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IMPACT OF GRAMEEN BANK'S MICRO CREDIT PROGRAM ON THE LIVING STANDARD OF RURAL WOMEN : A STUDY OF BOGRA DISTRICT

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Abstract : Micro credit is an important instrument to achieve the goal of increasing living standard of the poor. The origin of micro credit can be traced back to 1976, when Muhammad Yunus set up the Grameen Bank (GB). GB included the provision of collateral free loans to poor people, especially in rural areas. This study investigate the impact of micro-credit program of Grameen Bank on living-standard of rural women. Both primary and secondary data are used in this study. Econometric analysis, tabular analyses are used for a surgical analysis of the impact of microcredit. Study results show that Grameen Bank has worth noticing positive effect on generating income and increasing consumption of borrowers. Positive impact has taken place on the ground of sources of drinking water, nature of medical treatment, lighting condition of houses. On the contrary, the credit program of GB is hardly related to the changes in educational qualification of borrowers.

Bangladesh is one of the developing country in the world. So the poverty reduction remains the most creepy challenge for Bangladesh. Almost half of the total population is still living below the poverty line, earning less than \$ 1 a day. They do not earn enough money to meet basic needs like food, housing, clothing, education and health care. Apart from this, Bangladesh is a country having a very poor financial market. In such type of market the introduction of the micro credit was a financial innovation. In recent years, micro credit, in its widest dimension known as microfinance, has become a much favored intervention for poverty alleviation in the least developed countries and the developing countries as well.

The rural poor do not have the capacity to start any income generating activities due to lack of financial capital. They also have very limited access to the formal financial institutions because of the inability to fulfill the collateral requirements. In order to widen the rural poor's access to finance, microcredit program has been launched, which requires no collateral to obtain loans. The major goal of the microcredit program is to provide financial capital to the rural poor in order to engage them in income generating activities for alleviating their poverty. The principle of group-based micro-credit program, initiated by Dr. Yunus, a professor of economics,

Chittagong University, Bangladesh in 1976 has been acknowledged as a model of poverty alleviation. It has created a notion of high expectation since early 90's as a powerful instrument of creating freedom and self-employment opportunities for the distressed rural poor. At present, micro-credit programs following 'Grameen Bank Model' are being run in more than seventy countries of the world for the eradication of massive poverty from the countries in question.

The clients of micro credit are generally poor and low income people. Poor people use micro credit in two dimensions: they use loans for consumption or other non-productive activities like marriage, to pay for the dowry, medicine, or brokerage fees to overseas recruiting agents, and they use loans for productive activities leading to an increase in production, for example, starting a small business, or other self employment activities, like small scale poultry or cattle rearing and for cultivation etc.

Here, the study has mainly used field survey data and Econometric analysis. After analysis researcher gets that Grameen Bank (GB) has a positive impact on generating income of borrower households, has upward influence on increasing consumption and is hardly related to the change in educational qualification of borrowers. Sources of drinking water, the nature of medical treatment, lighting condition of houses of borrowers have been changed positively. Objectives and Methodology of the study

As about 97% borrowers of Grameen Bank are female, the prime objective of the study is to test the impact of micro credit given by Grameen Bank on rural borrower women, furthermore, to recommend on policy measures for the optimal use of microcredit to alleviate rural poverty.

The study intends to explain the variations in the major indicators of living standard of borrower women. The methodology adopted for this study is exhibited as follows:

Bogra district of Bangladesh has been selected as a study site. There are ten branches in Bogra district. Out of these ten branches two are selected on the basis of purposive sampling. The selected study area bears the usual characteristics of rural Bangladesh and therefore it was expected that the findings of the study would represent rural Bangladesh. Considering practical constraints, including time and resources, the study site was selected purposively. However, researcher took all possible care and steps in making sure the quality of the data to achieve the objectives of the study.

Estimation of Sample Size

The method of statistical estimation of sample size has been employed in this study. In conformity with the formula that, if the study population is more than 10 thousand, the formula of sample size estimation is $Z^2 \times pQ / D^2$. Here, 'Z' is a normal standard variant, 'p' and 'Q' are the probabilities where $Q=1-p$

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and D the acceptable error. From this formula, the estimated sample size of the target group is 192 but at the conclusive stage the sample size has been made 194 with a view to avoiding any difficulty at the time of data analysis and interpretation.

