Chapter 5

Survey on Monga and Preliminary Estimation

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5.1 Introduction

This chapter largely deals with the dataset based on the short lean period survey (hereafter Monga survey) which was implemented in the period of October-November 2011 to understand the severity and atrociousness of the situation of seasonality at the northern Bangladesh. The data set mainly focused on household level questions to comprehend Monga time consumption and income irregularities, different coping strategies, and the use of micro-credit which was given to 1080 out of 1440 households in our study.

In late October 2011, during the peak period of Monga, this short survey was conducted on the same 1,440 households as the base-line survey to form a panel data. This short survey has four sections on household level scenario, migration decisions, credit use and cognitive ability test[1] of the loan borrowers of each sample households. In this chapter we will first analysis the data in each section of this short survey and later will estimate some very preliminary estimation with some key indicators variables of our interest. However, we would like to ascertain that our present analysis is largely done based on unclean and raw dataset hence much of the estimations may change substantially once a cleaner dataset will be available

5.2 Monga Survey Data Analysis

5.2.1 Household Level Scenario

In a recent influential article by Khandker (2012) analyzing with the nationally

[1] For the Cognitive ability test, we used Raven progressive matrices to construct a 10 point scale test. Raven's test is picture based and has been widely used in development studies. For details on Raven's test please check the following web site http://www.raventest.net/

representative Household Income and Expenditure Survey (HIES) of 2000 and 2005, emphasized on the lower food consumption by the households suffering from seasonality, even though the food price in the region is declining during Monga. Seasonality of crop income due to the temporary unemployment during the Monga period is the main reason for such reduced food consumption by the households in this reason. One could argue that seasonality of food shortage could be another reason, however both rounds of HIES conformed the fact the overall food grain price in the Northern district and rest of the Bangladesh actually reduce during the Monga season, hence temporary food shortage story may not be a plausible one.

To put the scenario into perspective, let us look at the Figure 5.1. In this figure we have introduced unemployment (if the chief bread earner is jobless at the time of survey), food crisis (if the number of stomach-full meal in a day is less than the normal time) and Government assistance (if the household has received any support from government under any social safety net targeted to mitigate Monga). From the Figure 5.1, it is clearly visible that the lower food consumption is very severe in the Gaibandha district and a simple t-test also confirmed the fact that there are no statistical differences in food consumption among the different treatment arms. On an average 31 percentage of our sample does not have any employment during the time of the survey and treatment arm wise distribution also confirms the fact. The last bar in the Figure 5.1 shows that the typical safety net provided by the government to mitigate Monga is over-whelming inadequate as well as ineffective. Our data reveals that those who received any form of support, only some 23 percent received support under Vulnerable Group Development (VGD) which is a special safety net program dedicated to tackle the reduction of food consumption. During Monga In Figure 5.2 we have used the same bar diagram with geographical classification of villages of our sample. It is evident from the figure that river basin villages are more vulnerable than other two types of villages which is mostly due to the occurrence of periodic flood and river erosion. Ironically, the percentage of recipients of safety net program during the Monga is the least in the river basin villages compared with other group of villages, showing the large targeting failure of the government organizations to implementing an effective safety net program during the time of seasonality.

There is no alternative agricultural activity that persists in the lean season and the non-firm sector is insufficient to absorb the seasonal unemployed labour after the plantation of the Aman crop. Figure 5.3 shows that even in the middle of the acute Monga, some 14 percent people still do not have any job whereas more than half of the sample has

less than 4 days of paid work.

To understand the situation of reduced food consumption during the period of Monga in contrast with off-Monga period, we asked detailed question on number of stomach-full meals, eggs, meats, fish and milk consumption in both monga and off-monga period. Table 5.1 has the summary statistics of these questions and what is striking is to see that some households consume only one meal a day during the lean season and the calorie intake during Monga reduce significantly from the minimum average of an active functional life. The detail information on food consumption during Monga states the same information which is a shocking fact of the seasonality suffered by the people of the Northern part of Bangladesh.

Lack of food consumption could lead to problems with metabolism, digestive systems, undernutrition (including deficiencies in micronutrients as well as macronutrients) and weight loss (Ivers *et al.* 2009). In our survey we found almost 16% respondents who self-reported to have suffered some sort of diseases during the period of seasonality.

