GRANT BASED APPROACH TO POVERTY REDUCTION: EVIDENCE FROM BANGLADESH

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Abstract: A large scale programme that provides grants along with background support services was implemented by BRAC in an effort to alleviate extreme poverty using a grant-based approach known as Challenging the Frontiers of Poverty Reduction (CFPR). At the beginning of the programme, the participants are provided with income generating assets and training on various issues over a course of two years so that they may graduate into mainstream poverty. The objective of this study is to see the impacts of the CFPR programme two years after the intervention. We have analysed a two round panel dataset from 2007 (baseline) and 2009 (end-line) using the propensity score matching methodology. Results show that not only did the level of income and savings go up amongst the participants, employments dynamics changed from dead end jobs such as working as housemaids and day labourers to more entrepreneurial activities. Furthermore, results also show that the level of food security had also improved. The participants were able to expand their asset base beyond what was provided by the programme initially. Though public expenditures for the poor are not insignificant, often suffer from substantial leakages either through corruption or mismanagement, rendering them toothless. This paper finds that the CFPR approach as implemented by BRAC is clearly an effective strategy to fight ultra poverty in a sustainable manner which can be replicable in other developing country.

Keywords: Employment, ultra poverty reduction, grant based approach, Social safety net, Ultra poor

INTRODUCTION

To achieve the Millennium Development Goals (MDGs), one of the main concerns is the level of ultra poverty that permeates our societies within the third world countries. More than one-third of Bangladesh's population living in extreme poverty lacks the capital necessary to acquire a sustainable livelihood or start a business[1]. To this end, both the Government of Bangladesh and non-government organizations (NGOs) alike have been implementing a number of programmes including the widely available microfinance, vulnerable group development (VGD), food for work and other forms of food and cash transfers (conditional and unconditional). Even though effective social protection policies may benefit many of the poor, they do little or in some cases nothing for the very poorest (CPRC, 2004; Hulme, 2007). Furthermore, although it has been argued that these types of subsidies will ultimately abet the dependency on public funds or others, the social services pertaining to health and education related awareness as well as legal literacy that are available to women through village organizations (VO)[2] are important in

[1] Bangladesh has made significant progress in reducing poverty levels in the last two decades, but the percentage of people living in extreme poverty (31.5%) is still very high (HIES, 2010).

[2] The village organization (VO) is an association of poor and landless people who come together with the help of BRAC to improve their socioeconomic condition.

developing a sense of self-worth and self-confidence which ultimately motivate/encourage them to work independently[3] (Easterly, 2001). These types of Government and non-government initiatives have gained momentum in reducing poverty because the rate of poverty has declined 35.2 percent in 2010 from 43.8 percent in 2005 (BBS, 2010). However, it was still noticed that the poorest inhabitants of the country were beyond reach despite the influx of so many of such programmes. After analysing much of the lessons from a myriad of past BRAC programmes, an innovative idea was born.

The large scale grant-base programme was implemented by BRAC, known as Challenging the Frontiers of Poverty Reduction (CFPR) to address extreme poverty[4] with the motto of *pushing down* to reach the extreme poor and *pushing out* the social boundaries that leave them out. This large scale grant-based approach has already been proven to a successful strategy [5] and drawn attention of policymakers, academics, policy implementation agencies (Das, C. D. and Misha, F., 2010, Ahmed *et. al*. 2009, Krishna, *et. al.* 2011). The programme was launched in 2002 and ended its first phase in 2006 where the main aim was to improve the livelihoods of the ultra poor through a combination of asset transfer, supplementary feeding, and livelihood support services as well as confidence, social awareness building trainings and other welfare activities. Based on the lessons of this phase, the second phase was initiated in 2007 with the same targets, but the intensity of coverage and diversity in support packages were fortified. The diversity in support packages was done firstly based on heterogeneity among the ultra poor and geographical differentiation of poverty. The ultra poor households are selected through a rigorous process (Annex 1).

The support packages delivered by CFPR target two broad groups of ultra poor: specially selected ultra poor (STUP) and other targeted ultra poor (OTUP). The STUP has been further disaggregated into STUP I and STUP II, so that the heterogeneity amongst the ultra-poor can be more accurately addressed. STUP I package is being implemented in 20 districts with highest density and depth of poverty, while STUP II is being implemented across the next 21 of the poorest districts. The main difference between STUP and STUP II is in the size of the assets provided and the level of supervision intensity in terms of staff member ratio (Annex 2). And the main difference between STUP and OTUP is that microfinance is the main entry point for both the OTUP models, while STUP participants receive comprehensive support package which includes enterprise development training, asset transfer, subsistence allowance, health subsidy and social development support for a period of two years, so that they can build up an asset base and subsequently participate in the mainstream development activities such as microfinance. The main aim of this programme is to enhance the economic and social capabilities of the ultra poor which enables them to overcome the socioeconomic constraints and improve their livelihoods. For this paper, we assess the impacts of the STUP II package of CFPR on the participants[6]. The outcome variables that we consider for impact assessments are income and employment, housing condition, asset (physical, natural i.e. land, financial, human asset), awareness, and food security (we use per capita food expenditure as a proxy)

METHOD

Data

As mentioned earlier, STUP2 package of CFPR was launched in 2007. A baseline survey was carried out during June to August in 2007 in the 50 branches in 5 districts covered by the programme in 2007. The CFPR households were selected through a community based wealth ranking procedure modelled after the Participatory Rural Appraisal approach (PRA) (Chambers, 1994) where five PRAs were conducted in each branch. After conducting the PRA process, a list of the households were drawn up where primarily selected households was pulled up from the bottom ranking of the process (sometimes the bottom two were considered also). Further verifications were carried out to constitute the list of the finally selected

[3] Selim (1996), in his account of BRAC, notes that the social services available to women through village organizations (VO) are important in developing a sense of self-worth and self-confidence. Hashemi, *et. al*. (1996) in their study on Grameen Bank and BRAC found similar results.

[4] Further details of the CFPR programme can be seen in Ahmed *et al*. (2009).