Sampling Procedure

In the present study two types of sampling have been adopted, i.e. (i) purposive sampling (ii) simple random sampling. In view of socio-economic condition, two types of villages are found in the study area such as middle class village and disadvantaged village. To collect primary data from the borrowers, 6 centers of the selected branch have been selected through purposive sampling so that both types of villages are included. Then researcher had collected the names and addresses of the total 600 borrowers from the selected 6 centers. Then researcher had finally selected 194 borrowers as respondents through simple random sampling.

Data Collection Procedure

The population for the study encompasses the people who have been engaged in microfinance activities of GB for at least one year and live in Bogra zone, Bangladesh. The researcher had used structured questionnaire for collecting the data by interviewing the clients attached to the GB. Background questions about gender, age, education, number of family members and living standards, and questions related to income, saving, capital etc. were included in the questionnaire.

The people for the interview were selected randomly. In order to collect desired information, informal and unstructured discussion sessions were held with knowledgeable people other than the group mentioned. In addition, direct observation was also employed as another major source of collecting primary data.

The researcher had used several books, research literatures, articles, journals, thesis and internet as secondary sources for this study. Although the result of the research was highly dependent on the primary sources that researcher had gathered from the structured interview, but it also required some secondary sources to understand the concepts, definitions, theories and empirical results. Most of the sources were reliable and acceptable almost everywhere.

Research Methods

Expressing the impact of microfinance on the general people of a country with the help of few sentences is not easy. On one hand, some impacts can be shown only in numerical figures, like savings and income, while on the other hand other impacts can be expressed only in descriptive ways, like, access to education, business experience, etc. When researcher made the questionnaire, it was trying to make it fully structured to get most of the impact of microfinance on the society. In the questionnaire, researchers tried

to combine the numerical questions as well as some non-numerical questions. Hence, this study also focuses on the numerical data and performs the statistical tests. Econometric analysis has been carried out to test the impact of micro-credit taken from Grameen Bank on Living standard of borrowers.

Multiple regression model has been used for this purpose which is exhibited as follows:

$$Y = \beta_1 + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_3 + \mu \dots\dots\dots(1)$$

Where, Y = Dependent variable

X_1, X_2, X_3 = Independent variables

$\beta_2, \beta_3, \beta_4$ = Coefficients

β_1 = Constant

μ = error term

It this study OLS procedure has been used to estimate the impact of independent variables on the dependent variable. Apart from this, 'F' test for the regression model, 't' test, adjusted R^2 , multicollinearity have been taken into account to test the impact of micro credit.

The socioeconomic condition of the respondents before and after joining GB Here, socio-economic condition of GB borrowers before and after joining GB has been exhibited. All of GB borrowers were female. Data have been presented in tabular and graphical form and then followed by an interpretation.

Educational Status of Respondents

In this study, two types of educational qualification, i.e. Illiteracy & Literacy have been taken into account to show the Educational status of the respondents before and after joining GB.

In accordance with the following table, before attachment with GB, 68.04 percent respondents were found as Literate but after joining GB, it becomes 68.55 percent. On the other hand, 31.95 percent respondents were found as Illiterate before joining GB but after joining GB, it becomes 31.44 percent. So, the contribution of Grameen Bank on the increasing educational qualification of borrower respondents is hardly seen.

Table 4.1: Educational Status of the Respondents

Educational status	Before attaching with GB		After attachment with GB	
	No. of respondents	Percentage	No. of respondents	Percentage
Literate	132	68.04	133	68.55
Illiterate	62	31.95	61	31.44
Total	194	100	194	100

Source: Field survey

Monthly Income of the Respondents

The table 4.2 shows that before attachment with GB, 8.24 percent of the total 194 respondents earned below Tc. 500 monthly whereas 13.40 percent of respondents

had income between Tk. 501-1000 as well as almost 50 percent respondents earned below Tk. 1500, but after joining GB there is no respondent borrower on the ground of income below Tk. 1500. Before attachment with GB, The highest level of income among the respondents was only Tk. 3500 of which only 6.18 percent respondents had income levels between Tk. 3001-3500 but after joining GB, only approximately 23 percent respondent's income remains below Tk.3500 and the rest of the respondent's income goes up to between Tk. 3500-9500 and above.

