Influences of micro-credit programmes on women empowerment in Bangladesh

D. Hossain[1*], M. A. Islam[2] and S. Majumder[2]

[1]Department of Statistics, EXIM Bank Agricultural University Bangladesh, Chapainawabganj-6300, [2]Department of Agricultural Statistics, Bangladesh Agricultural University, Mymensingh-2202, Bangladesh
*E-mail: dilara.hossain@ebaub.edu.bd

Abstract

The focus of this study was to measure the impact of micro-credit programme on women empowerment in Bangladesh. Six leading NGOs/MFIs which operated micro-credit programmes were considered (namely ASA, BRAC, Grameen Bank, SSS, PROSHIKA and TMSS). A total of 406 credit-receivers were randomly selected from twenty-six villages in eight districts of Bangladesh viz., Dhaka, Mymensingh, Sherpur, Netrokona, Kishoregonj, Sylhet, Lalmonirhat, and Narsingdi. The study revealed that 68.5 percent of the respondents could change their empowerment situation. By the estimated change in empowerment it was realised that 15.8 percent of the respondents experienced positive change in their empowerment situation. The main factors affecting the change in women empowerment were membership of different micro-credit organizations, poverty change due to micro-credit and use of loaned money. In single level logistic regression model, the change in poverty situation due to micro-credit had positive association with the perceived change in women empowerment. On the other hand, in multinomial regression analysis the change in poverty situation due to micro-credit had a negative impact on the estimated change in empowerment situation. This contradiction dictates for further investigation into the issue possibly at different component levels of women empowerment. Finally, this research recommended that micro-credit organizations should increase the amount of loan to at least Tk. 15000 encouraging the clients to invest in less risky business with efficient follow up programme.

Keywords: Micro-credit, Women empowerment, Client's perception

Introduction

Women empowerment is considered as one of the main tools to ensure the wellbeing of the women in the world. It is more important in developing countries like Bangladesh where the effect of male dominancy is acute. Some studies show the significant positive correlations between micro-credit and women empowerment (Habib and Jubb, 2012; Parveen, and Leonhauser, 2004; Pitt and khandker, 1996; Hashemi et al., 1996; Islam, 2011), while others (Geotz and Gupta, 1996; Kabeer, 2001; Faraizi et al., 2010; Hashmi, 2012; and Melik, 2010) assert that microcredit is neither a solution to poverty nor a tool to empower women.

There was little chance of women empowerment especially in Bangladesh by using the formal credit programmes of the different authorities (banks) because most of the poor women remained outside of the reach of that credit programmes. Micro-credit came out as an efficient system to engage the women in the credit process. Bangladesh is the birth place of micro-credit and has seen a dramatic expansion of the micro-credit activities almost every corner of the rural Bangladesh. Recently many national, international and local NGOs/MFIs has been operating micro-credit programmes in Bangladesh. Different micro-credit organisations have different operational structures with different interest rates. Hence, the influences of the credit programmes on women empowerment are likely to be different. In such a situation, the performance of the micro-credit programmes by different organisations in uplifting the women empowerment status should be evaluated systematically. The study aimed at comparing the likely influences of the micro-credit programmes of six leading NGOs/MFIs like BRAC, Grameen Bank, ASA, PROSHIKA, TMSS and SSS on women empowerment in Bangladesh. The specific objectives of the study were to i) identify the women empowerment status among the micro-credit clients; ii) formulate a suitable technique to measure the change in women empowerment status among the clients of different credit organisations, iii) verify if micro-credit programmes had any significant effect on the women empowerment; and iv) identify which of the organisations offering micro-credit had contributed more in women empowerment.