Since Monga is a seasonal phenomenon, one could expect that households may have some well thought-out coping strategy to deal with this temporary joblessness. Due to the absence of appropriate credit market and adequate government support, household level coping strategy would be important information to understand the level of vulnerability tackled by these households. Figure 5.4 shows the distribution of coping strategies by the households and surprisingly less than 0.5 percent people thought of borrowing from MFIs as a coping strategy whereby the poor can access micro-credit to engage in non-firm activities, therefore not suffering from the seasonality. Such an answer is not surprising given the micro-credit provided by the Micro-finance Institutes (MFIs) mostly have inflexible contracts, high interest rates and strict loan repayment rules (such as, a weekly payment that starts after one week of loan disbursement and weekly meeting schedules). In situations like lean period income downfall, when poor have uncertain income, the strict weekly loan repayment rules of MFIs can have an adverse effect on the poor, and could further reduce their food consumption and could made them even more indebted.

5.2.2 Migration Scenario

Temporary migration or seasonal migration is an important livelihood strategy for a large number of poor rural people in northern Bangladesh. In the case of seasonal downturns, a person may prefer a temporary move to a permanent one because such a decision offers

an opportunity to combine village-based existence with urban opportunities. Faced with highly seasonal labor demand, villagers may see temporary migration to urban areas as a relatively practical and rational strategy to cope with seasonal downturns. The most important factors that results in a temporary move rather than a permanent one, however, are the reversal of the urban-rural wage differential that occurs during the peak labor demand season in the agricultural sector (during the Aman cultivation in December).

In our survey, some 11% respondent has already been migrated to nearby urban centers and among them a large majority (more than 50%) has taken Dhaka, the capital of Bangladesh, as their migration destination. Other than Dhaka, Bogura and Chittagong are the other two popular migration destinations. We asked detailed questions on migration decision and non-migration decision to households to understand why they have migrated and what are the impediments of such seasonal migration. One frequently cited reason among the non-migrants as their principal reason for not migrating is credit constraint or not having enough resources to cover the migration cost (Bryan *et al.* 2012). Interestingly, those who did not migrate reported the lack of migration information and limited job opportunity at the migration destination as the top two reasons for not migrating during the lean season. We then further ask them weather they have received any sort of job offer to work as a migrant elsewhere (Figure 5.5) and the figure clearly shows that in all treatment arms, job offer/information is higher than the actual take-up of migration. This is a puzzling fact given those who migrated are mostly at the 4^{th} quintile of the income distribution in the sample and their lack of food consumption is less pronounced than non-migrant ones (see Figure 5.6).

Among migrants two most popular job options are working as day laborer in farms and working as a rickshaw puller at the migration destination. To answer the question about the reason to seasonal migration, equal number of respondents (42.31%) reported lack of food consumption and unemployment as main reasons for taking migration decision. Interestingly, 75% of the migrant got their job through their active network of friends, relatives and neighbors and the average cost of migration to the migration destination is some 724 taka (8.85$) which is double of their average weekly income during Monga. Then the question becomes relevant as how they could finance the cost of migration. It appears that a large majority, 35.26% of the migrant, manages the migration cost through self-finance whereas another 22.44 % manages through accessing credit from land-lord (or loan sharks) with high interest rate and a large majority of those who borrowed from land-lords are in the control group (traditional micro-finance).

5.2.3 Credit Scenario

In the credit section of the survey questionnaire, we asked beneficiaries about the use of the credit that has been provided to them through our counterpart organization at Northern Bangladesh Gana Unnayan Kendra (GUK). We are particularly interested to know the main purpose for the beneficiaries to access the loan, their current activities with the credit and their planning on ways to repay it.

It appears from the dataset that a large majority of the beneficiaries actually invested the credit amount either on their existing business (27.22%) or on livestock (26.11%). However, some few also spent their credit amount on un-productive sector like paying outstanding debts (6.20%) and household consumption (11.30%).

Interestingly, more than 50% of the beneficiaries are planning to repay the credit installments from their earning from the regular job (either their own or other family member's regular job) but not from the earning from the business where they have invested the credit amount. In another question we asked the respondents whether they expect to earn more income as a result of the credit and surprisingly about 32% choose "do not know" as their answer. Those who answer positively, 20.09% is planning to spend the extra income from the business on family expenditure and another 20.28% is planning on buying assets for the households. Most of the recipient has reported that their average work hour has increased after receiving the credit. In the last question of the credit section, we asked respondents about any suggestion on repayment schedule that they would prefer and interestingly 41.20% of the respondents did not suggest any other preferred method whereby 25.09% suggested for monthly installment scheme.

