

Impact Evaluation and Client Satisfaction of Northwest Microfinance Expansion Project

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ABSTRACT

Bangladesh is known for its microfinance outreach. However, the density of microfinance is not evenly distributed. The poorer region, specially the northwestern part of Bangladesh has long been underserved by the microfinance institutions (MFI). BRAC's Northwest Microfinance Expansion (NWME) project was initiated in 2002 to increase outreach in that region. Though the impact of microfinance is well established among the practitioners, this study was initiated to investigate whether BRAC's microfinance expansion in that region had any effect on the well-being of the beneficiaries. We found some concrete evidences of impact in different domains especially in their asset holding. Apart from impact evaluation, the study also looked at the level of satisfaction among microfinance participants. The determinants of client dropout have been explored to see whether and how much effect does satisfaction has on exit decision. Poverty of the participants, variation in economic status within the groups, availability of alternative service providers, level of client loyalty along with the overall satisfaction of the clients with the services were found to have significant influence on dropout.

EXECUTIVE SUMMARY

The summary provided below presents a brief overview of findings from the study. Complete documentation of findings and explanation of the statistical analyses are presented in the full report.

Overall status of the beneficiary improved

Data analysis starts with basic description of the sampled households to reveal the changes between 2007 and 2003. We found that regardless of groups the beneficiary households were significantly better-off in 2007 compared to their situation in 2003. Areas where the improvements are more prominent include housing quality, sanitation status, and stock of physical and financial assets. Regarding social awareness, a significant improvement was observed in child marriage and dowry. Primary school enrollment rate increased over time while it was reverse in secondary school enrollment rate. Self-perceived food security was stable over time regardless of household categories.

Transition of farm sector into non-farm sector

Occupation had been changed over time. Employment creation in non-farm sector e.g. non-agricultural day labour, small business, formal and informal services comparatively increased over time. On the other hand, overall employment opportunities comparatively decreased in farm sector over time. Despite all farm sector still dominates over non-farm sector in terms of employment creation. Within farm sector, employment in agricultural day labour increased over time.

Incoming clients are better-off

It was found that the new entrants who enrolled in BRAC after January 2006 were as well-off as the other two groups who enrolled in BRAC during mid-2002 to mid-2003. This indicates that relatively less poor households are being allowed to get into the programme. In fact, maximum allowable landholding of the incoming clients, which is the basic inclusion criterion for the programme, increased from 50 decimal to 100 decimal in 2004. The only reason of this policy change was to provide services to the 'not so poor' households who were also found to be underserved.

Women participation in decision-making and asset management increased

Women's participation in decision-making at household level has been increased over time. Now more women are taking decision themselves though over 50% of women are still taking decision jointly with their husbands. Asset control comprises of ownership and selling right of certain asset. Control over all productive and non-productive assets by women has been increased over time. It is worth noting that control over productive asset is more than that of non-productive assets. Control of BRAC loan in terms of loan user has also been gone up over time though nearly 50% of BRAC loan were beyond control of women borrower. Over 60% of BRAC loan was used in productive purpose whoever used it. So, beyond control over loan by the women is not necessarily tells us the misuse of loan.

Domestic violence against women decreased

Violence against women by their husband is common in rural area. Seven proxy indicators were used to understand violence. Finally, a simple violence index was developed with the

seven indicators to look at overall change in violence over time. Index shows that violence against women by their husbands slightly declined over time.

Households were better prepared to resist shocks

Some crises events are uncertain while some life cycle events (i.e. education expenses, marriage, death) are unavoidable. People can take different *ex ante* precautionary measures as well as different *ex post* coping mechanisms. The poor are not exceptional with this phenomenon. Average number of crises faced by the beneficiary households reduced over the years probably indicating better measures to mitigate crises. However, households seem to adopt different ways (e.g. savings, borrowing, household income, and asset sale) of coping mechanisms. Household income was frequently used for coping crises.

Poverty rate went down

Apart from comparison of the profile of the participants, Mark Schreiner's poverty scorecard method was used to see the general change. Poverty score-card is a simple addition of scores assigned to 10 different indicators of poverty and the score range from 0 to 100. Changes in the scores reflect the changes in overall well-being of the households where higher scores mean better status. Moreover, a cut-off point in the scores can be used as a proxy for poverty line and can estimate poverty rate with relatively high accuracy. We found that the poverty scores of the beneficiary households significantly improved and poverty rate declined irrespective of the cut-off point used.

Length of enrollment period positively associated with accumulation of household asset

While the profile analysis and poverty score-card show significant improvement among the participant households, it does not necessarily reflect programme 'impact'. It is the major challenge for any programme evaluation to attribute the changes to the specific intervention. There are different estimation methods in quasi-experimental settings to assess the impact. However, the most common practice is to use membership length as a proxy for impact. This technique suffers from the strong assumption that there is no selection bias among the dropout clients (i.e. the clients who continue for longer period are the same as those who have dropped out) and relatively late entrants. Panel data has some unique advantage over alternative estimation methods for this and several other reasons. Total value of household asset was used as a proxy of household well-being. We found that additional months of involvement with BRAC-VO was associated with increase in the total asset value of the participants.

Amount of BRAC loan as well as frequency of borrowing increased household assets

Impact assessment needs to address the issue of causality (i.e. income or asset affecting participation and vice-versa). Instrumental variables (IV) were used for identifying causal factor. Therefore, the estimated programme impact in this study was quite robust. Both length of membership and amount of BRAC loan were used as explanatory variables. An additional loan of 1,000 Taka (US\$14) was associated with 0.41% increased in the total assets of the beneficiary households. Besides, an additional loan of any amount increased household assets by 0.50%. Zaman (2000) also found that statistically significant difference in assets among microfinance participants only when they took series of loan-financed investments. Therefore, the outcome of the participants of Northwest project was encouraging.

Client satisfaction associated with dropout

In client satisfaction, the major areas of dissatisfaction (or lower satisfaction) are interest rate (both on loan and savings) and flexibility in savings withdrawal. However, these factors had

weak association with their overall satisfaction. The components of service that appeared to have strong influence on their general impression about the programme and consequently on their decision to dropout were flexibility in repayment. Other factors of client dropout show some specific features such as a) the poorer clients were more likely to dropout, b) incidence of life-cycle events like marriage reduced the chances of dropout, c) homogeneity among the group members reduced dropout, and d) having alternative services might not increase dropout.

RECOMMENDATIONS

The level of success of the NWME project shows that there is scope of using microfinance effectively even in poorer region. One of the major reasons of poorer regions remaining underserved by MFIs is that it takes relatively long period (a period of operational deficit) before operations in such areas can reach at break-even. Therefore, a period of time-bound deficit financing can be used as a means of increasing microfinance outreach in such areas. Moreover, microfinance can crowd-in other services that the poor community requires. This gives incentives for the poorer microfinance participants to remain in the stream of service. Specific recommendations are given below based on findings.

1. To increase loan ceiling

It has been found that increased amount of loan has positive impact on well-being of the poor households. It implies that the poor may use a certain amount of money for investment especially at the time of seasonal business that could yield higher return. So, increased loan ceiling could be useful for the poor people so that they could meet their seasonal requirements. We have also found that poor women use a portion of their loan to meet their emergency need.

2. To improve/modify repayment method of overdue

Repayment method of overdue is highly relevant with moderate satisfaction level to the clients. This service needs to be improved and/or modified for maximizing client satisfaction. In this regard, programme may follow flexible repayment system (e.g. two installment instead of per week) to some extent so that client could easily repay loan installment and thus they escape from overdue.

3. To increase grace period

Once loan received installment of repayment starts after one week. By this short time loan utilization may not be started to generate income. Grace period is found highly important with moderate satisfaction to the clients. For the sake of client satisfaction, grace period should be increased especially for new clients as well as those clients who are going to be started new income generating activities (IGA). After generating a regular cash flow grace period could be reduced for onward loan.

4. To reduce drop out rate

In the competitive MFI market, clients enjoy more freedom for choosing their service provider. On the other hand, client dropout is a concerning issue for sustainability of MFI. We found 44% of enrolled clients have dropped out from BRAC over three-year time span. Therefore, annual drop out is 15%. Client dropout increases operational cost that eventually lingers break-even of concerned MFI. So, client dropout should be reduced by providing better as well as alternative services.

INTRODUCTION

RELEVANCE OF NORTHWEST PROJECT

About 40% of the population is living below the poverty line in Bangladesh while this figure is over 60% in the Northwest part of Bangladesh. Moreover, density of microfinance institutions (MFI) is lower in this region compared to national level (PKSF 2004). Economic backwardness and seasonal acute vulnerability make this region less attractive for MFI operations since the whole microfinance industry is geared towards 'financial best practices'. While MFIs are a bit risk averse to extend microcredit service, donor agencies often shares the risk by releasing fund for the poor through some NGOs in Bangladesh that eventually serves the millennium development goals (MDG) of halving poverty by 2015. The northwest microfinance expansion (NWMF) project is such a project, which is implemented by BRAC with financial assistance of Australian Agency for International Development (AusAID). The vision of this project is to uplift the livelihood of the poor through microfinance services. This project targets only women who essentially get financial and non-financial services from BRAC. These services would eventually revive the economic activities among the poor and make them self-employed. It should be mentioned here that this project not only finances the poor people through BRAC but finances to establish its infrastructure facilities that would continue beyond the life of the project. The NWMF project was started in June 2002 and will continue up to 2008.

Table 1. Northwest microfinance expansion project at a glance

1.	Financed by	: AusAID and BRAC
2.	Implemented by	: BRAC
3.	Project location	: Northwest part of Bangladesh
4.	No. of district covered	: 7 ^a
5.	No. of Upazila/Sub-district covered	: 12
6.	No. of BRAC Branch Office covered	: 35 ^b
7.	No. of beneficiary covered	: 34,548 ^c
8.	No. of Programme Organizer (PO) involved	: 64
9.	Project duration	: June 2002 to December 2008
10.	Cumulative loan disbursement (BDT)	: 458.66 Million ^d

^a Panchagarh, Thakurgaon, Dinajpur, Nilphamari, Lalmonirhat, Rangpur and Gaibandha

^b This number includes 23 IGVD Branch Office

^c This number includes 6,896 IGVD beneficiaries

^d This amount includes IGVD members

Table 1 shows the project profile at a glance as of March 2007. In the first year of project implementation, beneficiaries were selected from eight BRAC branch offices (BO) i.e. *Pakerhat, Vojonpur, Panchpir, Baora, Chirirbandar, Shaghata, Horipur and Gangachara* under six districts. In the following year the project was expanded into four additional BOs i.e. *Roumari, Fulbari, Taraganj and Ranishankoil* in a new district. Therefore, the project operation is being implemented in 12 *upazilas* of seven districts. This project also finances for the members of income generation for vulnerable group development (IGVD). The number of IGVD areas are nearly twice of NWMF areas from where beneficiaries were mobilized.

OBJECTIVE

The primary objective of this study is to empirically evaluate whether the programme has any effect on the well-being of the beneficiary households and investigate the extent of the change

made by the project. A secondary objective of this study is to look at the level of satisfaction among the beneficiaries with the financial product of BRAC and how does this satisfaction matter in their strategy of availing this service.