Materials and Methods

Members of Bangladesh Rural Advancement Committee (BRAC), Grameen Bank, PROSHIKA, Association for Social Advancement (ASA), Society for Social Service (SSS) and Thengamara Mohila Sabuj Sangha (TMSS) were chosen for the study. For conducting the study we worked at eight districts namely Mymensingh, Sherpur, Netrokona, Kishoreganj, Dhaka, Narshingdi, Sylhet and Lalmonirhat. In these eight districts, twenty-seven villages were selected purposively. A total of 406 micro-credit clients were chosen randomly for the study (Table 1). The survey was conducted during July 2011 to June 2012. The impact of micro-credit on women empowerment was measured in two ways namely, perceived change and estimated change. Perceived change in empowerment was realized by asking the respondent if there had been any change in their empowerment status due to micro-credit. On the other hand, estimated change in women empowerment was derived by employing scientific measurement tool which is discussed below.

Table 1. Distribution of respondents according to districts and name of NGOs/MFIs

Name of Districts	Total respondents	Name of NGOs	Total respondents
Dhaka	56	ASA	85
Mymensingh	124	BRAC	86
Sherpur	60	GB	84
Kishoreganj	59	SSS	40
Netrokona	51	PROSHIKA	71
Sylhet	20	TMSS	40
Lalmonirhat	20		
Narsingdi	16		
Total	406	Total	406

Measures of index of women empowerment

Mobility

The respondent was presented with a list of three places (the market, a medical facility, and someplace outside the villages) and asked if she had ever gone there. She was given one point for each place she had visited with her husband and an additional point if she had ever gone there alone and she was given 0.5 point for each place she had visited with other person. She had been given no point if she did never go outside (hypothetical range: 0 to 2).

Ability to make decision about small purchases

Two points were given if the respondent was able to take decision about the purchase of small items used in daily preparation of food for the family (such as kerosene oil, cooking oil, or spices, etc.), one point was given for taking decision about purchasing the items by the respondent with her husband. In the same way 0.5 point was given for making decision about purchasing daily necessary items by the respondent and anyone else (father-in-law, mother-in-law etc. other than her husband). She had been given no point if she had no decision making power on small purchases in her family (hypothetical range 0 to 2).

Ability to make decision about large purchases

Similarly, respondents were asked whether they purchased the following items: pot and pans, children's clothing, saris for themselves etc. Two points were given if the decision had been taken by the respondent herself about large purchases, one point was given for the decision taken by the respondent and her husband jointly and 0.5 point was given if the decision had been taken by the respondent and anyone else jointly. She had been awarded no point if she had no decision making power on large purchases in her family (hypothetical range 0 to 2).

Taking decision about respondent's own medical treatment

Two points were given for taking decision about respondent's own medical treatment by herself and one point was given if the decision had been taken by the respondent and her husband jointly. 0.5 point was given if the decision had been taken by the respondent and another person (other than her husband) jointly. No point was awarded if the decisions about the medical treatments of the respondent had been taken by the other persons rather than the respondent herself (hypothetical range 0 to 2).

Ability to take decision about respondent's own income

Respondents were asked whether they could take decision about the expenditure of their own income or not. Two points were given for the decision which had been taken by herself. Similarly, one point was given for the decision taken by the respondent with her husband jointly, 0.5 point was given if the decision had been taken by the respondent and another person (other than her husband) jointly and no point was given if the decision had been taken by anyone else other than the respondent (hypothetical range 0 to 2).

Index of women empowerment

Scores in the above five components were summed up to find the total score of empowerment of a respondent. Similar scores were derived before and after the client had been involved in micro-credit. The difference between the two periods could give the change in women empowerment due to micro-credit, which might be termed as 'Index of women Empowerment'. The index was coded into three categories. They were 'negative change', 'no change' and 'positive change' category. If the index got a negative value, it indicated that there was 'negative change' in women empowerment. A zero value in the index was defined as 'no change' which indicated that there was no change in empowerment situation among the respondents. If the index got a positive value, it indicated a 'positive change' in empowerment situation of the respondent due to micro-credit.

