributions of Islami Bank Microcredit schemes towards improve of the sustainable livelihood of the poor borrowers. The findings of the study revealed from the estimated result of logistic regression analysis of Islami Bank microcredit borrowers has a significant relationship between dependent variables and independent variables. In particular, Islami Bank microcredit has shown quite satisfactory level where the Cox and Snell R^2 are 0.628 and Cox and Snell R^2 Nagelkerke is 0.889 which is 0.000 level of significance showing the goodness of fit of the model. The R^2 value indicates that the status of livelihood improvement of respondent's household could be explained by all the independent variables in the model. Thus, the study concluded that there are significant relationships between the household's status of improvement of livelihood through access to microcredit of respondents including other socioeconomic and demographic characters. Finally the study concluded that the Islamic Bank microcredit's have significant impacts on the livelihood improvement of its borrowers. At the end from the above findings, the study reveals that all the explanatory variables are influenced the status of sustainable livelihood of the respondents, especially in achieving education, operating income generating activities, total number of earning members, borrowing credit and income from other sources as main and important factors to improve the livelihood status from the poverty level.

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