METHODOLOGY

THE DATA

The baseline survey was carried out in mid-2003 to get the benchmark estimates on different livelihood indicators of the beneficiary households. Data were collected from eight branch offices (BO) of BRAC in six districts where project activities were going on. Two-stage random sampling was followed to collect information of the beneficiary households. In the first stage, 12 VOs were randomly taken from each BO. In the following stage, 11-12 beneficiary households were randomly selected from each VO. Thus, 1,100 households were surveyed in the baseline. A repeat survey was carried out on the same households in February 2007 after three and a half years of conducting the baseline survey to see whether the project has brought any change on well-being of the beneficiaries. Forty-four percent of the sampled households in baseline were found no longer with BRAC during follow up in 2007, but all of them were surveyed (Table 2). If we omitted dropout households impact would be over estimated and vice-versa. Because it usually believed that dropout members are worse-off clients and vice-versa. Now we are free from any biasness on biasness by including dropout members. In this round, 600 additional households were surveyed whose enrollment period was no more than one year.

Table 2. Households followed up in panel

1. Number of beneficiary surveyed in baseline (2003)	1,100
2. Number of beneficiary continued with BRAC and surveyed in follow up (2007)	521
3. Number of beneficiary dropped out from BRAC but surveyed in follow up (2007)	489
4. Number of beneficiary could not be surveyed in follow up (2007)	90
5. Total panel beneficiary households (row 2 plus row 3 minus row 4)	1,010

Sample attrition

In the follow up survey, 1,010 of 1,100 households from the baseline were interviewed that gives us an attrition rate of 8%, which is acceptable. Among the 90 attrited households, 44 were found but could not be interviewed while the rest were not available (Table 3).

Table 3. Sample attrition

Number of households found and interviewed	1,010
Number of households found but not interviewed	44
Number of households not found and not interviewed	46
Total	1,100

Of 44 households that were found but could not be interviewed, 43% beneficiaries were absent at their households and the interviewer could not find them visiting three different days and 23% beneficiaries died. Of the 46 households that were not found, 76% households permanently migrated to other places at least 10 kilometers away from earlier place. Thus, a total of 90 beneficiaries were not interviewed that are omitted from the data to form a panel.

METHODS OF DATA ANALYSIS

Length of participation (determined by enrollment period) was used as a proxy for impact of programme participation. In this case, the basic premise is that the programme has targeted similar groups of people every year. A difference in differences between the 'early entrant' and 'intermediate entrant' cohorts of 2003 (we elaborated formation of groups in the later section) in the years between 2003 and 2007 was beyond the scope of work since there was no control group and all participants were expected to be served equally under the project. Changes among the groups across outcome variables were followed that revealed the changes in client profile as the programme expanded. However, there are a lot of unobservable factors that could affect the outcome variables. Looking at the profile in itself was inadequate to address this issue. Panel data analysis (fixed effect models) was used in programme evaluation to counter this problem of unobservable factors what was also used for impact analysis. Any relationship between the quality of microfinance participation and the outcome variables of the households in the panel was looked into. Since the outcome variables (such as income or assets) were likely to affect their quality of microfinance participation and vice-versa, instrumental variables (IV) technique was used to establish any existence of microfinance participation quality affecting those outcome variables. Variables related to the programme organizers (PO) in charge of the respective VOs of the microfinance members were considered as possible instruments. Finally, propensity score matching (PSM) was done the measure programme impact. In the first stage, the 'new entrants' and the members from baseline who were followed up in 2007 were matched by their recent condition where the dependent variable is participation in 2003 or 2006. In this matching, the variables other than the outcome ones were used. Using the predicted probabilities of participating in two different years, the impact would be the average of the differences between the members participating in 2003 and their respective 'verisimilar' members joining the programme in 2006.

FEW ANNOTATIONS OF VARIABLES, ANALYTICAL PROCESS AND TOOLS

Clarifications about different terms, analytical process and tools used in this report may facilitate the interpretations of study findings. These are given below.

Household categorization

For comparative analysis, the beneficiary households have been categorized into three groups viz. 'early entrants', 'intermediate entrants' and 'new entrants'. Households in the panel have two groups i.e. 'early entrant' and 'intermediate entrant' based on the timing of their enrollment in BRAC VO. The members whose enrollment periods were more than one year in mid-2003 during the baseline survey have been termed as 'early entrants'. The members whose enrollment periods were less than one year during baseline have been termed as 'intermediate entrants' (effectively during mid-2002 to mid-2003). So, these two groups would be the panel households for analysis. The main purpose of this categorization was to look at the change in well-being over the years. The additional 600 households are termed as 'new entrant'. These members were enrolled in BRAC after January 2006. This group was taken to see the change in the profile of incoming clients as well as for propensity score matching (PSM).

Comparison group for impact evaluation

Finding of a proper control group is a common challenge for any impact evaluation and this is even more true for evaluating microfinance projects in Bangladesh. Comparing the 'new clients' with the veterans is a widely used approach of microfinance impact assessment. This method is claimed to be developed by United States Agency for International Development under its Assessing the Impact of Microenterprise Services (AIMS). The key problems with this approach are- it excludes the dropouts from treatment group, assuming no systematic

difference among the participants in deciding when to join the programme and assuming no change in programme placement strategy (Karlan 2001). Tedeschi and Karlan (2006) have shown that exclusion of the dropouts can substantially overestimate the impact. Therefore, the impact assessed in this study is more robust than regular comparison of 'new' versus 'old' participants since this uses a panel data, which includes the dropout and delinquent clients as well.

Monetary value adjustment

All monetary values of 2007 were deflated to make them comparable to values of 2003. For this purpose, consumer price index (CPI) was used. The deflator was derived from dividing general CPI of 2003-04 by general CPI of 2006-07 and all the prices of 2007 survey were deflated by a factor of 0.83.

Survey timing

Though the surveys were conducted in two different seasons, this should not have a large effect on the outcome, as both February and July are normal seasons in terms of employment opportunities and rural economic activities. Moreover, we emphasized more on household assets than anything else to measure economic well-being and this variable is least likely to have seasonality effect.

Poverty scorecard

Among other outcome indicators, Mark Schreiner's poverty scorecard (Schreiner 2006) was used to see the changes in poverty likelihood of the beneficiary households over time. It is a simple scorecard that permits us to show change in poverty figures with high accuracy when comprehensive expenditure data is not available. The poverty scorecard used 10 different indicators with respective weights (Annex 1). Based on this scorecard, every household gets a score, which ranges from 0 to 100. Smaller scores show poorer economic status and household with a score of less than 40 is considered to be poor by national poverty line. However, we used three different cut-off points i.e. 35, 40 and 45 instead of only one recommended threshold to avoid any sensitivity of outcome to cut-off marks.

Fixed and random effect models

Fixed and random effect models were used simultaneously for panel data analysis and their relative efficiency and consistency were compared. Analytically, fixed effects regression is the model to use when we want to control for omitted variables that differ between cases but are constant over time. It lets us use the changes in the variables over time to estimate the effects of the independent variables on dependent or outcome variable, and is the popular panel data analysis technique specially for project evaluations. If we have reason to believe that some omitted variables may be constant over time but vary between cases, and others may be fixed between cases but vary over time, then we can include both types by using random effects. The generally accepted way of choosing between fixed and random effects is running a Hausman test. Statistically, fixed effects are always a reasonable thing to do with panel data (they always give consistent results) but they may not be the most efficient model to run. Random effects will give us better p-values as they are a more efficient estimator, so we should run random effects if it is statistically justifiable to do so. The Hausman test checks a more efficient model against a less efficient but consistent model to make sure that the more efficient model also gives consistent results.

Instrumental variable

Instrumental variables (IV) were used here to identify the causality. The instrumental are the variables that matter to participation (e.g. whether taking loan or not, microfinance participant or not), but not to outcome variables (e.g. income or asset of beneficiary household). If such variables exist then they identify a source of exogenous variation in outcomes attributable to the programme – recognizing that its placement is not random but purposive. The instrumental variables are first used to predict programme participation, then one sees how the outcome indicators varies with the predicted values (Ravallion 1999). Steps of IV analysis are presented in the Annex 2.

Household well-being

We used the term “well-being” a number of times in this report. We measured this variable by summing up values of all household assets regardless of productive or non-productive. It is believed that possession of more household assets reflects the well-being of respective households to some extent. So, ‘value of household assets’ is a proxy variable of ‘well-being’ of beneficiary households.

FINDINGS

IMPACT ON LIVELIHOOD

Before going into the problem of attribution of change, it is a general approach to investigate the general trend in change. Descriptive of a few outcome variable across different livelihood domains are reported in Table 4. Two general pictures that we get from the outcome variables are a) the ‘early entrants’ and ‘intermediate entrants’ are better-off in 2007 than in 2003, and b) the ‘new entrants’ are as well-off as the other two groups in 2007.

While the improvement from baseline is expected, the second observation raises the question of whether the improvements have anything to do with programme participation or is it a general trend. However, the improvement can still contain positive impact of the programme participation if the ‘new entrants’ are already better-off because of any change in the beneficiary selection process. In fact, there has been relaxation in the client selection lately for example the entry requirement of ‘less than 50 decimal land’ has been changed to ‘less than 100 decimal’. Clearly this shift in selection process allows relatively better-off to get into the programme and this may enhance the scope of achieving financial sustainability. However, the implication of this policy change on targeting the poorer clients should also be addressed accordingly.

Regarding changes in different dimensions, significant improvement is observed in sanitation and housing quality. Similarly, financial assets (e.g. savings, value of asset) and physical assets (e.g. land) increased over time. Self-perceived food security is more or less stable over time regardless of household category insignificant though. No apparent change was observed in usage of safe water since the situation was already quite good in the baseline. Value of main living room increased over time that shows improvement in the quality of housing. Sanitation coverage increases more among intermediate entrants compared to early entrant.

As it has been shown in different impact evaluations of microfinance, there are significant influences of the process on different indicators of social dimension. Overall

improvement of knowledge and awareness about the legal issues among the beneficiaries are quite encouraging over time. Women were aware of minimum marriage age for men and women, and of the divorce law. It may stop early marriage and illegal divorce, which are common among the vulnerable poor people especially in rural area. The beneficiaries have become more aware about their legal right that eventually represents women empowerment.

Table 4. Changes of livelihood outcomes over time

Variables	Early entrant		Intermediate entrant		New entrant	F Value
	2003	2007	2003	2007		
% of households using sanitary latrine	42	57	38	62	57	21.03
% of households using tube-well water for cooking	98	99	98	99	99	1.30
% of households having brick/tin wall for living room	21	33	22	34	35	11.49
Value of main living room in Tk (average)	10,778	20,262	8,777	14,240	16,008	7.95
Amount of total current savings in Tk (ave.)	3,465	4,946	1,601	3,024	3,170	11.28
Value of non-productive asset in Tk. (ave.)	7,674	9,194	4,468	7,627	8,316	3.41
Value of total asset in Tk (average)	125,441	140,747	94,262	111,197	127,825	1.94
% of households having food security all the year round (self-perceived)	63	63	60	58	64	1.05
% of household having own land	87	86	87	86	86	0.21
% of household having own at least homestead land	84	81	83	82	83	0.46
% of households having no more than 25 decimal of own land	59	64	61	72	68	6.25
% of household cultivating leased land	30	34	39	38	29	4.47
% of respondents aware of minimum marriage age for men	12	42	9	43	45	88.19
% of respondents aware of minimum marriage age for women	44	69	47	71	70	37.77
% of respondents aware of divorce law	7	32	5	40	37	81.58
% of respondents aware of voting age for Bangladeshi nationals	36	53	39	48	50	11.91

Just over 85% of the beneficiary households own either cultivable or homestead land while just over 80% of the beneficiary households own at least homestead land. A decline was observed in the amount of land holding between 2003 and 2007. However, no such pattern is observed if we look at the value of land owned.