Bi-variate analysis

The relationship between different variables were examined using bi-variate tables and the strength of the associations were ascertained by using chi-square test.

Binary logistic regression model

Let Y be a dichotomous dependent variable, say change in women empowerment taking values 0 and 1 and suppose that Y=1, if there is a positive change and Y=0, otherwise. Also let X be an independent variable. Then the form of the logistic regression model is

$$P = p(Y = 1/X) = \frac{e^{\beta_0 + \beta_1 X}}{1 + e^{\beta_0 + \beta_1 X}} \quad \text{And,} \quad 1 - P = p(Y = 0 \mid X) = \frac{1}{1 + e^{\beta_0 + \beta_1 X}}$$

Then a transformation of P known as the logit transformation and is defined as

$$g(x) = \text{logit } P = \log\left[\frac{P}{1 - P}\right] = \beta_0 + \beta_1 X$$

There are many desirable properties of this transformation g(x). The logit, g(x) is linear in its parameters. It may be continuous and may range from $-\infty$ to $+\infty$.

Depending on the range of x for more than one independent variable the model can be generalized as

$$g(x) = \text{logit}(P_i) = \beta_0 + \sum_{l=1}^{k} \beta_l X_{il} \quad ; \qquad l = 1, 2, \ldots, k; \text{ and } i = 1, 2, \ldots, n.$$

Multinomial logistic regression analysis

The multinomial logistic regression is used when the dependent variable is categorical and consists of more than two categories. The interpretations of multinomial logistic regression models are similar to the binary logistic regression model, just as opposed to the common base category. Let the response variable has J mutually exclusive and exhaustive categories, denoted by j=1, 2,..., J. The jth category is taken as the reference category for the response variable. Because the ordering of the category is arbitrary, any category can be j[th] category, so that the choice of the reference category is also arbitrary.

Let there are also k predictor variables, denoted by x_1, x_2,..., x_k. The multinomial logit model is then specified in log odds form as:

$$Log \frac{P_i}{P_j} = \sum b_{jk} x_k \quad ; \qquad j = 1, 2, \ldots, J\text{-}1; i \neq j.$$

The dependent variable (estimated change in women empowerment) was categorized as:
Positive change in women empowerment situation = 2
Negative change in women empowerment situation = 1
No change = 0

Results and Discussion

Differentials of perceived change in women empowerment

Table 2 revealed that 68.5 percent of the respondents perceived that micro-credit brought positive change in their empowerment situation, while 31.5 percent reported to have no change (not shown). Different types of NGOs or MFIs were significantly associated with the change in empowerment situation. The change in empowerment was the highest among the members of TMSS compared with the members of other NGOs/MFIs (Table 2). About 92.5 percent respondents of TMSS said that their empowerment situation had been changed. In case of ASA, this percentage was the lowest and it was only 44.7 percent.

Table 2.   Perceived change in empowerment situation by different demographic and socio-economic characteristics

Characteristics	N	Change in empowerment	
		Yes	No
Age (p=.852)			
15-25	102	64.0	36.0
26-35	149	69.8	30.2
36-45	94	70.2	29.8
Above 45	61	71.7	28.3
Name of NGOs/MFIs (p=.0001)			
ASA	85	44.7	55.3
BRAC	86	62.8	37.2
GB	84	70.2	29.8
SSS	40	90.0	10.0
PROSHIKA	71	76.1	23.9
TMSS	40	92.5	7.5
Amount of loan (p=.005)			
1000-5000	58	65.5	34.5
6000-10000	193	63.7	36.3
11000-15000	60	71.7	25
Above 15000	95	77.9	22.1
Use of loan (p=.0001)			
Business	224	75.4	24.5
Agriculture	84	59.3	39.5
Was told nothing	34	38.2	61.8
Others	64	72.6	27.4
Total	406	68.5	31.5

Note: p values are based on chi-square tests. Row percentages for change in empowerment situation add to 100.