5.2 Preliminary Estimations

As we mentioned at the beginning of the chapter, the data set that we have collected is very preliminary in nature and most of the indicator variables that we need to use to test the impact of the various flexibility imposed by our RCT is not available yet. Most of the indicators will be available at the follow-up survey which is currently being scheduled in July 2012.

However, just to understand borrower's reaction and feedback with the present repayment experiment, we asked a satisfaction survey with the existing client and asked whether they have any complain, problem or difficulties with the assigned treatment schedule of repayment. If the borrower responded negatively than we have treated such

answer as "not satisfied" in the satisfaction index and zero otherwise.

To understand the statistically significant difference among the treatment arms, we ran ordinary least square regression of the form

$$Y_{ig} = \alpha + \beta_i T_g + \varepsilon_{ig}$$

Here i denotes to borrower and g is the treatment group she belongs to. The main co-efficient of interest are β_i's which capture weather the satisfaction index differs significantly among different flexible repayment schedules (T_g) or not. Basic regressions estimates are depicted in Table 5.2 in column (1) to (4). Column (1) and (2) used the entire sample whereas column (3) and (4) used sample of those who are beneficiaries (1080 households in total). Our preferred estimation is the one in column (4) where one can clearly observe that flexible 1 repayment scheme (complete moratorium of repayment during Monga) has positive and strong statistical significance which means, flexible 1 borrowers are significantly more satisfied than the typical micro-credit repayment scheme (regular weekly repayment) and among the flexible 1 groups, surprised flexible 1 has higher magnitude of satisfaction than other similar groups which is consistent with your hypothesis.

5.2 Summary and Conclusion

This chapter is based on the second short Monga survey of northern Bangladesh to better understand the situation of Monga and the problems faced by the beneficiaries of our micro-credit which was given in collaboration with GUK, a local NGO that has two decades of working experience with social issues in northern Bangladesh.

In this chapter, we have briefly discussed about the survey questionnaires and described some of the key findings of different sub-sections of the survey which could be classified as household, credit and migration categories. Employing mostly the descriptive statistics and diagrammatic approach, this chapter draws attention entirely at the Monga scenario which is a repeated phenomenon of the poor vulnerable people of Northern Bangladesh. At the later part of the chapter we provided a preliminary regression estimation to provide some implication of our ongoing experiment in Northern Bangladesh and it appears that our core assumption holds at the very basic preliminary estimation

References

Bryan, G., S. Chowdhury, et al. 2012. "Seasonal Migration and Risk Aversion." *SSRN eLibrary.*

Ivers, L. C., K. A. Cullen, et al. 2009. "HIV/AIDS, Undernutrition, and Food Insecurity." *Clinical Infectious Diseases* 49(7): 1096-1102.

Khandker, S. R. (2012). "Seasonality of income and poverty in Bangladesh." *Journal of Development Economics* 97(2): 244-256.