Table 4.2: Monthly Income of the Respondents

Income Level (in Tk)	Before attaching with GB		After attachment with GB	
	Frequency	Percentage	Frequency	Percentage
0 - 500	16	8.24	0	0
501 - 1000	26	13.40	0	0
1001 - 1500	54	27.83	0	0
1501 - 2000	41	21.13	4	2.06
2001 - 2500	21	10.82	4	2.06
2501 - 3000	24	12.37	14	7.21
3001 - 3500	12	6.18	22	11.34
3501 - 5500	0	0	94	48.45
5501 - 7500	0	0	38	19.58
7501 - 9500	0	0	13	6.70
9501 - above	0	0	5	2.57
Total	194	100	194	100
Minimum	250		2000	
maximum	3500		12500	
Median	1600		4500	
Average	1815.20		5010.82	
Standard deviation	820.50		1795.54	

Source: Field survey

Before attachment with GB, Minimum income level was Tk.250 & after joining GB, Minimum income level becomes Tk.2000. Before attachment with GB, the maximum income level was Tk.3500 but after joining GB, the maximum income level becomes Tk.12500. Before attachment with GB, Median was Tk.1600, but after joining GB, it becomes Tk.4500, the average was Tk.1815.20 & Standard Deviation was Tk.820.50 but after joining GB, Average and Standard Deviation become Tk.5010.824, Tk. 1795.543 respectively. So, it can be seen that, considerable change has taken place on the ground of income generation.

Monthly Fish Consumption of Respondents

The table 4.3 shows that before attachment with GB, a large portion of respondents consumed fish 2-3 times monthly, was 58.76 percent of total respondents which was followed by 34.53 percent of total respondents consuming 4-5 times monthly. On the contrary, after joining GB, percentage of total respondents consuming fish 2-3 times monthly reduces to 17.52 percent as well as percentage of total respondents consuming fish 4-5 times

monthly reduces to 32.98 percent. Only about 6.70 percent respondent consumed fish 6-7 times monthly but after joining GB, percentage of total respondents consuming fish 6-7 times monthly increases to 38.14 percent. Number of respondents consuming fish 8-9, 10-11, 12-13, 14-15 times monthly increases more or less after joining GB. Number of respondents consuming fish monthly 16 & above times remains exactly zero in spite of joining GB.

Monthly Minimum Fish consuming times were 2 before joining GB as well as Maximum consuming times were 7. On the other hand, monthly Minimum

Table 4.3: Monthly Fish Consumption of Respondents

Monthly fish consumption times	Before attaching with GB		After attachment with GB	
	Frequency	Percentage	Frequency	Percentage
0.0 - 1.0	0	0	0	0
2.0 - 3.0	114	58.76	34	17.52
4.0 - 5.0	67	34.53	64	32.98
6.0 - 7.0	13	6.70	74	38.14
8.0 - 9.0	0	0	7	3.60
10.0 - 11.0	0	0	7	3.60
12.0 - 13.0	0	0	3	1.54
14.0 - 15.0	0	0	5	2.57
16.0 & above	0	0	0	0
Total	194	100	194	100
Minimum	2		2	
Maximum	7		14	
Median	3		5	
Average	3.60		5.75	
Standard deviation	1.22		2.42	

Source: Field survey

Consuming times remain same as well as Maximum is consuming times become 14 after joining GB. The median was 3 before joining GB but after joining GB, it becomes 5, Average was 3.8 & Standard Deviation was 1.22 before joining GB but after joining GB, those become 5.75 & 2.42 respectively. As can be seen, a considerable change has been made in this section.

Monthly Egg Consumption of Respondents

The table 4.4 shows that before attaching with GB, a large portion of respondents consumed Egg 6-7 times monthly which was 35.56 percent of total respondents which was followed by 26.80 percent of total respondents consuming 8-9 times monthly. On the contrary, after joining GB, percentage of total respondents consuming Egg 6-7 times monthly reduces to 18.55 percent as well as percentage of total respondents consuming Egg 8-9 times monthly reduces to 13.91 percent. Only .51 percent respondent consumed