There was a significant statistical association between the amount of loan and the change in empowerment situation. The number of respondents was the highest who received loan within the range Tk.6000 to Tk.10000. However, the respondents who received loan of an amount more than Tk.15000 perceived to be more empowered (77.9%). There was a significant association between the utilization of borrowed money and the change in empowerment situation. It was found that the respondents who utilized their borrowed money for business purpose (75.4 percent) were more empowered than the other.

Differentials of estimated change in women empowerment

The results of Chi-square tests between the independent variables and estimated change in empowerment situation are presented Table 3. For the convenience the estimated change in empowerment situation may sometimes be termed as 'empowerment index'.

It is seen that among the respondents 74.9 percent had no change in their empowerment situation due to micro-credit programmes by different NGOs/MFIs, while 9.4 percent had negative change and only 15.8 percent respondents had the positive change (not shown). The women empowerment situation changed positively mostly among the members of SSS (57.5 percent) than the members of rest of the NGOs/MFIs and in case of TMSS it was the lowest (2.5 percent) (Table 3). In the case of negative change in empowerment Grameen Bank ranked the highest (14.3 percent) and TMSS ranked the lowest (0%).

From Table 3, it is observed that, amount of loan was insignificantly associated with the change of women empowerment. Higher positive change in empowerment was seen in the case of higher amount of loan. Respondents taking loan above Tk. 15000 were more positively empowered than the others.

Use of loan was significantly associated with the change in women empowerment. The number of respondents was the highest who used their loan money in business activities. However, the respondents who used their loan in other purposes (other than business and agriculture) were found be more empowered than the others. The other purposes included house construction, land purchase and the purchase of van, rickshaw, CNG, auto-rickshaw, sewing machine, furniture etc.

Table 3. Estimated change in empowerment situation by different demographic and socio-economic characteristics

Independent variables	N	Change in empowerment situation (%)		
		Negative	No change	Positive
Age (p=.574)				
15-25	100	8.0	77.0	15
26-35	149	7.4	73.2	19.5
36-45	94	12.8	74.5	12.8
Above 45	60	10.0	78.3	11.7
Name of NGOs/MFIs (p=.0001)				
ASA	85	10.6	68.2	21.2
BRAC	86	12.8	75.6	11.6
GB	84	14.3	76.2	9.5
SSS	40	5.0	37.5	57.6
PROSHIKA	71	5.6	88.7	5.6
TMSS	40	0.0	97.5	2.5
Amount of loan (p=.417)				
1000-5000	58	10.3	82.8	6.9
6000-10000	193	7.8	76.2	16.1
11000-15000	60	11.7	71.7	16.7
Above 15000	95	10.5	69.5	20.0
Use of loan (p=.001)				
Business	224	4.9	79.0	16.1
Agriculture	84	18.6	68.6	12.8
Was told nothing	34	14.7	82.4	2.9
Others	64	9.7	64.5	25.8
Affordable loan (p=.764)				
Yes	248	9.3	76.6	14.1
No	8	12.5	62.5	25.0
Very difficult	149	9.4	72.5	18.1
Level of satisfaction (p=.166)				
Yes	367	9.8	75.2	15.0
No	30	6.7	76.7	16.7
Others	9	0.0	55.6	44.4
Income after loan (p=.411)				
1000-5000	63	3.2	74.6	22.2
5001-10000	127	6.3	80.3	13.4
10001-15000	80	11.2	70.0	18.8
15001-20000	36	8.3	66.7	25.0
20001-100000	21	9.5	66.7	23.8
Field worker visit (p=.685)				
Yes	309	9.4	75.7	14.9
No	97	9.3	72.2	18.6

Note: p values are based on chi-square tests. Row percentages for change in empowerment situation add to 100.