[5] Hulme (2007) showed that over the period of 2002 to 2005, TUP participants had a greater rate of asset accumulation than non-participants in all asset domains – financial assets (savings and credit), physical assets (a range of livestock, household and productive assets), natural assets (access to cultivable and homestead land), social assets (social and legal awareness), and human capital (household demographic structure, education, health and sanitation). According to Das and Misha (2010), households' food security, per capita income etc. increased remarkably due to programme participation and the gain sustained over longer-term.

[6] Programme description can be seen in Annex 3

ultra-poor[7] because among the ultra-poor, a group of households who met the selection criteria to receive programme benefits were called SUP (selected ultra-poor) or intervention group. For the survey, all the finally selected ultra poor (SUP) and the primarily selected but not finally selected households were surveyed. Additionally, 10% of the rest of the households listed in the PRA and one additional household from top wealth ranking were also surveyed.

The sample size for baseline survey was 3,685 households, of which 778 were the final selected households and 2,907 were other households. This was followed by a second round survey conducted in 2009. In the 2009 follow-up survey 3,387 households in total were successfully surveyed, of which 693 households were finally selected households and 2,783 were the other households. The total attrition rate was thus 8.08% and a further disaggregation is presented in Table 1. This study analyses the data in the panel form consisting of 693 finally selected households and 2783 other households for the years 2007 and 2009. For analysing food security, a smaller sub-sample consisting of a total of 2739 households were analysed.

The surveys were conducted by Research and Evaluation Division (RED), BRAC. The survey questionnaire was administered to the main female member of the household.

ANALYTICAL TECHNIQUE

As we had mentioned earlier, the tentative comparison group consists of those members from the community who were initially chosen during the PRA exercise but failed to qualify during the final selection interviews in addition to the other households from the community. For any impact assessment, we need to consider the de facto trajectories the households would otherwise take had the programme not intervened. Because of this, we would be required to construct a comparison group that is, essentially, comparable to the treatment group. However, the other households altogether are unlikely to compare such counterfactuals as they are better off than the treatment group in a number of instances. This implies that use of a simplified difference-in-difference technique to investigate the efficacy of CFPR STUP II may not be appropriate. An alternative method is the propensity score matching technique that constructs a comparison group who are likely to be similar to the treated, that is, have similar inclusion probability densities, contingent on the baseline participation characteristics. We calculate the effects of treatment based on the following equation:

Average Treatment Effect for the treated:

$$ATT = E(Y^1 \mid D=1) - E(Y^0 \mid D=1) \quad \ldots\ldots\ldots(1)$$

where, *ATT* is the average treatment effect; Y^1 is the current value of the treated individuals while Y^0 is the current value of the untreated individual. Significant results can be obtained from this equation given the baseline characteristics are comparable.

Propensity Score Matching (PSM)

Under the Propensity Score Matching method, a comparison group is constructed based on observable characteristics by 'matching' the treatment households to comparison households. The paper by Rosenbaum and Rubin (1983) state that the probability of receiving treatment depends on pre-treatment characteristics:

$$p(X) \equiv Pr\{D = 1|X\} = E\{D|X\} \quad \ldots\ldots\ldots..(2)$$

where D has a value of 0 or 1, indicating whether the observation falls within the treatment of the comparison group and X represents variables displaying the pre-treatment characteristics. The propensity scores are then matched for each of the individuals to determine which of them have higher probability densities of being within the treatment group. The ATT is then calculated using equation (1), restricted by the matched observations.

Our use of PSM to assess the impacts of the CFPR programme involves a number of steps. First, by using a probit and a logit model, the propensity scores for participation in the programme were estimated (probit for general outcome estimations, while a logistic model was used for analysing food security). Second, we have tested the balancing properties of the data by testing that treatment and comparison groups had the same distribution (mean) of propensity scores and of variables within groupings of the propensity score. Variables not satisfying this test were subsequently dropped or replaced with alternative variables and the specification was rechecked. We have ultimately settled on two specific models of matching. A logistic model was used to match treatment and comparison households for the subsample for assessing the impact on the per capita food expenditure, given the different sample size, while a general probit model was used to match households for comparison for the rest of the outcome variables.

[7] Usually households in the poorest category of wealth rankings were considered as the 'ultra-poor' though sometimes households in the poorest two categories were also considered.

Third, according to Heckman, Ichimura, and Todd (1997, 1998) the quality of the match can be improved by ensuring that matches are formed only where the propensity score densities have "common support", or where the distribution of the density of the propensity scores overlap between treatment and comparison groups. We have estimated both our matching equations using the common support mechanism. Subsequently we match the propensity score between the treatment and comparison groups through the nearest neighbourhood matching technique using STATA's *pscore* command. The Probit and logit regression results for the propensity scores can be found in Annex 3 and 4.

RESULTS AND DISCUSSION

Employment Activities

This section deals with the amount of time spent in various occupations such as agricultural related works including animal husbandry and so forth, working as day labourers in both farm and non-farm activities, doing household chores and others that includes non-farm salaried activities, students and distress occupations such as working as household maids or begging. More specifically, we investigate the aforementioned employment activities of the working aged members (15-65 years) disaggregated by their genders.

Agricultural activities are the most prevalent within the programme target areas, as is also across the country. Evidence tends to show that a significant number of households in rural areas are somehow interlinked with this profession as either through self-employment or daily labouring in other's fields. Evidence states that an increase in the level of self-employment proves to be an important marker and indicator of a burgeoning economy (Kambourov, G. and Manovskii, I., 2008). Through CFPR programme intervention, the participants are encouraged to partake in self-employment activities. Specifically for this reason, income generating assets are provided to them to encourage such behaviour in the hopes that the rigorous trainings components along with the assets will be able to make the beneficiaries out of extreme poverty sustainably. It is expected that by the time the participants graduate, they will be able to maintain and utilize their income generating assets successfully and in a sustained manner, and thereby refrain from *dead end* jobs such as day labouring or working as housemaids.

The agricultural self employment, in our analysis, include cultivation of land (either own land and or mortgaged-in/shared in land), livestock and poultry rearing) (Table 2). The baseline shows for the agricultural activities that the working aged women among both the treated and comparison groups are not statistically different. However, at the end line, the programme participants have had the opportunity to receive and utilize their assets for two years and it can be seen that they spent more than double the comparison group's time undertaking agricultural activities. At the time of the follow up survey, it can be seen that the number of hours spent by treatment groups conducting agricultural activities is 373.69 more than their comparison or control counterparts ($p<0.01$).