TRANSITION OF FARM SECTOR INTO NON-FARM SECTOR

We found that the household activities diversified from farm into non-farm sector over the years. Non-farm sector seems to be more profitable than farm sector what could be the possible incentive for such shift (Table 5). But a group of households still stick to farm sector activities, who enrolled in BRAC earlier than other two groups. The veterans might become owner cum operator from tenants by purchasing land. The poor households usually tend to mobilize a piece of cultivable land by taking larger loan from MFI since loan ceiling of veterans gradually increased. However, within the farm sector, employment creation significantly increased in agriculture labour and fishing sub-sector irrespective household categories. But employment opportunities decreased in poultry and goat rearing. These enterprises are usually vulnerable in terms of diseases and mortality and needed much more labour intensive to some extent. That is why poor people are likely to discontinue those enterprises (Alarakhia and Barua 2005). Employment creation was the highest in crop (e.g. paddy and vegetable) production sub-sector,

which was more or less stable over time. Agriculture labour was the second highest employment creation sub-sector.

Table 5. Changing scenario in employment of household members over time

Variables	Early entrant		Intermediate entrant		New entrant	F Value
	2003	2007	2003	2007		
Farm sector (%)	56	53	57	49	48	9.38
Paddy production	21	20	21	20	21	0.40
Vegetable production	0.1	2	1	1	1	5.78
Cow rearing	5	7	7	6	4	3.79
Goat rearing	4	3	5	3	2	5.81
Poultry rearing	15	9	19	13	10	18.27
Agricultural labour	13	16	13	19	17	6.89
Fishing	1	2	1	2	1	6.09
Non-farm sector (%)	44	47	43	51	52	9.38
Non-agricultural labour	10	10	3	4	9	25.00
Business	17	15	16	13	15	1.94
Tailoring and handicrafts	1	1	1	2	2	0.84
Formal and informal service	5	6	4	9	8	9.60
Rickshaw/van pulling	7	6	6	5	8	2.72
Technical work	1	1	1	2	2	4.04
Others (VGD, pension, allowance)	0.3	1	0.3	1	0.5	0.79

On the other hand, small business sub-sector dominated the non-farm sector in terms of employment creation though it has been declined over time. Similarly, non-agricultural labour was the second dominating field under non-farm sector. Employment opportunities in formal and informal services seem to be emerging in non-farm sector over the years. Rickshaw and van pulling activities decreased over the years since it needs huge initial investment. Demand for technicians including tailors and weavers seems to be more or less stagnant over the years. So, employment opportunities are least in these sub-sectors under non-farm sector.

SCHOOL ENROLLMENT OF CHILDREN

The net enrollment rate refers to percentage of children of a certain age group currently enrolled in any type of educational institutions among all children of that age group (Nath SR and Khan MK 2004). We found that net enrollment of children aged from 6 to 17 deceased over the years. This figure does not give us any clear picture about primary and enrollment rate as well as dropout. So, we measured the primary and secondary school enrollment rates separately to address such problem. Primary school enrollment rate was quite impressive that increased over time.

Table 6. School enrollment over time

Variables	Early entrant		Intermediate entrant		New Entrant	F Value
	2003	2007	2003	2007		
Net enrollment rate (age 6-15) %	78	75	81	77	87	7.80
Primary enrolment rate (age 6-10) %	83	87	85	93	94	7.96
Secondary enrolment rate (age 11- 15) %	73	65	77	61	77	7.73

On the other hand, secondary school enrollment decreased over time (Table 6). So, net enrollment rate decreased mainly due to decline of secondary enrollment rate when children

drop out from school. Poor parents might not bear educational expenses of their children. It is believed that sometimes they send their children to work instead of school.

WOMEN'S PARTICIPATION AT HOUSEHOLD LEVEL

It should be mention here that all of our respondents were female. We explored their participation at household level along with their male counterpart. Women's participation in decision-making, asset ownership and control over loan increased that reflected the women empowerment at household level to some extent. Over 50% of women were taking financial decision jointly with their husbands. They were more likely to share their decision with other household members. Only ownership of asset by the women does not necessarily reflect whether they have full control over asset unless they can sell those when necessary without taking permission from others. So, we considered both ownership and selling right by women for interpreting control over asset. It is interesting to note that control over household assets regardless of productive and non-productive increased over the years (Table 7). It seems women have exclusive control over indigenous poultry since they have to sell those assets frequently for meeting financial need to some extent.

Table 7. Women's participation and control over household assets

Variable	Early entrant		Intermediate entrant		New Entrant	F Value
	2003	2007	2003	2007	2007	
Decision making (%)						
Woman herself	26	35	32	28	28	1.94
Women and husband jointly	64	51	63	58	63	4.05
Women and other household member jointly	0	3	0	3	2	4.43
Husband himself	10	11	5	1	7	1.65
Control over household asset						
% of women having exclusive ownership and selling right of asset						
Productive asset						
Land	6	15	4	48	26	95.71
Cow	3	27	4	54	31	116.62
Goat	7	47	5	70	48	170
Poultry	33	92	54	86	76	155.77
Rickshaw/van	1	17	0	76	32	292.89
Big tree	2	27	1	34	11	76.22
Non-productive asset						
Tubewell	2	28	2	48	27	119.99
Cot	6	30	5	51	25	103.09
Chair	2	31	3	51	24	129.00
Table	3	32	3	54	25	135.33
Ornaments	11	53	11	59	44	120.71
Control over BRAC loan based on usage						
% of loan fully used by beneficiary	8	16	8	31	15	24.80
% of loan partially used by beneficiary	30	14	24	23	18	8.54
% of loan fully used by other household members	62	70	68	46	67	23.44

It is interesting to note that women do not have full control over their exclusive assets (i.e. ornaments) let alone land and big tree though control increased over time. It implies that women might need permission from other household members for selling valuables. Exclusive control over BRAC loan in terms of usage by the women also increased over time. Other members of the household used a large portion of BRAC loan, which has been increased

among early entrant. It should be mentioned here that BRAC issues all micro loan against women beneficiary. Does loan user matter rather than investment sector? We will find answer to this question in the next section.

PATTERNS OF USAGE OF BRAC LOAN

Beneficiary household used BRAC loan for productive and non-productive sectors. It is encouraging that over 60% of BRAC loan was used in productive sector irrespective whoever used. But usage of loan on productive sector declined over time while it was increased on non-productive sector (Table 8). Under productive sector, investment on leasing in cultivable land and crop cultivation increased over the years while investment decreased on small trading and purchasing of productive asset. These two sectors represents non-farm sector which dominate the productive sector. The poor are usually disinterested in taking risks; coupled with bitter experience they were less likely to invest on small business. Some durable productive assets like rickshaw, van, peace of land, and livestock needed high initial investment on which usage of loan declined over time. But once these assets purchased they need only operating costs. So, it is not necessarily declining of investment on purchasing of durable productive asset over time.

Table 8. Usage of BRAC loan over time

Usage of BRAC loan (% of cases)	Early entrant		Intermediate entrant		New entrant	F-value
	2003	2007	2003	2007	2007	
Productive sector	75	67	77	61	75	11.62
Small trading	57	30	62	35	28	50.83
Purchasing productive asset	26	23	26	13	26	5.28
Leasing in land (<i>Bondhok</i>)	1	6	0.4	6	4	10.79
Crop production	0.4	18	1	17	18	50.06
Non-productive sector	25	33	23	39	25	11.62
Consumption expenditure	9	4	4	5	5	3.55
Medical expenditure	2	2	1	4	3	2.57
Marriage and dowry payment	2	4	1	8	3	6.64
Housing expenditure	3	7	2	9	7	7.77
Repaying formal and informal loan	1	4	2	2	4	4.00
Other non-productive expenditure	0.2	0.5	0.2	1	0.2	1.42

Investing loan money on leasing in agricultural land and crop cultivation increased over the years. Land distribution is skewed in northwestern region of Bangladesh and leasing out land by the landlord is a common scenario in that area. It seems extent of tenancy increased over time. Frequency of loan usages in all fields of non-productive sector increased except consumption and medical expenses of early entrants. Usage of BRAC loan in housing and marriage expenses seem increased more than doubled over time except marital expenses of early entrants. It is interesting to note that usage of loan increased more in non-productive sector for intermediate entrant compared to early entrant. Repaying formal and informal with BRAC loan increased among veterans.

VIOLENCE AGAINST WOMEN

Seven different proxy indicators were used to understand domestic violence against women by their husbands. These are willingness of women to give money to their husbands, willingness of women to give valuables to their husbands, women could visit father's house, women could work outside for earning, husbands' threat for divorce, husbands' threat for second marriage, and physical torture. Finally a violence index has been developed by summing up these seven

proxy indicators where zero and seven denotes no violence and extreme domestic violence respectively. Overall domestic violence decreased over time.

Table 9. Domestic violence against women

Variable	Early entrant		Intermediate entrant		New Entrant	F Value
	2003	2007	2003	2007	2007	
% of women willingly give money to their husbands	95	94	94	97	98	3.43
% of women willingly give their valuables to their husbands	98	98	99	98	100	2.75
% of women reporting their husbands allow to visit father's house	93	92	95	95	98	4.22
% of women reporting their husbands allow working outside	85	90	87	91	97	13.30
% of women reporting their husbands do not threaten for divorce	94	98	92	97	97	5.4
% of women reporting their husbands do not threaten for second marriage	96	98	95	98	97	2.01
% of women reporting husbands do not torture physically	88	93	96	94	95	6.85
Violence Index (0=no domestic violence, 7=extreme domestic violence)	0.49	0.31	0.52	0.31	0.16	13.17

It is encouraging to note that prevalence of domestic violence against women seems very lower among the beneficiary households (Table 9). Though women were less likely to give their money and valuables to their husbands. Husbands also discourage their wives to visit their father's house. Physical torture increased among the women of intermediate entrants. Despite all, over 90% of women who stay with their husbands reported they were free from any domestic violence in 2007.

VULNERABILITIES FACED BY HOUSEHOLDS

Overall crises events faced by beneficiary household declined over the years. It is a common tendency of the poor people to improve their house when they become economically better-off. Damage of dwelling from natural disaster has been declined which reflects improvement of housing over time. Improved house represents status symbol in rural area to some extent. Not only housing improvement, morbidity among household members also decreased over time.