The association between the estimated change and perceived change in empowerment situation was determined by Chi-square test and the result has been presented in terms of *p*-value (Table 4). From the results it could be suggested that both the measures of empowerment change were significantly associated. About 84.4 percent of the respondents identified to have positive change in empowerment (estimated) situation reported that they were empowered (perceived).

Table 4. Estimated change in empowerment situation by perceived change (%)

Estimated change in empowerment situation (*p*=.004)	Perceived change in empowerment situation (%)	
	Yes	No
Negative	76.3	23.7
No change	64.1	35.9
Positive	84.4	15.6

Determinants of perceived change in women empowerment

Among the variables considered in regression analysis, only three variables (viz., NGOs, change in poverty situation and the purpose in which money was used) had significant association with the change in empowerment situation (Table 5). It is to be noted that the change in poverty situation was measured according to Khatun *et al*. (2012).

Table 5. Linear logistic regression estimates of the effects of different socio-economic characteristics on perceived change in women empowerment

Independent variables	B	S.E.	Odds Ratio
Name of NGOs/MFIs (r: GB)			
ASA	-0.904[***]	0.350	0.405
BRAC	-0.242	0.348	0.785
SSS	1.294[***]	0.617	4.925
PROSHIKA	0.558	0.396	1.748
TMSS	1.608[***]	0.668	4.975
Poverty change due to micro-credit (r: no change)			
Marginal change	0.394	0.414	1.483
Adequate	0.421	0.418	1.524
Safe	1.083[***]	0.364	2.953
Use of loan (r: other)			
Business	0.388	0.364	1.474
Agriculture	-0.711[*]	0.409	0.491
Was told nothing	-0.756	0.506	0.470
Intercept	0.102	0.487	

Note: r denotes to reference category; * p<0.10 and *** p<0.01 are the levels of significance.

The results of the binary logistic regression model showed that among the six NGOs/MFIs, ASA had significantly negative, while SSS and TMSS had significantly positive effect on the change in women empowerment. Islam *et al*. (2012) also identified TMSS as the best performing NGO among the selected NGOs/MFIs using a set of characteristics. It was observed that the members of ASA were 0.405 times significantly less likely to experience positive change in empowerment situation than the respondents belonging to GB. Similarly, it could be said that members of SSS and TMSS were respectively 4.925 and 4.975 times significantly more likely to experience change in empowerment situation than the respondents of GB. This might be due to the structural differences of the NGOs/MFIs which led to differences in performances. Similar was observed in a study of the impact of micro-credit on poverty alleviation (Khatun *et al*., 2012). Also Islam *et al*. (2012) revealed that regional NGOs/MFIs may perform better than the national NGOs/MFIs due to their simple structure and flexibility in operation. It was also observed that the respondents who had safe change in their poverty situation due to micro-credit were 2.953 times more likely to experience change in empowerment situation than the respondents who had no change in their poverty situation.

The results showed that the respondents who used their loan money in agricultural sector were 0.491 times less likely to experience change in their empowerment situation than the respondents who used their loan money in other purposes such as buying land, van, rickshaw, CNG, auto-rickshaw, sewing machine, furniture, family member's health care, education of children etc.

Determinants of estimated change in women empowerment

The respondents who were engaged with ASA were 3.924 times more likely to experience positive change in their empowerment situation than the respondents belonging to GB when compared with the respondents having no change in empowerment situation (Table 6). The respondents belonging to SSS were 17.679 times more likely to experience positive change in empowerment situation than the respondents belonging to GB when compared with respondents having no change in empowerment situation.

On the other hand, the respondents belonging to TMSS were 0.170 times less likely to experience positive change in their empowerment situation than the respondents of GB when compared with the respondents having no change in their empowerment situation. The respondents who had marginal change in their poverty situation due to micro-credit were 0.231 times less likely to achieve positive change in their empowerment situation and respondents who had adequate change in poverty situation were 0.141 times less likely to achieve positive change in their empowerment situation than the respondents having no change in poverty situation when compared with no change in empowerment situation.