Positive results were also seen for activities such as working as day labourers in both agricultural and non-agricultural sectors, and working as housemaids. At the baseline, the working aged women among the treatment group were seen to undertake day labouring significantly more ($p<0.05$) than their matched-comparison counterparts. In 2009 however, the scenario had changed for the better for the participant women. Although both the groups ended up working more as day labourers, the increase was much higher for comparison group. In lieu with the findings in the paper assessing the spill over effects of a grant-based approach such as the CFPR (Raza, W. and Das, C. D., 2011), the non-participants in the area who are somewhat comparable to the participants, will typically fill the void created by the absence of the participants in various occupational avenues.

In lieu with the results from the time spent working as day labourers, the number of hours spent working in other people's houses as housemaids showed similar traits. The baseline found that the number of hours spent working as housemaids by the treatment group was significantly higher ($p<0.01$) than their comparison group. At the 2009 mark, this number had dropped to the level where the two numbers were not statistically different and the difference-in-difference was negative and statistically significant, indicating that programme help reduce distress occupation among the participants ($p<0.10$). No effects, however, were found for activities such as household chores, salaried employment, begging, studying as students and so forth.

In terms of the changes in the employment activities amongst the working aged men (Table 3), we did not find any significant impact on agriculture and day labour related activities. We found that hours devoted to studying as students, begging and unemployment had reduced significantly due to the intervention. Although no definitive conclusion can be reached given the results, it can presumed that the reduction in time spent in these venues reduced due to the fact that the women in these households have received income generating assets from the programme, and the men were spending more of their time supporting

their activities.

Impacts on Income

Income is one of the key indicators that demonstrate the efficacy of the programme. It is believed that a smooth path to an overall enhanced livelihood pathway and increased living conditions is largely contingent on a robust and consistent income stream. The aggregated incomes over the past year have been collected from each of the working members of the households and subsequently household income has been computed. Figure 1 shows that while in the baseline, the households in the comparison group had a statistically higher income than their treatment counterparts (Tk. 7024.78 versus 6305.87; $p<0.10$), the per capita income level at the 2009 mark increased significantly (the income was recalibrated to the 2007 constant prices using the rural consumer price index). At the 2009 benchmark, it was found that the income levels between the two groups were no longer statistically different. Overall, it was identified that the difference-in-difference was BDT 1128.85 and was found to statistically significant at the 5% level.

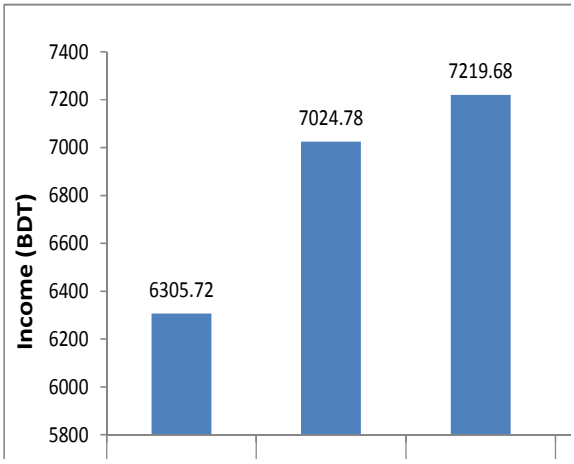

Figure 1. Per capita Impact on income (In Tk., 2007 constant price)

Impact on Savings

In this section we have analyzed the respondents' savings behaviour. A low savings rate is a major barrier to economic growth and for the rural poor, savings can help buffer seasonal swings in agriculture related incomes and provide the lowest-cost source of cash for achieving long-term goals (USAID, 2007). Realizing this BRAC through its programme, encourage programme participants to save in BRAC TUP so that they can use this savings in various incidences as well as to implement future business plans[8]. After analyzing the data we have found the respondents' saving has increased among both groups but pronounced more among the programme participants. The result shows that the respondents' total savings has increased from Tk. 212 to Tk. 1438 among the programme participants whereas it has increased only Tk. 259 to Tk. 518 among the non-participants (Fig. 2 & Table 4). USAID (2007) stated that people had a negative attitude towards savings and used to say that they are poor, therefore not able to save more and the Radio sensitization message that *even the poor can save* has changed the potential savers' attitude and now we see a change. Formal savings accounts help the poor save up and invest in their future as well as withstand emergency needs for cash without depleting their other assets and committed savings accounts empowered women to make more of the economic decisions in the household which ultimately helps to reduce poverty (Kendall, J., 2010).

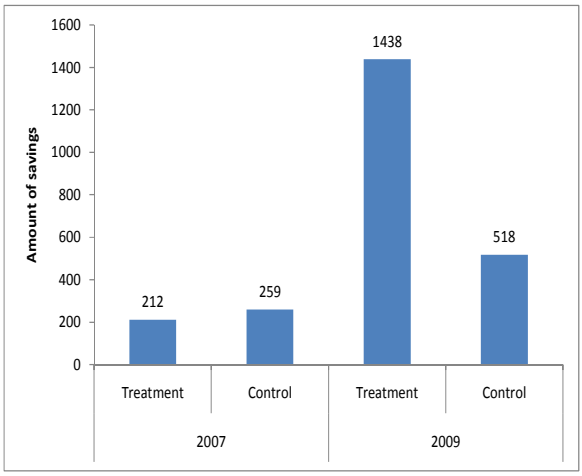

Figure 2. Impact on savings behaviour (Tk.)

Table 4 shows the respondents' amount of savings at home, bank, TUP account or in NGOs. The respondents' savings at home has increased among the programme participants while it has decreased among the non-participant. The respondents' savings at bank or NGO has increased among both groups. It is interesting that the programme participants' savings at TUP programme is so high, as the

[8] Saving money is the least expensive way to obtain cash to cover family emergencies or uncertainties or unexpected income shortfalls and the surest path to increased financial security for most people, regardless of income (USAID, 2007).

members are primarily bound to save money and after the initial stage they are encouraged to save money[9]. These savings ultimately motive people to embark on entrepreneurship to generate income as well as help them to overcome for future shocks, children education or marriage.