Table 10. Crisis event faced by beneficiary household over time

Crisis event (% of household)	Early entrant		Intermediate entrant		New entrant	F-value
	2003	2007	2003	2007	2007	
Dwelling severely damaged	35	12	30	13	6	62.42
Household member was seriously ill	43	26	48	29	21	31.11
Household member got married	9	10	9	8	4	4.49
Cow/goat death	11	10	10	10	3	7.18
Duck/hen death	5	29	4	32	29	69.78
Conflict/dispute/legal cases	2	3	3	3	2	1.35
Theft/dacoits	1	1	0	2	1	2.25
Facing at least one crisis	66	61	71	61	50	13.57
Spending money for coping crisis	41	45	36	43	34	5.0
Number of crisis faced by household	1.03	0.63	1.03	0.65	0.37	68.59

It reflects that knowledge of beneficiary about healthcare increased over time due to close supervision of health workers. Loss of lives reduced in the case of livestock while we found reverse picture in case of poultry though they are incomparable in terms of monetary value. Facing at least one crisis was common among the beneficiaries. It was declined but still 61% of beneficiaries faces crisis in 2007 (Table 10). Number of beneficiaries who spend money for coping crisis increased over the years. On the other hand, average number of crisis decreased over the years. Nature and number of crisis events could be reasons for this trade-off. Number of crisis was increased in which most of them incurred no cost in the baseline but incurred cost in the endline.

CRISES COPING STRATEGIES

Beneficiary households followed different ways for crises management. Four broad strategies was adopted for this such as usage of household savings, selling of household asset, spending household income, and formal and informal borrowing. Key crises faced by the beneficiary households are severe damage of dwelling, serious illness of household members, marriage of household members, and death of livestock. Spending of household income was found to be more common for coping major crises of the household. Extreme crises like collapse of dwellings and serious illness of household members were needed to resolve immediately by insurance policy.

Table 11. Crises coping strategy by sectors

Crisis event and means of coping with crises (% of cases)	Early entrant		Intermediate entrant		New entrant	F-value
	2003	2007	2003	2007	2007	
Severe damage of dwelling						
Savings	28	11	31	7	11	6.07
Asset sale	8	7	6	4	3	0.58
Household income	27	43	15	22	65	10.98
Borrowing	32	37	40	65	22	5.75
Other sources	4	3	8	2	0	1.68
Serious illness of household member						
Savings	32	22	32	15	18	5.18
Asset sale	16	15	14	9	12	0.82
Household income	15	23	9	20	35	9.80
Borrowing	32	33	38	48	32	2.43
Other sources	5	6	7	8	3	0.83
Marriage of household member						
Savings	21	18	39	24	17	1.68
Asset sale	26	34	24	40	21	0.86
Household income	16	10	6	4	4	1.19
Borrowing	30	37	27	20	50	1.58
Other sources	7	2	3	12	8	1.22
Death of livestock						
Savings	47	38	31	40	14	0.74
Asset sale	9	6	15	10	14	0.19
Household income	16	31	15	40	43	1.23
Borrowing	28	19	38	10	29	0.71
Other sources	0	6	0	0	0	0.97

The poor people resolved uncertainty and morbidity events by borrowing what increased over time. They also sell household asset for marriage expenses of household members (Table 11). It was common among the poor household to buy strong cows or goats by selling weak ones. They were demotivated to treat their unhealthy livestock. Sale of asset increased over the years among early entrants for repairing dwellings and bearing marriage expenses though insignificant. Beneficiaries may be more interested to take micro loan by accumulating savings with BRAC. Because a bigger amount of savings allows them to take bigger amount of loan over time that could meet their demand for financial requirement at the time of crisis.

OBSERVING CHANGE BY POVERTY SCORECARD

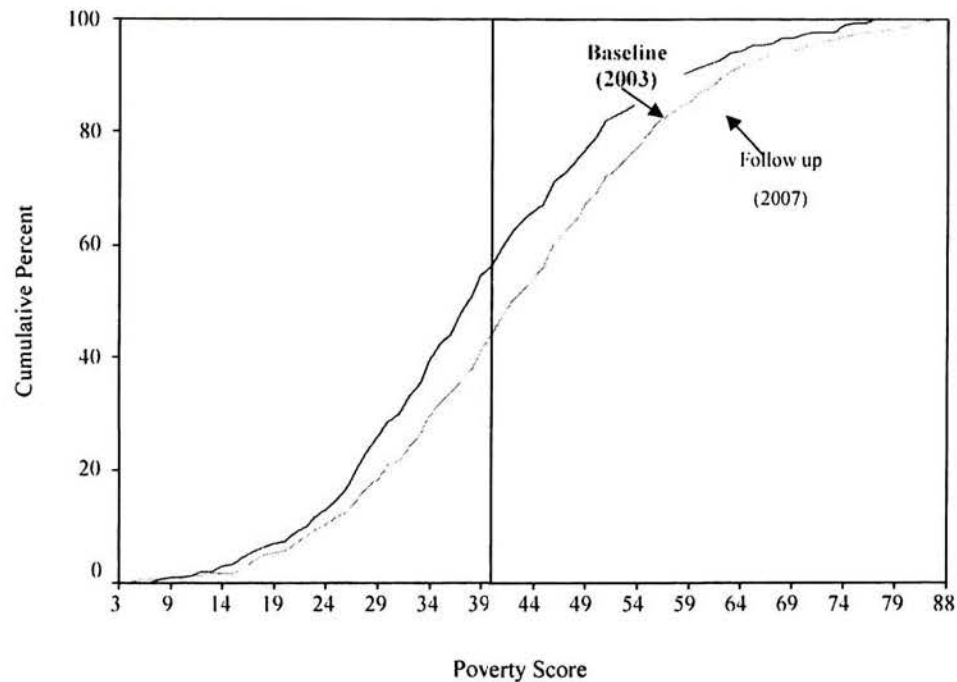
Poverty status of the beneficiary households over time may demonstrate the overall change of well-being. By using Mark Schreiner's simple poverty scorecard we identified the poverty status of the beneficiaries over time. Ten indicators that have been used for household poverty assessment are given in Annex 1. Overall poverty decreased over time regardless of cut-off mark and category (Fig. 1). In each cut-off mark, the rate of poverty reduction of intermediate group is more than that of early entrant (Table 12).

Table 12. Poverty status of the household over time

Cut off mark	Early entrant		Intermediate entrant		F-value
	2003	2007	2003	2007	
Poverty score < 35 (=poor)	38%	29%	42%	29%	8.37
Poverty score <40 (=poor)	52%	41%	59%	40%	14.52
Poverty score < 45 (=poor)	64%	53%	69%	55%	11.88

The rate of poverty reduction is found to be the highest at poverty score less than 40 for both categories of households.

Figure 1. Distribution of poverty score over time



EVALUATING IMPACT BY MODELS WITH FIXED AND RANDOM EFFECT

Total value of asset has been used as a proxy of household well-being. A number of studies show that assets are better predictor of economic well-being than income or expenditure (e.g. Morduch 1995, Zimmerman and Carter 1999, Carter and Barret 2005) since the poorer households adopt asset smoothing and measure of asset is less prone of stochastic change in welfare. Since the value of asset is highly skewed, natural log of the total asset value was taken as the prime outcome variable in this study. Controlling for the relevant variables, whether programme participation has any impact on the asset accumulation of the participant households is the principal question here. To know the answer of this question fixed effect model was used where unobservable characteristics are assumed to be fixed over time. Random effect model was also been used to compare efficiency of the two models through Hausman test. We drew three equations for both models where value of household asset is a function of household beneficiary's enrollment length, demography, income and number of crisis faced. Instead of duration of programme participation, we used 'time since joined the programme' as the proxy for programme impact to counter any bias in dropouts.

Asset value has consistently significant positive relationship with beneficiaries' enrollment period in BRAC in all equations. It implies being involved with BRAC households' well-being has been improved over time. Dropout households are less likely to improve their well-being. It is insignificant though but shows an indication of lessening household asset. In case of equation-1, random effect model seems to be more efficient than fixed effect model based on Hausman test. Inclusion of demography in equation-2 and 3 that consistently improves the over all R-square value where fixed effect model is more efficient than random effect model since Hausman specification test value is smaller than 0.05 (Table 13).

In the equation-2 and 3, education of household member, beneficiaries' involvement with economic activities, and diversified income source available at household seem to be important in changing the well-being of households over time. Household with daily wage earner is less likely to accumulate household asset that eventually deteriorate the well-being over time. It is because daily wage earner represents the vulnerable households who usually live on hand to mouth to some extent.

Table 13. Does duration in the programme associate with asset accumulation?

Independent variable	Equation-1		Equation-2		Equation-3	
	Fixed Effect	Random Effect	Fixed Effect	Random Effect	Fixed Effect	Random Effect
Constant	10.268 (158.26)***	10.312 (153.04)***	9.009 (38.76)***	8.264 (55.88)***	9.245 (41.09)***	8.994 (65.52)***
Period since enrolled in BRAC VO (in month)	0.006 (4.05)***	0.005 (4.50)***	0.008 (4.55)***	0.004 (4.13)***	0.008 (4.88)***	0.004 (4.35)***
Member drop out (1= if yes, 0= otherwise)	-0.083 (0.94)	-0.076 (1.04)	-0.070 (0.82)	-0.026 (0.38)	-0.098 (1.19)	-0.040 (0.62)
Number of household member			0.064 (1.69)*	0.146 (6.45)***	0.034 (0.93)	0.084 (4.15)***
Education score of household member (based on class passed)			0.124 (4.08)***	0.273 (17.32)***	0.080 (2.78)***	0.173 (11.82)***
Beneficiary involved with IGA (1= if yes, 0= otherwise)			0.236 (2.98)***	0.185 (2.80)***	0.174 (2.31)**	0.066 (1.08)
Number of income source			0.140 (4.42)***	0.192 (7.32)***	0.099 (3.25)***	0.121 (4.87)***
Household with wage earner (1= if yes, 0 = otherwise)					-0.438 (5.19)***	-0.642 (10.15)***
Household doing any business (1 = if yes, 0 = otherwise)					0.115 (1.24)	0.023 (0.35)
Amount of cultivable land (decimal) belongs to household					0.002 (6.18)***	0.002 (10.95)***
Number of cow belongs to household					0.185 (6.25)***	0.231 (11.13)***
Number of goat belongs to household					0.074 (3.35)***	0.060 (3.43)***
Number of crisis faced by household					-0.073 (2.13)**	-0.092 (3.16)***
n	1010	1010	1010	1010	1010	1010
R-squared (within)	0.02	0.02	0.07	0.06	0.18	0.17
R-squared (between)	0.00	0.00	0.27	0.34	0.47	0.52
R-squared (overall)	0.00	0.01	0.22	0.27	0.41	0.45
Hausman Test (P-value: Chi ²) =	0.06		0.00		0.00	

Absolute value of t statistics in parentheses; dependent variable = Ln (asset value)

* significant at 10%; **significant at 5%; *** significant at 1%

Being involved with business the households do not necessarily improve their well-being over time, because poor households are risk averse and do not have risk bearing capability. Risk mitigation (ax-ante) and risk coping (ex-post) mechanism may be taken to minimize business risk (Perdana 2005). Amount of productive asset i.e. cultivable land, cow, and goat plays important role in improving value of household asset over time. Diversified crises events significantly decreased the value of asset over time. The expenditure for coping crisis increases though number of crisis decreases over time. Usage of BRAC loan increased for coping crisis over time. It implies that households use interest-bearing loan for unproductive sectors to some extent especially for house repairing. It is interesting to note that households are less likely to expend BRAC savings for coping crisis over time. The households may tend to take bigger amount of loan by showing a certain amount of savings that represents their creditworthiness to some extent.