Table 4.4: Monthly Egg Consumption of Respondents

Monthly Egg consumption times	Before attaching with GB		After attachment with GB	
	Frequency	Percentage	Frequency	Percentage
0.0 - 1.0	1	0.51	0	0
2.0 - 3.0	12	6.18	0	0
4.0 - 5.0	28	14.43	9	4.63
6.0 - 7.0	69	35.56	36	18.55
8.0 - 9.0	52	26.80	27	13.91
10.0 - 11.0	28	14.43	77	39.69
12.0 - 13.0	4	2.06	16	8.24
14.0 - 15.0	0	0	26	13.40
16.0 & above	0	0	3	1.54
Total	194	100	194	100
Minimum	1		4	
Maximum	12		16	
Median	7		10	
Average	7.14		9.84	
Standard deviation	2.07		2.68	

Source: Field survey

Egg monthly 0-1 times. Again, Percentage of total respondents consuming Egg 0-1, 2-3 times monthly decreases to 0 percent. Additionally, 13.5 percent respondent consumes Egg 14-15 times monthly as well as 1.5 percent respondent consumes Egg 16 & above times monthly after joining GB.

Monthly Minimum consuming time was 1 before joining GB as well as Maximum consuming times were 12. On the other hand, monthly Minimum is consuming times become 4 as well as Maximum consuming times become 16 after joining GB. Before joining GB, Median was 7 but after joining GB Median becomes 10, before joining GB Average was 7.14 & Standard Deviation was 2.07 but after joining GB, those become 9.84 & 2.68 respectively. As can be seen, Positive change on the ground of Egg consumption has taken place.

Lighting Condition of the Respondent Households

The table 4.5 shows that before attachment with GB, a large portion of respondents used oil generated Lamp which was 89.17 percent of total respondents which was followed by 10.82 percent of total respondents having

Table 4.5: Lighting Condition of the Respondent Households

Lighting condition	Before attaching with GB		After attachment with GB	
	No. of respondents	Percentage	No. of respondents	Percentage
Oil lamp	173	89.17	76	39.17
Electricity	21	10.82	118	60.82
Total	194	100	194	100

Source: Field survey

Electricity. On the contrary, after joining GB, percentage of total respondents using Oil generated Lamp decreases to 39.17 percent as well as percentage

of total respondents having Electricity increases to 60.82 percent. So it may be said that really the change in this side is considerable.

Nature of Medical Treatment of the Respondents

The nature of medical treatment is an indicator of living standard. So Nature of medical treatment followed by borrowers before and after joining GB is depicted in the following table 4.6. The table shows that before attaching with GB, a large portion of respondents took medical treatment from non-registered doctor & others which was 68.55 percent of total respondents which was followed by 31.44 percent of total respondents taking medical treatment from a registered doctor. On the contrary, after joining GB, percentage of total respondents taking treatment from non-registered doctor

Table 4.6: Nature of Medical Treatment of the Respondents

Nature of medical treatment	Before attaching with GB		After attachment with GB	
	No. of respondents	Percentage	No. of respondents	Percentage
Registered Doctor	61	31.44	131	67.52
Others	133	68.55	63	32.47
Total	194	100	194	100

Source: Field survey

& Others decrease to 32.47 percent as well as percentage of total respondents taking treatment from Registered doctor increases to 67.52 percent. So it is seen that worth noticing change on the ground of nature, of taking treatment has been carried out after joining GB.

Sources of Drinking water of the Respondents

Whether borrowers drink water from Tube-well or from other sources, are very much important in guessing borrowers living standard.

The following table 4.7 shows that before attaching with GB, a large portion of respondents took their drinking water from Tube-well, which was 98.45 percent of total respondents which was followed by 1.54 percent of total respondents taking drinking water from other sources. On the contrary, after joining GB,

Table 4.7 : Sources of Drinking water of the Respondents

Source	Before attaching with GB		After attachment with GB	
	No. of respondents	Percentage	No. of respondents	Percentage
Tube-well	191	98.45	194	100
Others	3	1.54	0	0
Total	194	100	194	100

Source: Field survey

Percentage of total respondents taking drinking water from Tube-well reaches to 100 percent as well as percentage of total respondents taking drinking water from other sources becomes 0 percent of total respondents. So the change on the ground of source of taking drinking water is obviously positive.

