

Impact of PRIME Interventions at the Household Level

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Seasonal food deprivation is a big concern for policy makers in Bangladesh. Locally, this incident is termed as “*monga*”. *Monga* is a seasonal famine-like situation or seasonal shortfall that occurs every year in varying degrees of intensity during the Bengali months of Ashwin and Kartick (September to November) in the northwestern Bangladesh, especially in Greater Rangpur region, covering Kurigram, Gaibandha, Lalmonirhat, Nilphamari, and Rangpur districts.

The main reasons behind *monga* include: a lack of employment opportunity immediately before harvesting of the main rice crop, *aman*; a lack of wage employment as adequate number of medium and small industries were not set up in the region; and an overall lack of alternative wage employment or self-employment opportunities (PKSF 2007). For the lack of employment in the locality, the poorest day-laborer migrate elsewhere in search of employment opportunities leaving behind the dependent family members, who pass their days half-fed or in starvation. This seasonal crisis leaves its impact on the livelihood and the lives of the people of the area beyond the lean season.

Palli Karma-Sahayak Foundation (PKSF), a funding agency in Bangladesh, has been observing for a long time that for eradicating *monga* various organizations have been working with isolated programs during the lean season without regard to the issue of sustainability as they leave or stop their programs when the lean season is over. But *monga* hits the region every year and requires program intervention to meet the crisis. To address this issue, PKSF has launched a program titled ‘Programmed Initiatives for *Monga* Eradication (PRIME)’ in August 2006 to help eradicate *monga permanently*.

The goal of the program is to eradicate *monga* by creating wage employment and self-employment opportunities for the *monga*-affected people throughout the year. The main activities to achieve the goal are: providing them with (a) specially designed flexible credit support throughout the year (b) emergency/consumption credit (c) wage employment opportunities during the lean period and (d) building and enhancing their coping capacity, skills and resource base for the future.

The objective of this study is to measure the effectiveness of this program. There are many dimensions by which this effectiveness could be measured. There are mainly two types of interventions through which PRIME works: (a) year-round intervention, and (b) time specific intervention. It would be difficult to separate out these two effects because one effect might reinforce another and at any point of time we would observe the combined effect of PRIME .

For the purpose of this study, we restricted our focus on Lalmonirhat upazila. The reason is that this is the only upazila for which we have a panel data set for selected households in the program area. It is well established in econometric literature that panel data set enables richer econometric analysis compared with cross-section data. The trade-off in our case is that we are limited to reduced number of observations. Data for the study have been collected from all villages of the program area. Twenty enumerators collected data from 1,612 households through a questionnaire from 21 June to 1 July, 2007.

Simple comparison of participants between two time periods (before and after) or comparison of participants with non-participants in any specific time period might be biased. The former might ignore the time effect on the participants and the latter might ignore the group effect. To take care of both the effects we resort to difference-in-difference (*DiD*) estimator. For the program participants,

$$D_1 = (\bar{Y}_1^1 - \bar{Y}_0^1) = \text{Time Effect} + \text{Program effect}$$

Time effect measures the natural change in outcome variable that might occur from one period to another. For example, the period 2 might have experienced bumper crop production; as a result the outcome variable is naturally higher which has nothing to do with the program.

On the other hand,

$$D_2 = (\bar{Y}_1^0 - \bar{Y}_0^0)$$

only measures the time effect for the non-participants. From the above two differences in the two groups, we can estimate the difference-in-difference (*DiD*),

$$\begin{aligned} DiD &= D_1 - D_2 = \text{Time Effect} + \text{Program Effect} - \text{Time Effect} \\ &= \text{Program Effect} \end{aligned}$$

During the *monga* of 2005 only 8.75 percent of the participant households had 3 meals a day while the number dramatically increased to around 48 percent in 2006— about six fold increase. At the same time, non-participants also experienced increase in the number of households having three meals, but that increase is quite modest compared to participants. From these information we can calculate the differences in the mean value of daily meals between participants and non-participants in the following manner: $D_1 = 0.52$, $D_2 = 0.05$ from which $DiD = 0.47$. We can say that after taking care of group effect and time effect, program participants on the average had half a meal more than the non-participants which is about 25% increase in the average number of meals for the program participants.

In the similar manner, we analyzed the impact of PRIME intervention on the distribution of seasonal hardship in the targeted population. We defined seasonal hardship in the following manner: a household is said to be in seasonal hardship if it cannot maintain its daily meal pattern during the *monga* season. According to this definition, whenever, for any household, the number of daily meals goes down during *monga* compared to pre-*monga* time, the household would be in seasonal hardship.

In our study, we have found that during the *monga* in 2005, 34.16 percent of the participants were in seasonal hardship. The number went down significantly to 20.46 percent in the *monga* of 2006. On the other hand, for the non-participants, seasonal hardship went through a telling increase from 13.71 percent to 23.85 percent. We can estimate the similar *DiD* estimate of the impact on seasonal hardship and we would find that for the program participants, after taking care of group effect and time effect, seasonal hardship went down by 23.84 percent more compared to non-participants.

It might be also be interesting to compare the groups of participants who were treated with different combinations of intervention programs. We focus on two types of program participants: Cash for Work (CFW) and Microfinance program (MFI) participants. We find that in 2006, households which participated in both MFI and CFW programs had the highest number of meals. Comparing with the households which were MFI members but did not participate in CFW, we find that the *DiD* estimator is around 0.51 daily meals which is about 30% increase for the CFW participants. These results point to the fact that CFW brought about significant improvement in the number of daily meals even among the MFI participants.

Comparing the impact of MFI on CFW participants show that the *DiD* is only 0.08 meals which is not significant impact of MFI. It goes to show that in the short run, impact of CFW is more pronounced than that of MFI. This is not an unusual result if we consider that MFI loans are oriented toward improving the long-term ability of households to cope with adversity where CFW is a one-time lump-sum cash income for households geared to provide help during immediate adverse condition.

The results, as discussed above, show significantly positive impact on the participants of PRIME intervention. It is natural that cash flow will improve household welfare, but the extent of it is quite substantial in our study. These results show that short-term interventions can significantly improve household welfare. Apart from short-term improvement, it might also go a long way to improve the long-term welfare situation of a household. To smooth consumption during *monga*, households might have to sell valuable assets that reduces capability to cope with future seasonal shocks. Having assistance during seasonal shock might help the households not to resort to these coping mechanisms and thus prevent themselves from being exposed to greater vulnerability in the future.