INVESTIGATING IMPACT USING INSTRUMENTAL VARIABLES ESTIMATE

In this section we take the loan size (LS), and number of loan taken from BRAC (NL) as proxy variables to evaluate programme effect. In the estimates, log of value of asset is the dependent variable while the right hand side variables include a number of household features along with amount of last loan taken from BRAC. The explanatory variables that may influence household assets are household demography, education of household member, beneficiary's engagement in economic activities, number of income source, possession of productive asset and number of crisis faced.

Table 14 shows the ordinary least square (OLS) results. Amount of loan and frequency of taking loan have positive and significant relationship with asset value. In equation-1, an increase in loan size by one thousand taka is associated with 4% increase in the asset value of the households. In equation-2, one additional loan increases the asset value of household by 3%. However, this is a mere association since causality may run either or both ways. We tried to account for this endogeneity using instrumental variables. Before going into the two stage least square (2SLS) method using instrumental variables, it is useful to see the nature of influence of the other exogenous variables.

In OLS estimation of both equations, age of head and squire age of head have no significant influence on asset though we found an indication that value of asset declines after a certain age of household head. In other household demography, average education of household member, diversified income source, beneficiary's involvement with income generating activities (IGA), and ownership of rickshaw have significant role on building household asset. Household with daily wage earner is less likely to accumulate asset over time (Table 14).

We pay more attention on whether the loan size has any influence on accumulating asset. OLS estimates do not tell us whether higher amount of loan increases the asset value and vice versa. To discover the causality, instrumental variables (IV) were used which require variables that are directly related with the amount of loan but not related with the value of household asset. In other words, instrumental variables do not affect the outcome variable of the final model. The conditions of instrumental variables to be used are relevance i.e. there must be relationship between instrumental and endogenous variables to be instrumented (LS, NL in our case), and exogeneity i.e. correlation between IV and error term must be zero (Annex 2).

In 2SLS estimation process, amount of last loan is predicted by the instrumental variables and other exogenous variables in the first stage. The predicted amount of last loan instead of actual ones enters at the second stage with other exogenous variables.

The four instrumental variables that have been included are i) frequency of programme organizer (PO) change during the last three years in respective VOs, ii) working length (in month) of PO in a VO, iii) amount of monthly financial incentive received by PO, and iv) number of beneficiary per PO in the equation-1 while number of MFIs excluding BRAC working in respective village and working length (in month) of PO in microfinance instead of instrument (i) and (ii) respectively have been included in equation-2. F-statistics of joint significance of the instruments in the first stage should be more than 10 that satisfy the condition of relevance (Staiger and Stock 1997). Exogeneity of the instruments can be tested through Hansen's J statistics only when the model is overidentified (Hyashi 2000).

The endogenous variable loan size (LS), and number of loan (NL) were instrumented to run instrumental variable regression when asset value was dependent variable. The instrumented effect of loan size as well as the number of loan taken on value of asset is higher than the OLS effect (Table 14). The coefficient is much more higher in IV regression compared to OLS. This might be due to measurement error. The amount and frequency of taking loan show positive influence over asset accumulation.

Therefore, larger amount of loan and frequency of taking loan increase value of household asset as well as well-being. So, it is undoubtedly said that microcredit plays a causal role to improve welfare of the beneficiary household over time.

Table 14. Determinants of asset value

Independent variable	Equation-1		Equation-2	
	OLS [†]	IV [†]	OLS [†]	IV [†]
Constant	7.958 (20.20)***	8.125 (14.63)***	8.040 (20.29)***	9.061 (15.64)***
Amount of last loan received in Tk. (in 1,000 Tk.)	0.049 (5.21)***	0.405 (5.32)***		
Number of loan taken from BRAC			0.031 (2.14)**	0.502 (5.14)***
Age of household head	0.026 (1.47)	-0.052 (1.83)*	0.030 (1.70)*	-0.055 (1.84)*
Age of household head squared	-0.000 (0.62)	0.001 (2.31)**	-0.000 (0.89)	0.001 (2.14)**
Education score of household member	0.211 (14.08)***	0.157 (6.84)***	0.217 (15.11)***	0.201 (10.66)***
Number of income source	0.385 (10.71)***	0.261 (4.50)***	0.395 (11.10)***	0.299 (5.99)***
Beneficiary involved with IGA (1= if yes, 0= otherwise)	0.262 (3.37)***	0.228 (2.09)**	0.258 (3.44)***	0.232 (2.33)**
Households having wage earner (1= if yes, 2 otherwise)	-0.756 (10.28)***	-0.581 (5.96)***	-0.777 (10.13)***	-0.749 (7.44)***
Households member doing any business (1= if yes, 2 otherwise)	-0.053 (0.68)	-0.230 (1.85)*	-0.028 (0.35)	-0.133 (1.21)
Households having rickshaw-van puller (1= if yes, 2 otherwise)	0.370 (5.52)***	0.202 (2.06)**	0.382 (5.37)***	0.247 (2.55)**
Number of crises faced by households	0.002 (0.04)	-0.119 (2.10)**	0.001 (0.02)	-0.225 (3.20)***
Observations	1608	1500	1608	1500
R-squared	0.36	0.36	0.36	0.35
First stage F statistics	-	13.31		14.94
J statistics of over identification test (p-value)		5.14 (0.16)		5.71(0.13)
Hausman chi (p-value)		23.42 (0.009)		26.80 (0.003)

Robust t statistics in parentheses. †Dependent variable = ln(asset value)

* significant at 10%; ** significant at 5%; *** significant at 1%

Hausman specification test was done to know the robustness of 2SLS over OLS estimation. The result shows that alternative estimation (i.e. usage of instrumental variables) is useful instead of simple OLS estimation since Hausman chi-square is significant at one percent level in both equations (Table 14). This justifies the use of 2SLS in estimating the effect of BRAC loan as well as frequency of loan taking on household welfare.

USAGE OF PSM FOR IMPACT ASSESSMENT

An alternative tool for investigating programme impact is propensity score matching (PSM). The first step of this method is to identify the factors affecting the participation using logit model (Annex 3). Once we identified the possible determinants of participation, then propensity score is calculated for control and treated group in the second step. "New entrant", and "early and intermediate entrant combined" have been taken as proxy of control and treated group respectively. In the third step the number of controls and treated that match have been found out to calculate average treatment/programme effect on treated/beneficiaries.

Table 15. Usage of PSM for impact assessment

Variable	No. of treated matched within radius	No. of controls matched within radius	Average treatment effect on treated (ATT)	Standard error	t- value
Asset value (Tk)	524	501	62845	19892	3.159
Log of value of asset	524	501	0.62	0.104	5.953
Poverty score	274	498	5.832	1.147	5.084
Total savings (Tk)	524	501	2580	574.587	4.490
Log of total savings	138	495	1.150	0.124	9.274
Loan size (Tk)	524	501	2177	207	10.508
Per capita income (Tk)	524	501	512	308.149	1.662
Ln (per capita income)	524	501	0.049	0.038	1.287

Effect on household asset, savings, amount of BRAC loan and per capita income have been explored that are closely related to overall wellbeing of the household. PSM results show that overall welfare status has been increased for treated group compared to control group (Table 15). Value of household asset of treatment group is 0.62% higher than that of control group. Total savings of treatment group is 1.15 times higher than that of control group. Average amount of BRAC loan is also higher for treatment group compared to control group. The findings show that veterans were likely to get higher amount of loan compared to early entrant.

SATISFACTION WITH SERVICE AND PREFERENCE OF PROVIDERS

BRAC's microfinance is geared towards achieving financially sustainable service delivery. Among the other reasons, extent client exit has direct implication on the financial aspect. This section is mostly about the extent of satisfaction among the clients in the NWMF expansion project. We would try to identify the level of satisfaction both in general and component specific. We also try to investigate whether and how much do these satisfaction matter in their decision of continuation.

Level of satisfaction

When we are talking about client satisfaction, we need to look at both the general satisfaction with the service package (often called global satisfaction) and attribute specific satisfaction. One important point to note here is that the global satisfaction is not a simple addition of attribute specific satisfactions. Clients put weight on specific attribute depending on the

specific settings and product specification of alternative (if available) service providers. Therefore, a matrix of weight versus satisfaction helps spot the attributes which are highly relevant but lack in satisfaction.

Table 16. Level of general satisfaction with the service package

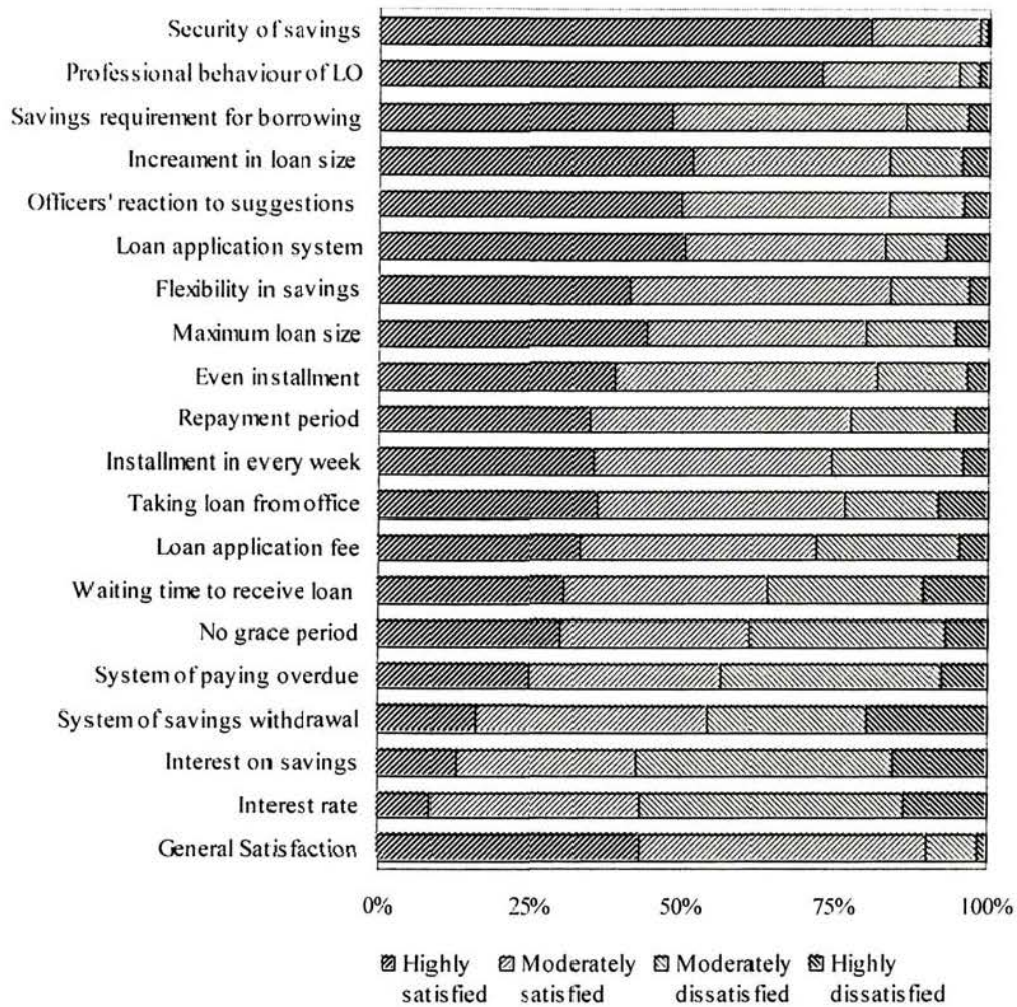
	Early entrant	Intermediate entrant	New entrant
Highly Satisfied	42	35	49
Moderately Satisfied	45	51	47
Moderately Dissatisfied	11	13	3
Highly Dissatisfied	2	1	2

To get an understanding of general satisfaction with the quality of BRAC's microfinance service, the respondents were asked, "Considering every aspect of BRAC MF, how satisfied are you with the services?" The answers were on a scale of four categories, from 'highly satisfied' to 'highly dissatisfied'. Similar questions were asked for different aspects of microfinance service. To make the exercise effective and easy for the respondents, a pictorial method was followed where they were given four pictures representing four states of satisfaction. As shown in Table 16, most of the clients are either highly satisfied or moderately satisfied with the service. However, the extent of satisfaction is higher among the 'new entrants' compared to the other two groups.