Impact on Land

The poor distribution of resources such as land has been identified one of the root causes of economic stagnation and often times degradation in many developing countries (Deininger, K., 2003; Adhikari, C., 2008). Greater access to land for the poor helps to increase income and consumption and thereby reduces poverty (Adhikari, C., 2008). Table 5 indicates that amount of cultivable land has increased from 0.63 decimal to 1.32 decimal among the beneficiaries and decreased from 0.87 decimal to 0.76 decimal among the match non-participants. Among the ultra-poor a slight gain of cultivable land indicates economic growth which ultimately reduces poverty[10].

When land is scarce, access to even small homestead plots can benefit families by improving nutrition, providing a source for additional household income, and enhancing the status of women (Nielsen, 2006). Homestead land holding has increased among both groups but it has pronounced more among the participants. We found that the respondents' amount of homestead land has increased from 0.66 decimal to 0.88 decimal among the programme participants where it has increased only 0.64 to 0.78 among the comparison group. The difference-in-difference bears positive significant and is significant at 10% level.

Typically evidence shows that as a person's income increases, the first instances of income are spent on immediate consumption needs such as food, clothing, household repairs and so forth (Krishna, A. 2007). As the income stream steadily extends over time, activities such as the purchase of homestead land and non-productive assets follow. Our finding probably reflects this hypothesis. Expansion of income generating assets such as cultivable land also tends to increase, however, given the precarious nature of the climate in the regions, purchasing of such lands are dubious at best, at least in terms of income. This is reflected in the table below. We speculate that when the household in question is stable enough in terms of their income stream, only then the households venture into riskier income generating ventures such as purchasing cultivable lands.

The programme participants' amount of cultivable and homestead land have increased over the year due to the intervention. This is a positive sign because if the programme participants can be well equipped to sustain or increase their amount of land, this can create opportunities for employment for the rural unemployed (Hule, 2009). But using other's land in the form of mortgage in, rented in and shared cultivation has increased among both groups during the year (Table 5). We have found an unequal situation of the respondents in accessing land in the form of mortgage in, rented and shared crop land where the non-participants access of these kinds of land is higher than the programme participants.

Impact on Housing Condition

Analysis indicates that in the baseline the programme participants' value of the house was lower than the non- participants. But the follow-up survey shows that the programme participants' value of the house has increased to Tk. 11953 (Table 6). This result indicates that the programme participants' increase in income tends to spend to improve their housing condition. The poor people are satisfied if they get just a small place to sleep and do not bother about other facilities and even not to speak of standard housing conditions (ECAFP 1960 cited in Parvathamma and Narayana, S., 1987). Realizing that, in assessing the programme impact, we have analyzed how much the participants had spent on their own household improvement in the last one year. Though our respondents are extremely poor and not enough concerned about higher standard living condition, have been to spend for housing improvements. Table 6 indicates that in the baseline (in 2007) the programme participants spent only TK 502 which is lower than the comparison group. But in 2009, the programme participants spent Tk. 2160 which is higher than the comparison group. But the impact was found to insignificant.

Impact on Asset

CFPR programme provides Enterprise Development Training and transfers livestock and provides financial assistance (Tk. 25 per day) to the targeted households. One of the main criteria for selecting programme participants is that there must be at least an active female member in the household to take care for the assets provided. Analysing livestock holding, it has been found that a remarkable increase in livestock possession among the programme participants (Table 7). The figure below indicates that the livestock's value among the programme participants increased from Tk. 1059 to Tk. 11375 (as

[9] . Savings awareness campaign manifested that targeted communications activities are highly effective tools for mobilizing rural populations to save their money (USAID, 2007).

[10] Chirwa. E. W. (2004) showed that access to land via agricultural production is one of the important factors that can translate growth to poverty reduction.

the number of livestock has increased) where there has been a comparatively lower level of increase among the non- participants (Tk. 2704 to Tk. 4232). It should be notable that the programme participants get asset/livestock which worth TK. 6000 on average, that includes the provision for the aforementioned sustenance allowance of Tk. 175/week. Upon comparison, it can be seen that the level of increase has surpassed the average grant provided by the programme by the end. This would indicate that the participants have been able to multiply the physical asset transferred by the programme. The asset transfer acts as a catalyst in the sense that given the age old wisdom, it takes money to make money, they started off with next to nothing in the beginning. But given this influx of assets into their households, they became motivated to utilize their entrepreneurial skills and expand the said database.

To support the above discussion, we have disaggregated the number of assets as per their category and have analysed their numbers. As for the number of cows/bulls a household owns, we have seen that in the baseline the comparison households had a significantly higher number. However, at the follow-up, given the programme transfers, we have seen that numbers are now significantly higher for the participants, and the difference-in-difference is found to be significant for this asset ($p<0.01$). Similar trends have noticed for chickens/ducks and the number of housing units for livestock (the difference-in-differences are found to be significant at the 1% level for both the assets).

To assess the respondents' financial status, it is imperative to know the value of their productive assets. As for total asset base the households own, the baseline showed that the participants had significantly less than their control counterparts. In the follow-up survey, the beneficiaries' proportion of productive assets value has increased highly from Tk. 3449 to Tk. 13698 where it has increased only Tk. 4739 to Tk. 6396 among the non-beneficiaries ($p<0.01$) (Figure 3). In line with the changes in the number of assets the households now possessed, we have seen their corresponding values also changing. This indicates that the programme participants' financial status has improved significantly than the non-participants. Programme provides assets to the participants which worth, on average, TK. 6000 but over the two years, the monetary value appeared to have nearly doubled. This kind of support can help the rural poor or motivate the poor to undertake more entrepreneurial activities, thereby expanding their asset base.