What is more, from field studies, researcher gets the evidence that considerable positive change has taken place on the ground of expenditure pattern after joining Grameen Bank. Many borrower's amount of land increases after attachment with Grameen Bank. Upward changes of the value of non-land assets of borrowers can be considered as an important factor of increasing living standard of borrower respondents. GB grants borrowers only one week after which borrowers are to start paying back their installments. Consequently, they are to hold some money from taking loans to pay the first 2-3 installments. GB gives loan in cash and doesn't provide any vocational training. GB gives importance on proper supervision, but as borrowers say, GB doesn't supervise the activities of borrowers properly. Women borrowers are called the owner of GB but in reality, they are not given any certificate of ownership. Most of the respondent borrowers allege that GB doesn't provide adequate loan initially. Considering the present market condition, borrowers demand more than Tk.10000 when they join GB.

Econometric Result Analysis

The impact of micro-credit on standard of living has been examined here on the basis of changes in income and consumption. As it is seen previously that the change in the educational status of borrowers after joining GB is negligible, only one's out of the total 194 respondents educational status has been changed so researcher hasn't carried out econometric analysis for educational qualification.

Regression Analysis for Income

Here, how income is influenced by credit, has given more concentration.

Multiple regression model is

$$Y = \beta_1 + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_3 + \mu \dots \dots \dots (1)$$

Where, Y = Income, X_1 = Credit, X_2 = Education, X_3 = Land.

$\beta_2, \beta_3, \beta_4$ are coefficients corresponding to X_1, X_2, X_3 independent variables, β_1 = Constant, μ = error term.

The researcher's purpose is to test the impact of micro-credit on income and through this, impact of Grameen Bank on income. For this purpose SPSS software is used.

Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.749(a)	0.561	0.558	1283.108

a. Predictors: (Constant): Credit, Education, Land.

Information in the model summary table indicates that the value of R-square for the model is 0.561. This means that 56.1 percent of the variation in the improvement of Income of household (dependent variable) can be explained from the three independent variables. The adjusted R-square for the model is 0.558, which indicates only a slight overestimate with the model.

The overall regression results are shown in the following ANOVA table. The regression model is statistically highly significant

ANOVA (b)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	260334831.330	3	86778277.110	45.560	.000(a)
Residual	361892436.711	190	1904697.035		
Total	622227268.041	193			

a. Predictors: (Constant), Credit, Education, Land.

b. Dependent Variable: Income

(F ratio=45.560, probability level 0.000). The probability level 0.000 means that the chances are almost zero that the results of regression model are due to random events instead of a true relationship.

In the following Coefficients table, researcher considers improvement in the Income of families as dependent variable and Credit, Education, Land of those families as independent variables. Here, null hypothesis states that there is no relationship between improvement in Income of families and Credit, Education, Land of those families.

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity statistics VIF
	β	Std.error	Beta			
1 (Constant)	835.894	380.182		2.199	.029	
Credit	0.247	.022	.623	10.980	.000	1.053
Education	364.208	217.056	.094	1.678	.095	1.034
Land	274.502	389.137	.040	0.705	.481	1.064

Dependent Variable: Income

Where, the alternative hypothesis states that Credit, Education and Land relate to the improvement in Income of those families. The information provided in the coefficients table tells, which of the independent variables significant predictors of improvement in Income of families are. From 't' test and the significance column, It is seen that beta coefficient for Credit is highly significant, coefficient for Education is less significant and coefficient for Land can be seen as insignificant.

As the researchers' main objective is to examine the impact specially of credit on Income, using the beta coefficient for Credit taken by borrowers, it can be explained that if an amount of Credit taken from Grameen Bank increases by 1 taka, Income of families will increase on average by 0.623 taka remaining other variables constant. Information in the coefficients table reveals that better amount of Credit in families is the most significant predictor of improvement in Income of those families, with a high beta coefficient 0.623 (probability of 0.000). VIF (variance-inflating factor) is

shown in the column 'Co-linearity statistics', VIF shows the speed with which variances and covariance increase. Since, all VIF are smaller than 5 so it can be said that there is no serious multi-collinearity problem with this model.

Correlations

	Credit	Education	Land
Credit	1.000	.092	.190
Education	.092	1.000	-.137
Land	.190	-.137	1.000

The correlation table shows the correlations of independent variables. As can be observed, correlations are very smaller, which don't have a significant effect on the estimated variances and co-variances of the estimators. So it can be said that, though multicollinearity always exists, but multicollinearity existing in this model is not problem as well as not significant.

As a result, it is the fact that, the impact of micro-credit taken from Grameen Bank on income generation is positive and significant.

Regression analysis for Consumption

The researcher would like to test the impact of micro-credit on consumption, thus the impact of Grameen Bank of consumption. Egg consumption has been taken into account as representative for overall consumption of rural borrower women.