Even though the general satisfaction gives a comforting picture, we should look at specific aspects of the microfinance service to identify areas that may require attention to make the service more pro-client. Nineteen different dimensions of microfinance package were identified and all the respondents were asked to demonstrate their satisfaction with each of those. Figure 2 reports the component specific satisfactions starting with the attributes with which they are most satisfied. Security of their money and the professional behaviour the loan officers (LO) are the attributes where they are in most cases 'highly satisfied'. However, the areas where they are least satisfied (or most dissatisfied) are interest on loan and savings; and the system of savings withdrawal.

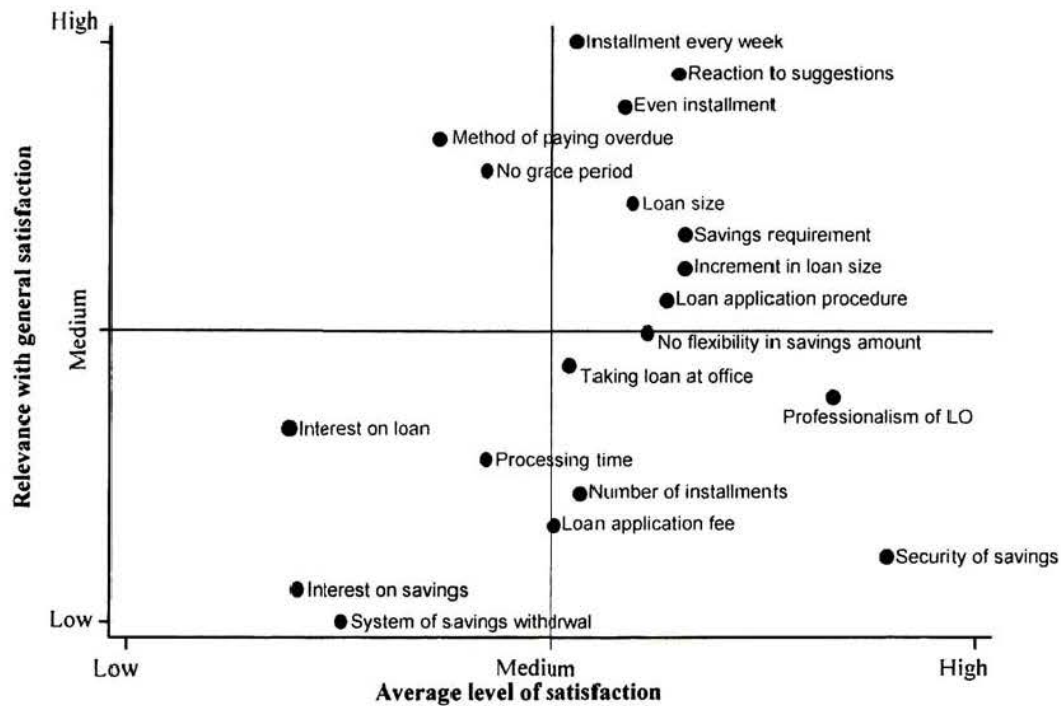
Reporting the interest rates as the areas of dissatisfaction is a common finding in studies on microfinance product design. Often this attribute is excluded to identify product preferences since all the clients will invariably prefer high interest on savings and low interest on borrowing (e.g. Dufhues *et al.* 2004).

Figure 2. Satisfaction with different components



If we look only at the level of satisfaction as a policy guideline, we would conclude with a suggestion of reducing interest rate on loan and increasing it for savings; and this would seriously undermine the objective of sustainable service delivery. Moreover, even such policy is taken up to increase client satisfaction; the objective may not be achieved if the clients put relatively less weight on the attribute. For this purpose, clients are often asked to rank the attributes in terms of importance. However, such exercise also ends up with interest being the most important aspect of the product (e.g. Pawlak and Szubert 2004).

Figure 3. Relevance and satisfaction of different attributes



Here we take a different approach to get the relative importance of the product attributes. Each of the attributes has been ranked by their correlation with general satisfaction. Attributes with higher correlation have been considered to have higher relevance and vice versa. Figure 3 divides the attributes into four quadrants by relevance and satisfaction. Even though the interest rates and procedure of savings withdrawal have lower level of satisfaction, these are least consistent with their global satisfaction. Process of paying overdue and having no grace period needs further revision to improve client satisfaction. Other attributes of high relevance also show the demand for flexibility in the service.

How does satisfaction matter in clients' preference¹

Depending on the level of their satisfaction with the service they are receiving and alternatives available, the clients can make four strategic choices- a) stick to the existing provider only, b) take up multiple membership, c) switch to a different provider and d) exit from the system. Among the clients from the baseline, 43% belong to the first group, 9% have taken up multiple membership, 24% have switched to a different provider and the rest 24% have dropped out from the microfinance system. This gives an annual turnover rate of about 19% and about one-third of them have non-performing loan with BRAC. Nonetheless, this extent of dropout has direct cost implication and we should look at the determinants of these exits².

Table 17 looks at whether satisfaction matter in clients' decision to dropout along with other relevant variables. In the logit model, the dependent variable is whether the client has dropped out (1= yes, 0 = otherwise). In the first equation, the satisfaction variable is a simple

¹ Analysis of this section uses only the 1010 households in the panel.

² For simplicity and keep focus on client exit from BRAC, we have not separated out the cases of delinquency and both group C and D have been merged as dropout.

addition of the clients' satisfaction in the 19 attributes. While this has no explanatory power in clients' decision to dropout, the global satisfaction variable is consistently significant. This proves the point that overall satisfaction is not just a simple addition of satisfaction in different components.

A priori, the number of other microfinance organization working in the village, as reported by the respondents, should have a positive association with their chances of dropout. However, we found a reverse picture which might be reflecting that the MFIs select their area of operations based on the extent of unmet need of finance and the clients in areas of greater MFI density might take up multiple membership to meet their larger loan requirements. Moreover, the variable of 'knowledge of other MFIs' may partly explain the issue. This variable is an index of respondents knowledge of other MFIs, which is composed of whether they are informed about five different attributes viz. how long the respective MFIs take to give a loan once enrolled as a member, loan size offered by them, number of installments, whether allow savings and amount to be saved every week. This knowledge variable has positive association with their chances of dropout. Therefore, having more MFIs in the village in itself does not increase dropout unless the clients are well-informed about their service package.

Table 17. Determinants of client dropout

	Eq 1	Eq 2	Eq 3	Eq 4	Eq 5
Satisfaction with BRAC MF (additive)	-0.009 (1.30)	-	-	-	-
General satisfaction with BRAC MF		-0.952 (9.18)***	-0.695 (5.87)***	-0.714 (5.74)***	-0.738 (5.80)***
Number of non-BRAC MFIs	-0.361 (4.98)***	-0.244 (3.23)***	-0.298 (3.67)***	-0.341 (4.03)***	-0.381 (4.33)***
Knowledge of other MFIs	0.020 (4.16)***	0.014 (2.88)***	0.008 (1.58)	0.007 (1.33)	0.008 (1.38)
Loyalty (would suggest others to join BRAC)	-	-	-2.390 (11.03)***	-2.040 (8.56)***	-1.897 (7.75)***
Time since joined BRAC	-	-	-	-0.000 (0.68)	-0.000 (0.53)
Whether participating MFI other than Brac	-	-	-	0.915 (4.78)***	0.880 (4.56)***
Respondent married	-	-	-	-0.270 (1.10)	-0.270 (1.06)
Years of schooling of the VO member	-	-	-	-0.025 (0.92)	-0.024 (0.84)
Moderate Poor (1=yes, 0 = otherwise)	-	-	-	-0.496 (2.35)**	-0.415 (1.91)*
Non-poor (1=yes, 0 = otherwise)	-	-	-	-0.838 (4.03)***	-0.758 (3.44)***
Other HH member ever participated in NGO	-	-	-	-0.252 (1.05)	-0.365 (1.46)
Marriage of HH member happened last year	-	-	-	-0.546 (2.05)**	-0.618 (2.24)**
Number of income sources	-	-	-	-0.085 (1.22)	-0.101 (1.42)
Variation in poverty among the VO members	-	-	-	-	0.019 (2.19)**
Proportion of VO members reported attend meeting every week	-	-	-	-	-2.505 (5.37)***
Constant	0.967 (2.30)**	-1.414 (5.63)***	1.193 (3.38)***	2.772 (1.90)*	4.154 (2.53)**
Pseudo R ²	.02	.09	.21	.24	.27
Observations	1012	1013	1013	1000	996

Robust Z statistics in parentheses.

Significant at 10%; ** significant at 5%; *** significant at 1%

Whether the respondent would suggest other members about particular provider is often used as a proxy for loyalty. If the products are relatively standardized, such loyalty can be promoted by mere relationship building and can produce results by reducing exit rate. This loyalty is different from satisfaction, though usually correlated, on the ground that loyal clients stick to the existing product even when dissatisfied with the hope of improvement and may raise voice to make it happen. Often client exit is considered as a natural phenomenon with the understanding that clients will exit after a few cycles. However, we did not find any such association when the date of their joining BRAC was considered.

To reveal the true nature of effect of time, we should use duration analysis, which is beyond the scope of this study. However, conceptually such lack of relationship between chances of dropout and enrollment period might be explained by the two possible facts counteracting against each other viz. the longer a client stays with the programme, the higher

her loyalty level would be and longer duration means greater exposure to other causes of dropouts.

To explore the effect of poverty level on chances of dropout, the clients were categorized into three groups i.e. extreme poor, moderate poor and non-poor based on their respective values by poverty score-card. This shows that poorer clients are at greater risk of dropping out. Moreover, greater proportion of the dropout clients from extreme poor households exit from the system as a whole (55% of dropout from extreme poor versus 48% for the rest dropouts).