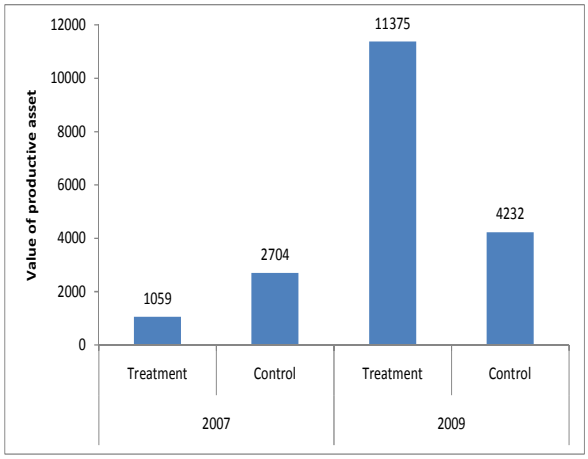

Figure 3. Total productive asset value

However, this remarkable increase must be taken with a grain of salt given that, as we have mentioned earlier, the programme had sizeable inputs when it comes to these assets. This indicates that the programme has significant impact on enhancing the possession and value of productive asset which ultimately improve the livelihoods of the ultra poor. However, as we have mentioned previously, that this is a short term impact assessment of the programme. This is a plausible reason why we do not see much change when it comes to assets, CFPR did not provide at the time of the survey (such as rickshaws/vans, fishnets and so forth) such that the programme participants did not have sufficient time or experience to diversify their productive asset base.

Impact on Non-productive Asset

Table 8 presents the average number of non-productive assets of the treated and matched control households. Analysis shows that among the items analysed, the difference-in-difference for items such as mobile phones and mosquito nets are found to be statistically significant at the 10% and 5% level respectively. We speculate that the increase in values of mosquito nets can be attributed to the fact that the programme staffs teach the beneficiaries about various health improving habits, one of which is the use of mosquito nets, to prevent mosquito borne diseases such as malaria, dengue fevers and so forth.

Impact on per Capita Food Expenditure

Food security is seen as one of the key indicators of the quality of lives people lead. And per capita food expenditure is one of the key variables that identify the level of food security an individual has. As part of the CPPR programme, the participants are provided BDT 175 per week as a form of subsistence allowance. However, the subsistence allowance continues for about 8—10 months, indicating that

subsistence allowance ended well before the repeat survey was conducted. In terms of the impact on the per capita food expenditure due to programme intervention, we see that the comparison fares on the positive end. As we had mentioned earlier, due to the effects of Sidr/cyclone in large parts of the region the programme takes place, we would expect to see it take a massive toll on the per capita food expenditure. However, despite the fall we found that the programme participants fare significantly (Fig. 4) better than their counterparts in 2009 (p<0.05). The amount shown in the figure has been adjusted to 2007 prices using the Rural Rice Price Index.

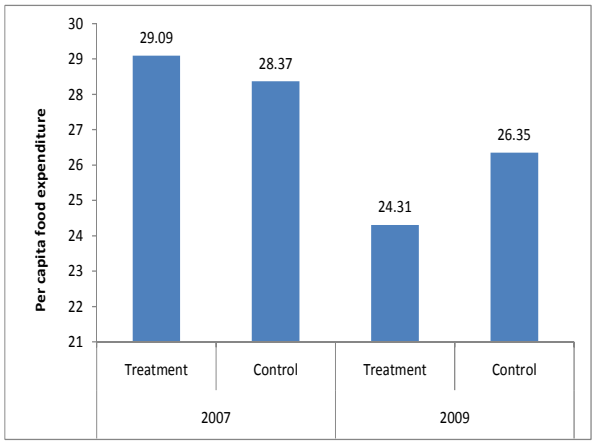

Figure 4. Per capita food expenditure
Note. Per capita food expenditure shown in 2007 constant prices.

Impact on Awareness

One of the components of CFPR programme is to provide awareness rising training among the participant regarding social, legal and political issues. These include awareness on legal age of marriage both for boys and girls, legal procedure for divorce, punishment for against dowry and so forth. For analyzing the effect on awareness, an index was constructed using16 indicators (Annex 5). To construct the index we assign a value '1' for correct answer and '0' for wrong answer. We then added the total scores for each household and divided by the total number of indicators used, contingent on whether certain questions were applicable to the individuals. Figure 5 shows that in the baseline both groups had similar level of awareness. In the follow up survey we found that programme participants awareness regarding those issues increased from 42% to 48%. The difference-in-difference was found to be statistically significant at 5% level which indicated that the programme participants are now more aware about the social, legal and political issues.

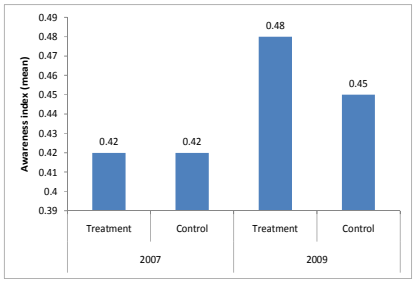

Figure 5. Impact on awareness

CONCLUSION

A substantial evidence base shows that traditional approaches to poverty do not suffice when it comes to extreme poverty, especially with programmes such as microfinance and various other popular social safety net models (Hashemi, 2001; Wood and Sharif, 1997). Recognizing this, a large scale grant-based programme was implemented by BRAC, known as Challenging the Frontiers of Poverty Reduction (CFPR) to address extreme poverty. Progressively designed, the programme has three components that aim to address the heterogeneity of the ultra poor through a grant based approach. The programme participants receive comprehensive support package which includes enterprise development training, asset transfer, subsistence allowance, health subsidy and social development support for a period of two years, so that they can build up an asset base and subsequently participate in the mainstream development activities. The objective of this study is to see the impacts of the CFPR programme. The outcome variables that we consider for impact assessments are income, employment activities, asset (physical, natural i.e. land, financial, human asset), housing condition, awareness and food security (we use per capita food expenditure as a proxy). We use two round survey data on same households collected in 2007 and 2009. For analysis, we have used the propensity score matching technique as methodology.

Analysis of hours spent by participants at various activities (both income generating and otherwise) show that the number of hours spent by programme participants has increased considerably due to the intervention taking place. Due to programme intervention, it was seen that the women opted to spend more on agriculture and related activities. However, results showed that participation in distress occupations such as housemaids among the working aged women reduced to some extent which suggests that programme was able to reduced

vulnerability of the households. It was found that the income level has been impacted significantly among the programme participants. The level of savings and amount of homestead land, and non-productive assets has also increased markedly than their comparison counterparts. The programme participants were also found to multiply the productive asset base transferred by the programme. There were also some positive impacts on food security.