Table 6. Multinomial logistic regression estimates of the effects of different socio-economic characteristics on estimated change in women empowerment

Independent variables	Positive change			Negative change		
	B	S.E.	Odds ratio	B	S.E	Odds ratio
Name of NGOs/MFIs (r: GB)						
ASA	1.367***	0.497	3.924	-0.561	0.522	0.571
BRAC	0.375	0.521	1.494	-0.292	0.491	0.747
SSS	2.872***	0.587	17.679	-1.497	0.887	0.224
PROSHIKA	-0.226	0.612	0.798	-1.694**	0.669	0.184
TMSS	-.1.774*	1.091	0.170	-20.983***	0.000	0.000
Poverty change (r: no change)						
Marginal change	-1.466***	0.574	0.231	-1.314**	0.685	0.055
Adequate	-1.959***	0.660	0.141	-1.078**	0.547	0.049
Safe	-0.152	0.421	0.859	-0.830	0.523	0.113
Use of loan (r: others)						
Business	-0.165	0.433	0.848	-1.178**	0.572	0.308
Agriculture	-1.110**	0.539	0.330	0.725	0.573	2.065
Was told nothing	-2.098*	1.130	0.123	0.092	0.704	1.069
Intercept	-1.502	0.552		-0.612	0.569	

Note: r denotes to reference category; * $p<0.10$, ** $p<0.05$, and *** $p<0.01$ are the levels of significance.

The use of borrowed money had significant effect on the change in empowerment situation. The respondents who used their loan money in agricultural purpose were 0.330 times less likely to experience positive change in empowerment than the respondents who used their loan money in other purposes when compared with the respondents having no change in empowerment situation.

On the other hand, respondents of PROSHIKA were 0.184 times less likely to experience negative change in empowerment situation than the respondents of GB when compared with no change in empowerment situation. Again, the respondents who achieved marginal change (for details see Khatun et al. 2012) in their poverty situation using micro-credit were 0.055 times less likely to experience negative change in their empowerment situation than the respondents experiencing no change in their poverty situation due to micro-credit when compared with no change in empowerment situation. Also the respondents who achieved adequate change in their poverty situation using micro-credit were 0.049

times less likely to experience negative change in their empowerment situation than the respondents experiencing no change in their poverty situation due to micro-credit when compared with no change in empowerment situation. The respondents who used their loan money in business purpose were 0.308 times less likely to experience negative change in their empowerment situation than those who used their loan money in other purposes when compared to no change in empowerment situation.

Conclusion

This study attempted to evaluate the performances of different NGOs/MFIs on women empowerment situation. The research findings suggested that achievement in women empowerment was different among different NGOs/MFIs. In the case of perceived change in women empowerment, TMSS exhibits the best performance. In the current study it was identified that the respondents who took loan above Tk.15000 were found to be more empowered than the others. It is comprehendible that only higher amount of loan may not necessarily ensure appreciable change in women empowerment. There are other factors that work simultaneously. Women empowerment has different components in it which vary in different directions among different socio-economic groups. One important findings of the research is that performance of microcredit depends on the sectoral use of loan money. It is evident that if the loan money is used in sectors where relatively less risk is involved (e.g., buying land, van, rickshaw, CNG, auto-rickshaw, sewing machine, furniture, family member's health care, education of children, etc.) positive gain may be achieved in women empowerment compared to other sectors (e.g., business, agriculture). Micro-credit programmes may revise their focuses in that respect. Another insightful observation is that unless respondents reach the safest level of poverty alleviation they are unstable in achieving sustainable level of women empowerment. Hence, micro-credit programmes should have a provision to keep track of the old members in terms of extended loan or counselling support to help them sustain their achievements in women empowerment. Now-a-days gender is a core component of most of the NGOs/MFIs. Hence, a suitable monitoring and evaluation strategy would accelerate the process of achieving women empowerment to its fullest extent.

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