Table 18. Major reasons of leaving BRAC

Reasons	Frequency (%)
Difficulty in repaying	42
Does not require credit anymore	18
Bad behavior of the loan officers	10
Was offered too small size of loan	4
Difficulty in savings withdrawal	4
Was not offered a repeat loan	3
Got a better service provider	3
Other	16

Particularly interesting VO level variables that have significant association with chances of dropout are the homogeneity in the group and general respect to the system. If the VO have high level of variation in poverty (measured by Coefficient of Variation in poverty scores), the clients have slightly greater chance of dropout compared to a VO with lower variation. On the other hand, if the VO members respect the system by attending the meetings regularly, it might reduce dropout probabilities.

While the regression analysis provides some light on the pattern of client dropout, one straightforward way of identifying the reasons of dropout is to ask the dropout clients. Table 18 reports the reasons cited by the dropout clients. Over 42% of them reported that they were facing difficulty in repaying their outstanding loans as the reason of dropout. About 18% reported that they did not require credit anymore. Only one of the three attributes where the clients have least amount of satisfaction came out in the list of major reasons of leaving BRAC. Four percent of the dropout clients reported difficulty in savings withdrawal as a reason of dropout. However, if we explore further on the reason of difficulty in repayment, the extent of necessity for flexibility in savings withdrawal may increase. Nonetheless, only 6 out of 492 dropout clients pointed out high interest on loan as a reason of their decision to stop being a member of BRAC and none reported low interest on savings.

CONCLUSION

There is now plenty of evidences of the impact of microfinance on the lives of the poor borrowers. This study also found such evidence of impact. Different analysis techniques were used to investigate the level of impact where the value of asset holding of the participants was taken up as the major outcome variable. Since the study is based on a panel data set and includes all the households including the dropout clients, it is less prone to the bias of comparing the incoming clients to the older ones.

Looking into the pattern of dropout, we found that poverty status of the clients and their group, availability of alternative services, their loyalty to BRAC along with their satisfaction with the service have significant association with the possibility of dropout. Flexibility in loan

repayment was observed as a major area to work on to improve client retention. However, finding appropriate flexibility that does not impede the financial health and 'good practices' of microfinance is a major challenge.

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Annexure

Annex-1. Mark Schreiner's poverty score-card derived from BBS HIES

Indicators	Attributes				Points
	Open field	pit pucca	sanitary or water seal pacca		
1 What type of latrine do you have? Assigned Score →		0	7	12	
2 How many household members are 11 years old or younger Assigned Score →	4 or more	3	2	1	0
3 Does any household member work for a daily wage? Assigned Score →			Yes	No	
4 How many living rooms does the house have (excluding ones used for business and kitchen)? Assigned Score →		1	2 or 3	4 or more	
5 Do all children ages 6 to 17 attend school in your household? Assigned Score →		No	No children age 6 to 17	Yes	
6 Does the household Own a TV set? Assigned Score →			No	Yes	
7 How many hectares of cultivable land does the household own? Assigned Score →	Less than 0.34	0.34 to 0.99	1 to 1.99	2 or more	
8 What is the main construction material of the walls of the house? Assigned Score →	Hemp/hay/bamboo or mud brick	C.I. sheet/wood	Brick/cement		
9 Does the household own any cattle? Assigned Score →			No	Yes	
10 Does the house have a separate kitchen? Assigned Score →			No	Yes	
			0		4
					Total

Annex-2. Steps for instrumental variables (IV) analysis

OLS model: $Y_i = \beta_0 + \beta_1 LS_i + \beta_2 HH_i + u_i$
 $Y_i = \beta_0 + \beta_1 NL_i + \beta_2 HH_i + u_i$

Condition of IV method: The conditions of instrumental variables to be used are relevance i.e. there must be relationship between IV and endogenous variables to be instrumented (LS in our case), and exogeneity i.e. correlation between IV and error term must be zero.

Relevance: correlation $(IV_i, LS_i) \neq 0$ or, correlation $(IV_i, NL_i) \neq 0$
Exogeneity: correlation $(IV_i, e_i) = 0$

Stages of IV: In 2SLS estimation process, amount of last loan is predicted by the instrumental variables and other exogenous variables in the first stage. The predicted amount of last loan instead of actual ones enters at the second stage with other exogenous variables.

$$\begin{aligned} LS_i &= \alpha_0 + \alpha_1 IV_i + \alpha_2 HH_i + v_i & \text{or, } NL_i &= \alpha_0 + \alpha_1 IV_i + \alpha_2 HH_i + v_i \\ L\hat{S}_i &= \hat{\alpha}_0 + \hat{\alpha}_1 IV_i + \hat{\alpha}_2 HH_i & \text{or, } N\hat{L}_i &= \hat{\alpha}_0 + \hat{\alpha}_1 IV_i + \hat{\alpha}_2 HH_i \\ Y_i &= \beta_0^* + \beta_1^* L\hat{S}_i + \beta_2^* HH_i + u_i & \text{or, } Y_i &= \beta_0^* + \beta_1^* N\hat{L}_i + \beta_2^* HH_i + u_i \end{aligned}$$

Justification of IV: To estimate J statistics the number of instrumental variables has to be larger than the number of included endogenous variable what is the case here. In calculating J statistics, using the estimates of 2SLS, the value of asset is predicted³ to estimate the residuals.

$$\begin{aligned} \hat{Y}_i &= \beta_0^* + \beta_1^* LS_i + \beta_2^* HH_i & \text{or, } \hat{Y}_i &= \beta_0^* + \beta_1^* NL_i + \beta_2^* HH_i \\ \hat{e}_i &= Y - \hat{Y} \\ \hat{e}_i &= \pi_0 + \pi_1 IV_i + \pi_2 HH_i + \varepsilon_i \end{aligned}$$

The residual is regressed against the instruments and other exogenous variables; and endogenous size of loan is excluded. Partial F-statistics of the instruments from the final regression multiplied by the number of instruments yields the J statistics. Thus, all four instruments satisfy the condition of exogeneity.

³ In calculating the predicted values, actual values of loan size is used instead of predicted ones from the first stage.

Annex-3. Determinants of participation using logit model

Relative economic status (1= better-off 0= otherwise)	0.447 (2.45)**
Female headed HH (1= yes 0= otherwise)	0.460 (0.97)
Highest education of HH member	0.045 (1.97)**
Violence index (0= no violence against women, ... 7= extreme violence)	0.355 (3.21)***
Knowledge index (0= no knowledge on legal issues,7= knowledge on all legal issues)	-0.061 (1.64)
Improved creditworthiness (1= yes 0= otherwise)	0.105 (0.71)
Improved economic status (1 =yes 0= otherwise)	-0.349 (1.68)*
Having mobility outside village (1= yes 0= otherwise)	0.095 (0.33)
Having food security (1= yes 0= otherwise)	-0.393 (2.37)**
HH having sanitary latrine (1= yes 0= otherwise)	0.203 (1.45)
Source of cooking water (1= tube-well 0= otherwise)	0.802 (1.20)
HH Having electricity connection (1= yes 0= otherwise)	0.234 (1.24)
Number of HH member	0.112 (2.39)**
HH with at one female earner (1= yes 0= otherwise)	-0.411 (2.54)**
Number of income source	-0.137 (1.72)*
HH having at least one day labour (1= yes 0= otherwise)	0.250 (1.65)*
Amount of cultivable land (decimal)	-0.001 (1.37)
Number of cow	0.072 (1.35)
Number of goat	0.058 -1.33
Number of crisis faced	0.461 (4.30)***
Constant	-1.312 (1.76)*
Observations	1038
Pseudo R square	0.061

Absolute value of z statistics in parentheses

Significant at 10%; ** significant at 5%; *** significant at 1%

Annex-4. Questionnaire for repeat survey

North-West Microfinance Expansion Project Repeat Survey

PART A

Sample Status: New Scale up New Comparison ID No

Member name -----

Member No Joining Date
DD MM YY

Name of VO and Code -----

Branch Office and Code -----

Village ----- Union -----

Upazila ----- Zila -----

Name of interviewer ----- Date
DD MM YY

Remark of cross checker 1= Satisfied 2= Not satisfied Signature after satisfaction

Remark of supervisor 1= Satisfied 2= Not satisfied Signature after satisfaction

1. What is the status of household interview?
 1= Household found and interviewed
 2= Household found but could not be interviewed
 3= Household was not found

2. If 2 and 3 why not found (mention reason)
 1 = Respondent was not found by visiting 2-3 different days
 2 = Death of respondent 3 = merged with other household 4 = permanent migration (10 Km. away from previous place) 5 = temporary migration
 Others (.....)

3. Member line No. according to baseline

4. Respondent's line No. in present survey (see table 5):

5. Household Composition

Line no	Name	Sex	Age	Present	Head	Marital	Education	Primary	NGO member
		M =1 F=2	in year	status of member	1=Y 2=N	status	n (>=5 year)	occupatio n (>=6 years)	(>=10 years)
1	2	3	4	5	6	7	8	9	10
01									
02									
03									
04									
05									
06									
5 present status		7 marital status		8 education		9 primary occupation		10 NGO membership	
1=married off		0=none		01= class one		1 = argil (own) = work at others house		11 = begging	
2=dead		1 = unmarried		02= class two.		2 = daily labour		13 = household work	
3=went away (within vill)		2 = married		03= class three		3 = service		14 = student	
4= went away (beyond vill)		3 = widow/separated/abandoned		04= class four		4 = business rickshaw		15 = unemployed	
11= new born		05= class five		06= class six		/van/boat		17 = old	
12= new member by marriage		07= class seven		08= class eight		6 = carpenter/mason		19 = tailor	
13= relative became member		09= class nine		10 = SSC		7 = fishing		22 = disabled	
14= family member became household member		11 = HSC		12 = B/A/BSc.		8 = driver/helper		88 = not applicable	
15= expatriate became member		13 = MA		88 = not applicable		Others (mention)		Others (mention)	
99 = not applicable		99 = religion							
Others (mention)									

6. Housing

Room no.	Usage of room	Major building material		Ownership	Present value (Tk)
		Wall	Roof		
1	2	3	4	5	6
1					
2					
3					
4					
2 usage		3 - 4 building material		5 ownership	
1 =living room		1 = brick/concrete		1 = own	
2 = kitchen		2 = tin/wood		2 = rented	
3 = drawing room		3 = mud/wood		3 = shared/others	
4 = cow shed		4 = clay			
5 = shop		5 = straw/bamboo			
(Others (mention)		6 = others			

7. Sanitation

Latrine status? Sanitary=1 Pit = 2 Open/no latrine= 3

8. Source of water and electricity

8.1 Cooking water? Pond = 1 River/cannel= 2 Tube well= 3

8.2 water for other usages? Pond = 1 River/cannel = 2 tube well = 3

8.3 Do you have electricity connection? Yes= 1 No= 2

9. Land Holding

Item	Own land own cultivated	Own land cultivated by others	Others land cultivated by household	Own fellow land	Own homestead	Others homestead
Land (dec)						
Current price						

10. Land mortgage in last three years? Yes= 1 No= 2

11. Land mortgage out last three years? Yes= 1 No= 2

12. Land bought last three years? Yes= 1 No= 2

13. Land sold last three years? Yes= 1 No= 2

14. Ownership and Control over Assets

Sl No.	Asset	Belong 1 = yes 2 = no	Quantity	Present value (Tk)	Ownership of asset? 1 = yes 2 = no 3 = partial ownership	(if column 5 is 1) can you sell it without permission in hard time? 1 = yes 2 = no
	1	2	3	4	5	6
1	Own land					
2	Cow					
3	Goat					
4	Poultry					
5	Ornaments					
7	Rickshaw/van/cycle					
8	Sewing machine					
9	Big tree*					
10	Wall clock					
11	Radio					
12	Spinning wheel					
13	Tube well					
14	Shop					
15	Deep tube well					
16	Cot					
17	Chair					
18	Table					
21	Box					
23	Rack					
43	Showcase					
44	TV					
45	VCP					

*value will be at least TK. 100

15. Employment and Income

Line no.	Income generating activity	Last year's working day	last year's income	
			Net income (Tk.)	Net loss (Tk.)
Occupation code 01 = crop production 07 = agricultural labour 15 = mechanic 02 = vegetable cultivation 08 = non agricultural labour 16 = service 03 = cow rearing 09 = cottage 17 = tailor 04 = goat rearing 10 = maid servant 26 = fishing 05 = poultry rearing 11 = driver/helper 06 = business 12 = hotel/restaurant Others (mention)				

16. INTERVIEWER: Is member involved with IGA? 1 = yes 2 = no
 16.1 (if yes) which IGA (use code from table 15)
 16.2 Income from IGA? Tk.