Significant investments are being made in fighting poverty all over the world but sustainably addressing the problems of the ultra poor to sustainably remain a key concern. Public expenditures for the poor is not insignificant. For example, the Government of Bangladesh spends about 5% of its public expenditure for the poor. But numerous accounts suggest that these programmes often suffer from substantial leakages either through corruption or mismanagement, rendering them toothless. However, a judicious and evidence-based use of such small amounts of money may bring greater benefits. What is necessary for sustainable reduction in extreme poverty is to design the mechanism for the delivery of the funds so that the outcome is maximised. This paper finds that the CFPR approach as implemented by BRAC is clearly an effective strategy to fight ultra poverty in a sustainable manner.

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ANNEXURE

Annex 1. CFPR Programme Description

CFPR phase I was implemented during 2002-06. This phase encompassed 100,000 extreme poor women and their families under its grant-based support package. The currently ongoing CFPR phase II (2007-2011), has been extended to provide services to 370,300 households in its grant-based packages.

Targeting is a key component of CFPR not only because of the high costs of inclusion error but also to foster a sense of ownership and fairness among the community members. To be eligible for membership of the grant-based package of CFPR, a household needs to meet three of five prerequisites. However, if a household lacks an active female member, they are automatically disqualified as CFPR is specifically targeted towards the extreme poor women and their ability to optimally utilize the assets provided by the programme.

A geographical targeting procedure is undertaken as the very first step of the participant selection process. Based on the poverty and vulnerability mapping by the World Food Programme (BBS and WFP 2004), the poorest districts and sub-districts are identified. Within each sub-district, further geographical selection is carried out in consultation with field level BRAC staff armed with an in-depth knowledge about the locality. During the second stage, a wealth ranking exercise, developed by Robert Chambers (1994: 1253-68) known as the Participatory Rural Appraisal (PRA) is carried out and households of the bottom wealth ranks are called community defined extreme poor. The community defined extreme poor are then re-checked against the inclusion and exclusion criteria. A final round of verification is carried out by high level BRAC staff to generate the final list of households eligible for CFPR support.

Sulaiman and Das (2008) conducted a targeting effectiveness study of the CFPR and showed that more than 80% of the intervened households were from the poorest quartile, indicating that programme was remarkably successful to target mostly the poorest households from the community. In terms of targeting the poorest CFPR seems to be relatively

better off than other programmes designed for the extreme poor in Bangladesh; for example Government's employment generation programme targeted only 37% households from the poorest quintile (NFPCSP, BDI and BRAC, 2009).

Following the completion of the selection process of the participants, a training session on their selected Income Generating Assets (IGA) ensues. These IGAs consist of options such as poultry rearing, livestock rearing, vegetable cultivation, horticulture nursery, and non-farm activities. The training component of the programme begins with an intense 3 to 5 day sessions and are followed up by monthly refresher courses to ensure that the provided IGAs are properly cared for and utilized to reach their full yield potential. The support package also provides the necessary inputs required to maintain the said IGAs, such as vaccinations for the livestock and poultry and sheds for their housing. In an effort to create a holistic support package for the extreme poor, all the participants receive a weekly subsistence allowance of approximately BDT 175 (US $2.50), the goal of which is to smooth consumption and compensate the opportunity cost of the time beneficiaries spend in nurturing the IGAs until maturity as opposed to working for an income. Another rather subversive aim of this stipend is to deter the beneficiaries from selling off their assets to meet immediate consumption needs. This stipend is provided to them for 8 to 12 months depending on the type of IGA they have received.

As a part of the comprehensive package being provided to the participant, regular health services are provided, especially more so to those who are currently pregnant. From previous endeavours, a support infrastructure of BRAC health workers is already in place in most parts of the country. The hierarchy of the health programme is set so that the service providers are accessible by anyone in the village. The front line workers are known as *Shastho Shebikas* (health monitors) who are assigned approximately 100 to 150 families to look after. These *Shebikas* are initially selected from the village resident themselves and trained in the ten most frequently occurring problems such as diarrhoea, dysentery, coughs etc. Furthermore, also as a core part of the programme, hygiene related items such as sanitary latrines and tube-wells are supplied and the uses of which are strongly encouraged.

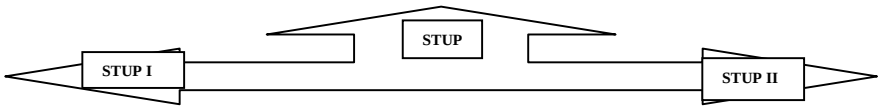
The Social Development (SD) aspect of the CFPR programme is multifaceted as a number of different components work in conjunction to increase social awareness of the different issues that plague local societies. The SD programme is designed to empower the poor by increasing their human, social and political assets so that they are aware of their rights, can claim their entitlements and actively resist exploitation. One example of this aspect of the programme is the Popular Theatre where the local people themselves participate to entertain their fellow villagers through theatre on social messages such as facts that HIV/AIDS is not transferable through simple contact and reduce the stigma around it.

For social protection of the participants, a committee known as *Gram Daridra Bimochon Committee* (GDBC or village poverty alleviation committee) representing the local elites are formed. An interesting concept, the idea of GDBC is to mobilize the local elite support for the extreme poor and to ensure security of the assets transferred to them. The way GDBC works is by creating a committee that will apply socially cumulative pressure on those who may be in a position to help others in the village to provide assistance. As part of the support package, BRAC also provides free legal services to the participants. In this facility, if the member had complaints that required legal attention such as spousal abuse, abandonment and other related issues, BRAC steps in with their local legal team to assist the complainant.

In terms of the costs for such an inclusive programme, the comprehensive expenditure per beneficiary is stated to be at USD $142 for the duration of two years. This figure includes the costs related to the income generating assets provided, administration and also for all the background support provided to the beneficiaries during the duration of the programme. One of the components here to understand is that although it is said that the USD $142 is per individual; it in fact, is for the entire household that it being reached. What this means is that the assets, both social and capital, are provided for the entire household, who reap the benefits provided from components such as social protection, health benefits for the mother and children and education.