The regression model is

$$Y = \beta_1 + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_3 + \mu \dots \dots \dots (1)$$

Where, Y = Consumption, X_1 = Income, X_2 = Land, X_3 = Credit User.

$\beta_2, \beta_3, \beta_4$ are coefficients corresponding to X_1, X_2, X_3 independent variables, β_1 = Constant, μ = error term.

The value of R-square for the model shown in the following model summary table is 0.422.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.650(a)	.422	.413	2.41102

Predictors: (Constant), Credit User, Income, Land.

This means that only 42.2 percent of the variation in the improvement of consumption of borrowers (dependent variable) can be explained from the three independent variables. The adjusted R-square for the model is 0.413.

From the following ANOVA table it is observed that, regression model is statistically significant (F ratio=21.456, probability level 0.000).

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	374.168	3	124.723	21.456	.000(a)
	Residual	1104.478	190	5.813		
	Total	1478.646	193			

a. Predictors: (Constant), Credit User, Income, Land.

b. Dependent Variable: Consumption.

Following coefficients table considers improvement in the consumption of families as dependent variable and Credit user, Land, Income of those families as independent variables.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity statistics
	β	Std. error	Beta			VIF
1 (Constant)	2.094.001	.572		3.659	.000	
Income	.165	.000	.492	7.767	.000	1.022
Land	.615	.669	.016	.247	.205	1.029
Credit User		.351	.110	1.752	.081	1.007

a. Dependent Variable: Consumption.

From 't' test and the significance column, It is seen that the beta coefficient for Income is highly significant. Using the beta coefficient for Income of borrowers, it can be explained that as credit increases income significantly and as amount of Income increases by 1 taka, consumption of the family increases on average by .492 times remaining other variables constant, so it can be said that credit has positive impact on consumption.

Since all VIF shown in the table are smaller than 5 so it can be said that there is no serious multicollinearity problem with this model.

Correlations

	Income	Land	Credit user
Income	1.000	.146	.002
Land	.146	1.000	.084
Credit user	.002	.084	1.000

As can be observed, correlations are very smaller, which don't have a significant effect on the estimated variances and co-variances of the estimators. Multicollinearity existing here is not problem as well as not significant.

As a result, it is the fact that, the impact of micro-credit taken from Grameen Bank on consumption of borrowers is positive and significant.

Conclusion

Comparing borrower's socio-economic conditions before and after joining GB, it is seen that impact of GB on the rural poor households is positive. In case of family type, no. of nuclear families decreases after attachment with Grameen Bank (GB). Contribution of GB on the increasing educational qualification of borrower respondents is hardly appeared. In this study it is

worth noticing that, condition of the dwelling houses of borrower respondents changes positively after joining GB. Positive change has taken place in the case of expenditure pattern after joining GB. Many borrower's amount of land increases after joining GB. Upward changing of the value of non-land assets of borrowers refer to the increasing living standard of borrower respondents. Using of recreational devices has gone up after attachment with GB. Remarkable positive change has also taken place on the ground by using a source of drinking water. Lighting condition of borrower respondent's houses increases after attachment with GB. The nature of medical treatment is an important factor to determine the condition of living standard and in this case, no. of respondent borrowers taking medical treatment from registered doctor increases after joining GB.

It is found from econometric analysis that the impact of micro-credit on income generation is positive and significant. From 't' test and the significance criterion, it is seen that the beta coefficient for credit is highly significant, using the beta coefficient for credit taken by borrowers, it is found that if the amount of credit taken from Grameen Bank increases by 1 taka, income of family will increase on average by 0.623taka remaining other variables constant. Analysis reveals that better amount of credit in the family is the most significant predictor of improvement in the income of those families, with a high beta coefficient 0.623 (probability of 0.000). The impact of micro-credit on consumption is positive and significant. It is seen that the beta coefficient for income is highly significant. Using the beta coefficient for income of borrowers, it is found that as credit increases income significantly and as the amount of income increases by 1 Taka, consumption of the family increases on average by 492 times remaining other variables constant, so it can be said that credit has positive impact on consumption.

In spite of having a positive impact on micro credit on the living standard of rural borrower women, the impact is not so significant. After joining in Grameen Bank the development of educational qualification which is important factor of living standard, is almost zero.

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