17. How did you spend your income?

Expenditure sector	% of income	Who is the decision maker for spending money
1 = food		1 = myself
2 = children' education		2 = husband
3 = medical		3 = myself and husband
4 = clothing		4 = other member of household
5 = lending out		5 = myself and other member of household
6 = asset purchase		
8 = installment		
12 = savings		
16 = business		

18. Coping with Crisis (event happened last one year)

Event of last one year	Happened? 1 = yes 2 = no	(if yes) extent of economic deterioration	Whether money spent for event 1 = yes 2 = no	If spent how did you managed (may be multiple)
1	2	3	4	5
Sever damage of house				
Serious illness of household member				
Marriage of household member				
Death of earner				
Death of non earner				
Death of livestock				
Death of poultry				
Dispute				
Robbery /dacoit				
3. Deterioration 1=highly deteriorated 2= slightly deteriorated 3 = no deterioration	5. Source of money 1 =savings 2 =sale of asset 3 =household member is sent to work outside 4 = help from others 5 =relief 6 =borrowing 7 = begging 10 = income from business 14 = BRAC loan 18 = husband's income others (mention)			

19. Poverty Self-assessment

19.1 What about Food security? Chronic deficit = 1 sometimes deficit = 2
No deficit no surplus = 3 surplus = 4

19.2 Economic status compared to other villagers?

Rich = 1 moderate poor= 2 poor = 3 very poor= 4

20. Change of economic status over the last three years?

Deterioration= 1 same as before= 2 improved= 3

21. What government benefit did you receive last three years?

Old age allowance= 1 VGD card= 2 shelter= 3 food for work= 4
RMP= 5 country programme= 6 none= 99

22. Loan Information

22.1 Are you taking loan currently? 1 = yes 2 = no

22.2 (if yes) fill in the following table

Sl no.	Source	Condition 1= with interest 2 = without interest	Loan amount * (Tk)	Usage of loan (whole amount or maximum amount)	Who used/control the loan	Only for NGO loan	
						Repay regularly? 1 = yes 2 = no	Extent of problem for repaying loan 1 = no problem 2 = sometimes problem 3 = often problem
1	2	3	4	5	6	7	8
2							
3							
4							
2. Source of loan 1 = Brac 2 = Other NGO 3 = Bank 4 = Neighbours 7 = Money lender 8 = Shop Others (mention)		5. Usage of loan 1 = Consumption 2 = Medical 3 = Investment/business 4 = Asset purchase 5 = Giving dowry 6 = Marriage 7 = House building/repairing			6. Control over loan 1= Full control 2 = Partial control 3 = No control		

*Do not mention if amount is less than Tk. 100.

23. Change in credit worthiness during last three years
 Increased= 1 same as before= 2 decreased= 3
24. No of loan taken so far .
25. Maximum amount of loan Taka
26. Last three loan taken from Brac (if any)
 Last loan Tk. .

- 2nd last loan Tk. .
- 3rd last loan Tk. .

27. Current Savings

Type of savings	Amount	Saving with what
1	2	3

1. Type of savings	05 = land	3. Saving with what	06 = Brac
01 = cash	mortgage/purchase	01 = bank	07 = Grameen Bank
02 = lent out	9 = jute	02 = post office	08 = other NGO
03 = kind (rice/paddy)	13 = gourd	03 = cooperative society	10 = insurance
04 = handful rice	14 = potato	04 = at home	15 = neighbour
	Others (mention)	05 = with husband	Others (mention)

28. Quality of good client (ask member)

- 28.1. Do you attend weekly meeting? 1 = yes 2 = no
- 28.2. Do you send loan installment with others? 1 = yes 2 = no
- 28.3. Do you save regularly? 1 = yes 2 = no
- 28.4. Do you use loan according to the purpose? 1 = yes 2 = no
- 28.5. Do you repay broken loan installment? 1 = yes 2 = no Not applicable= 3
- 28.6. Do you have more than one passbook? 1 = yes 2 = no
- 28.7. Do you make enquiries what breadwinner does? 1 = yes 2 = no
- 28.8. Do you increase your loan size gradually? 1 = yes 2 = no Not applicable = 3
- 28.9. Do you keep account of income –expenditure of your family? 1 = yes 2 = no
- 28.10. Do you pay heed to your children's education? 1 = yes 2 = no Not applicable = 3

29. Mobility beyond village (for Brac members)

- 29.1 If you have to go outside village, do you have to take permission ? No= 1 from husband= 2 from son= 3
 Father (in law)= 4
 Others (mention)
- 29.2 If you have to go outside village, who accompany you? Husband= 1 son= 2 daughter= 3 Male relative= 4
 female relative= 5 male neighbour = 6 Female neighbour = 7
 go alone= 8 Who is available at that time = others (mention).....

30. General knowledge and awareness of laws (for Brac members)

Correct age of marriage for men?	21 year= 1 wrong/don't know= 2
Correct age of marriage for women?	18 year = 1 wrong/don't know= 2
Do you know wife should be given <i>Mohr</i> by husband?	1 = yes 2 = no
What is the correct law of divorce?	notify chairman= 1 wrong/don't know= 2
What is minimum age for voting?	18 years = 1 wrong/don't know= 2
Is it right to sign or give thumb impression on a white paper?	1 = yes 2 = no don't know = 3
Why do you collect receipt of land rent?	Proof of land ownership = 1 wrong/don't know= 2

31. Domestic Violence against Women by husband
 31.1 Do you stay with your husband 1 = yes 2 = no not applicable= 3
 31.2 (if yes) fill in following table

Event	Happened last one year between couple
Took money giving pressure	
Took valuables giving pressure	
Did not let you go to your father's house	
Did not let you go outside home	
Physical torture	
Threatened for divorce	
Threatened for second marriage	
	1 = yes 2 = no did not respond = 9

PART B

Now we like to know about your opinion on Brac's loan service. Generally it is seen that we are satisfied on some service and dissatisfied on some other service. So, we present different activities on loan service over to you to know level of satisfaction.

highly satisfied= 1 moderately satisfied= 2 moderately unsatisfied=3 highly unsatisfied= 4

Sl no.	Subject	Level of satisfaction			
		Highly satisfied	Moderately satisfied	Moderately unsatisfied	Highly unsatisfied
01	b) Loan application system	1	2	3	4
02	Waiting time to receive loan	1	2	3	4
03	Taking loan from office	1	2	3	4
04	Maximum loan size	1	2	3	4
05	Interest rate	1	2	3	4
06	Loan application fee	1	2	3	4
07	Savings requirement for borrowing	1	2	3	4
08	Even installment	1	2	3	4
09	No grace period	1	2	3	4
10	Repayment period	1	2	3	4
11	Installment in every week	1	2	3	4
12	System of paying overdue	1	2	3	4
13	Increment in loan size	1	2	3	4
14	System of savings withdrawal	1	2	3	4
15	Flexibility in savings	1	2	3	4
16	Interest on savings	1	2	3	4
17	Security of savings	1	2	3	4
18	Professional behavior of LO	1	2	3	4
19	Officers' reaction to suggestions	1	2	3	4

1. Do you have NGO membership other than Brac? 1 = yes 2 = no

2. (If yes) no. of NGO

2.1 Name of NGO

1. 2.
 3. 4.
 5. 6.

3. Knowledge and information about those NGOs

Sl no.	Name of NGO	How long (week) does it take for getting loan once you enrolled?	Maximum amount of first loan?	No. of installment to be repaid?	Whether saving service	Minimum amount of weekly savings?
1						
2						
3						
4						
5						
6						
		1= know 2= don't know	1= know 2= don't know	1= know 2= don't know	1= know 2= don't know	1= know 2= don't know

4. Comparison and suggestions

3 good aspect of Brac compared to other NGO (According to importance)	3 suggestions how service can be improved (According to importance)
1.	1.
2.	2.
3.	3.
88 = no good aspect	88 = no bad aspect
99 = don't know	99 = don't know

5. Overall satisfaction on Brac service?

Highly satisfied= 1 Moderately satisfied= 2 Moderately unsatisfied=3 Highly unsatisfied= 4

6. If someone comes to you for taking advice on NGO enrolment, which NGO would you, suggest?

ASA= 1 Grameen Bnak = 2 Proshika = 3 Brac= 4 TMSS= 5

BURO Tangail= 6 Others (mention).....

6.1 why would you suggest particular NGO?

.....

7. Do you have NGO membership other than Brac? 1 = yes 2 = no

7.1 (if yes) fill in following table

Sl no.	NGO	Membership length		What is main reason for which enrolled here
		Year	Month	
1				
2				
3				
4				

Only for resurvey member t
(if still Brac member)

8. Why did you enrolled with Brac (main reason)

Reason	Random serial
1 = there is no other NGO close to my village	
2 = to avoid unnecessary hassle to enroll with other NGO	
3 = can be enjoyed extra facilities being involved for long time what is hardly possible with new NGO	
4 = i am happy here	
5 = Brac is good considering all aspects	

8.1 (if 8 is 3) What benefits?
(if dropout Brac member)

9. Why did you cancel membership from Brac?

Collect These Information From PO or Accountant

1. Quality of Participation

1.1 Do you have loan transaction with Brac last one year? 1 = yes 2 = no

(If NO)

1.2. Why not?

(If YES)

1.3 Current loan Tk. .

1.4 Current savings Tk. .

1.5 Current overdue? 1 = yes 2 = no

1.6 (if YES) frequency .

1.7 Amount of overdue .

1.8 Over due last 3 month 1 = yes 2 = no

1.9 Regular meeting attendance 1 = yes 2 = no

1.10 Defaulter of being defaulter
Very high= 1 moderately high= 2 moderate =3 moderately low = 4 very low= 5

1.11 Overall opinion about this member
Very good= 1 moderately good= 2 moderate =3 moderately bad = 4 very bad= 5