Annex 2: Coverage and support package of "Pushing down" activities

Coverage of 'pushing down' activities



Most deprived and highest poverty concentrated 20 districts

STUP Model I

Coverage: 200,000

Support Package

Enterprise Development Training

Assets transfer ranging from Tk. 6000-Taka 12,000

Subsistence Allowance of Tk.15 per day with duration tailored to reflect personal and enterprise characteristics

Staff ratio of 1:100.

Health Subsidy

Social Development Support

Comparatively less deprived, high and moderate poverty concentrated 20 districts

STUP Model II

Coverage: 100,000

Support Package

Enterprise Development Training

Asset of average Tk. 6,000

Subsistence Allowance of Tk. 10 per day with duration tailored to reflect personal and enterprise characteristics

Staff ratio of 1:150

Health Subsidy

Social Development Support

Annex 3. Probit regression for overall estimation

Dependent Variable: STUP 2 (Yes=1, No=0)	Coefficient	Z	P>|z|
No. of radios	0.0133861	0.13	0.898
No. of sarees	-0.072937	-2.24	0.025
Value of bedding (In BDT)	-0.0001471	-1.87	0.062
Number of chairs	-0.1027068	-1.17	0.24
Value of chairs (In BDT)	-0.0006762	-1.25	0.213
Value of radio (in BDT)	0.0001683	0.76	0.448
Value of mobile phone (in BDT)	-0.0000219	-0.31	0.757
Housewife	-0.3255416	-2.77	0.006
Respondent married (Yes=1, No=0)	-0.2051879	-1.49	0.136
Female headed household (Yes=1, No=0)	0.4015238	2.77	0.006
No. of Trees	-0.0003443	-0.15	0.883
Value of boat (In BDT)	-0.0000595	-0.77	0.443
No. of Rickshaws/vans	-0.3676454	-2.72	0.007
Agricultural day labour (Yes=1, No=0)	-0.2891358	-1.54	0.123
Day labourer as primary occupation of respondent	0.1468675	1.92	0.054
Number of goat/sheep	-0.0171609	-2.1	0.035
Value of livestock housing unit	-0.0001042	-1.38	0.169
Number of poultry	-0.0444932	-1.09	0.276

Mortgaged in goat/sheep(in BDT)	0.0192556	0.21	0.832
Number of livestock housing units	0.10929	1.68	0.094
Mortgaged in cows/bulls (In BDT)	-0.3678484	-2.78	0.005
Received cash/in kind transfers (in BDT)	-0.0000213	-1.59	0.113
Number of times borrowed rice in the past month	-0.0687218	-1.52	0.127
Had only rice for meals over the past month	0.1722233	4.28	0
Owns the house (Yes=1, No=0)	0.3577128	0.85	0.395
Value of household improvement (in BDT)	1.12E-06	0.1	0.922
Own land aside from homestead land (yes=1, No=0)	-0.2382509	-2.13	0.033
Total Savings (in BDT)	-0.0000289	-1.25	0.213
Awareness index score	0.1417991	1.06	0.29
Value of homestead land	0.0039978	0.91	0.362
Other cultivable land (In decimals)	-0.0425582	-1.36	0.174
Sharecropped land (In decimals)	0.0009783	0.22	0.824
Amount of homestead land (in decimals)	-0.030781	-0.86	0.389
Per capita real income (in BDT)	-7.60E-06	-1.26	0.207
Outstanding loans (in BDT)	-0.6228837	-9.59	0
Household size	0.0259883	1.18	0.237
Present value of the house if owned(in BDT)	-0.0000165	-4.79	0
Average education (In years)	-0.0546593	-2.89	0.004
Constant	-0.3857606	-0.84	0.403
Pseudo R2	0.3429		
Sample size	3384		

Annex 4. Logit regression used for food security

Dependent Variable: STUP 2(Yes=1, No=0)	Coefficient	Z	P>z
Own land aside from homestead land (yes=1, No=0)	-0.2258358	-1.01	0.314
Rear animals not owned (Yes=1, No=0)	-0.146501	-0.57	0.571
Outstanding loans (Yes=1, No=0)	-0.6351785	-4.41	0
Total cultivated Land amount (in decimals)	-0.0070225	-1.36	0.175
Mortgaged in Land (in decimals)	-0.0001854	-0.12	0.903
Amount of Homestead land (in decimals)	-0.0129065	-0.2	0.845
Value of Household (in BDT)	-0.0000288	-4.04	0
Value of Household improvement (in BDT)	0.0000144	0.64	0.523
Total Savings (In BDT)	-0.0000541	-1.13	0.26
Total Loans (In BDT)	-0.0001597	-4.84	0
Informal Loans (In BDT)	0.0001331	3.84	0
Number of times had only rice for meals over the past month	0.244595	3.77	0
Value of mortgaged in cows	-0.550414	-1.69	0.091
Value of mortgaged in poultry	0.1424433	0.58	0.563
Female headed household (Yes=1, No=0)	1.074147	5.14	0
Household Size	0.0495077	1.2	0.23

Housewife	-0.6185609	-2.88	0.004
Non agricultural Day labourer	0.3044775	2.19	0.029
Agricultural Day labourer	-0.4516385	-1.27	0.204
Respondent Widowed	-0.1305548	-0.62	0.533
Average Education in the household	-0.1067487	-3.13	0.002
Value of cows	-0.0000839	-5.35	0
Value of poultry	-0.0000555	-0.93	0.35
Value of livestock housing unit	0.0000461	2.03	0.042
Value of boat	-0.0000471	-0.38	0.704
Value of trees	-2.45E-06	-0.29	0.768
Value of Radio	-0.0000603	-0.1	0.924
Value of chairs	-0.0023839	-3.84	0
Value of mosquito nets	-0.001397	-2.32	0.021
Per capita real income	-7.45E-06	-0.68	0.498
Constant	-0.4136055	-1.5	0.133
Pseudo R2	0.3631		
Sample Size	2917		

Annex 5. Variables used to construct the awareness index

What is the legal age of marriage for a boy?
What is the legal age of marriage for a girl?
What is the punishment in the law against dowry?
What is the legal system of divorce?
If answer to previous question is [1], how many days after notice is the divorce effective?
What is the lowest age for casting vote?
Muslims inheritance act (only for Muslims) How is the property divided between son and daughter?
Name one Ward Member:
Name a member of parliament of your area:
Name the Prime Minister/Chief Advisor:
Name the President:
Have you heard of BRAC Legal Aid?
If yes, what services do they provide?
Do you think beating a woman is a crime?
Do you think beating a child is a crime?
During the last year, have you taken any action to stop violence against women?

TABLES

Table 1
Households Surveyed in the Baseline (STUP II)

Type of households	Treatment			Others		
	Baseline (2007)	Follow up (2009)	Attrition	Baseline (2007)	Follow up (2009)	Attrition
Finally selected households	778	693	11.05%	2,907	2,783	4.26%
Food Security analysis		590			2329	

Table 2
Employment Activities and Time Spent on each of the Activities (hours/year) for Working Aged Women (15-65 years)

Employment	2007			2009			Impact (DiD)
	Treatment	Comparison	Difference	Treatment	Comparison	Difference	
Agricultural self employment	174.08	191.25	-17.17	731.26	357.57	373.7***	390.8***
Day Labourer (agri+non-agri)	61.79	24.32	37.46**	62.29	124.77	-62.5***	-99.9**
Household chores	1820.8	1825.25	-4.47	1213.7	1191.35	22.3	26.8
Housemaid	567.02	440.11	126.90**	247.14	210.80	36.3	-90.57*
Others (salary, student, begging, unemployed)	147.47	133.16	14.31	136.62	137.58	-0.96	15.3

Note. ***, ** and * denote significant at 1%, 5% and 10% level, respectively.

Table 3
Employment Activities and Time Spent on each of the Activities (hours/year) for Working Aged Men (15-65 years)

Employment	2007			2009			Impact (DiD)
	Treatment	Comparison	Difference	Treatment	Comparison	Difference	
Agriculture	523.49	543.48	-19.98	459.29	512.65	-53.36	-33.36
Day Labourer (agri+non-agri)	575.42	536.06	39.36	401.60	415.28	-13.68	-53.04
Household chores	3.40	0	3.4	3.39	14.62	-11.23*	-14.63**
Household help (housemaid)	9.94	7.26	2.68	12.08	7.46	4.62	1.94
Others (salary, student, begging,)	112.43	74.39	38.04	94.67	103.86	-9.20	-47.34*

Note. ** and * denote significant at 5% and 10% level, respectively.

Table 4
Location of savings

Locations	2007			2009			Impact (DiD)
	Treatment	Comparison	Difference	Treatment	Comparison	Difference	
Savings at home	111.1	103.7	7.4	114.7	94.7	20.0	12.7
Savings at bank/PO	54.8	83.7	-28.9	238.9	298.3	-59.3	-30.4
Savings at TUP	-	-	-	962.1			
Savings with other NGOs (including BRAC)	45.8	72.1	-26.4	123.8	122.7	1.13	27.5
Total Savings	211.6	259.5	-47.9	1438.3	517.8	920.5***	968.5***

Note. *** denotes significant at 1% level.

Table 5
Amount of Land

Type of land	2007			2009			Impact (DiD)
	Treatment	Comparison	Difference	Treatment	Comparison	Difference	
Own cultivable amount	0.63	0.87	-0.23	1.32	0.76	0.57	0.806
Amount of homestead land	0.66	0.64	0.01	0.88	0.78	0.1	0.09*
Use other's land							
Amount of mort in land	0.31	0.21	0.103	0.33	0.5	-0.17	-0.27
Amount of rented land	0	0.19	0.19	0.25	0.5	-0.25	0.06

Note. ** and * denote significant at 5% and 10% level, respectively.

Table 6
Impact on household's value and structural improvement

	2007			2009			Impact (DiD
	Treatment	Comparison	Difference	Treatment	Comparison	Difference	
Value of house (if owned)	6492	6703	-211	11953	10517	1436	1225
Cost of housing structural improvement	502	581	-79	2160	1808	352	273

Table 7
Average Number of Productive Assets and Their Values per Household

Number of Productive Assets	2007			2009		
	Treatment	Comparison	Difference	Treatment	Comparison	Difference
Cow/bull	0.07	0.26	-0.19**	0.99	0.33	0.66***
Chickens/ducks	0.21	0.18	0.03	0.602	0.284	0.32***
Sheep/goat	2.64	2.61	0.023	4.93	5.01	-0.078
Rickshaw/van	0.03	0.028	0.002	0.06	0.04	0.02
Trees	2.37	2.56	-0.18	2.89	3.50	-0.61
Value of productive asset						
Cow/bull	578.03	2297.39	-1719.36***	10156.79	3388.75	6768.05***
Chickens/ducks	210.62	172.72	37.91	727.60	357.95	369.65***
Sheep/goat	269.91	233.93	35.98	490.19	485.15	5.04
Rickshaw/van	128.18	326.59	-198.41**	210.54	286.56	-76.01
Trees	1389.19	1298.79	90.41	1399.42	1576.59	-177.17

Note. ***, ** and * denote significant at 1%, 5% and 10% level, respectively.

Table 8
Impact on Non-productive Asset (average number owned)

Value of the non-productive asset	2007			2009			Impact (DiD)
Value of:	Treatment	Comparison	Difference	Treatment	Comparison	Difference	
Radio	0.04	0.037	-0.003	0.07	0.05	-0.019	-0.016
TV	0.011	0.003	-0.009	0.016	0.01	-0.006	0.003
Electric Fan	0.02	0.01	-0.01	0.044	0.03	-0.014	-0.004
Cellular phone	0.008	0.011	0.003	0.05	0.12	0.07*	0.067*
Bicycle	0.01	0.008	-0.001	0.042	0.024	-0.017	-0.016
Chair	0.209	0.205	-0.004	0.43	0.29	-0.14*	-0.136
Table	0.14	0.101	-0.039	0.26	0.19	-0.068	-0.029
Bed (chouki)	0.86	0.83	-0.03	1.13	0.98	-0.15	-0.12
Mosquito net	1.17	1.10	-0.07	1.36	1.46	0.098*	0.168**

Note. ** and * denote significant at 5% and 10% level, respectively.