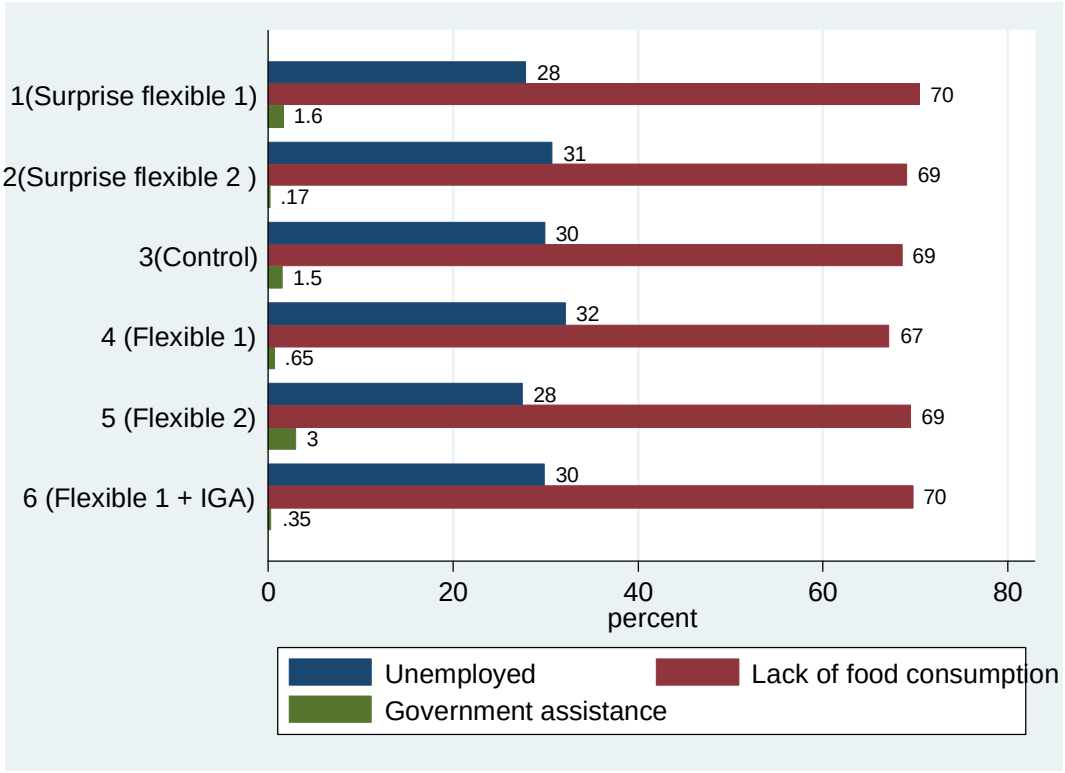

Figure 5.1: Monga Situation in Gaibandha 2012

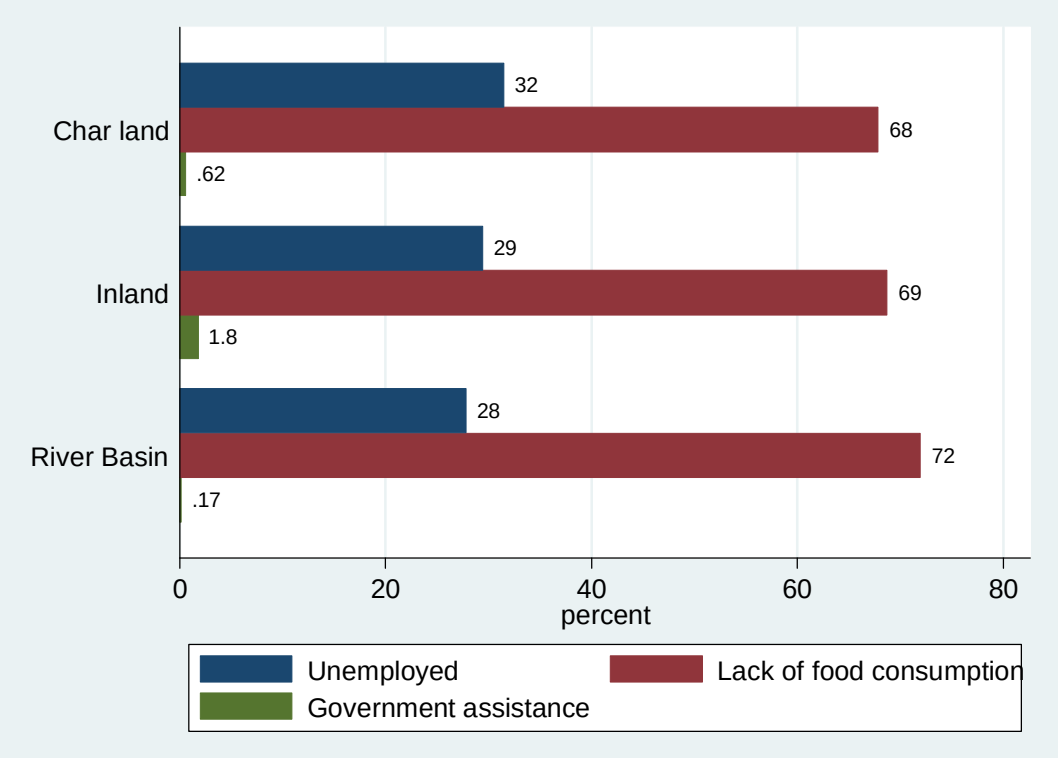

Figure 5.2: Monga Situation in Gaibandha 2012

Figure 5.3: Monga Situation in Gaibandha 2012

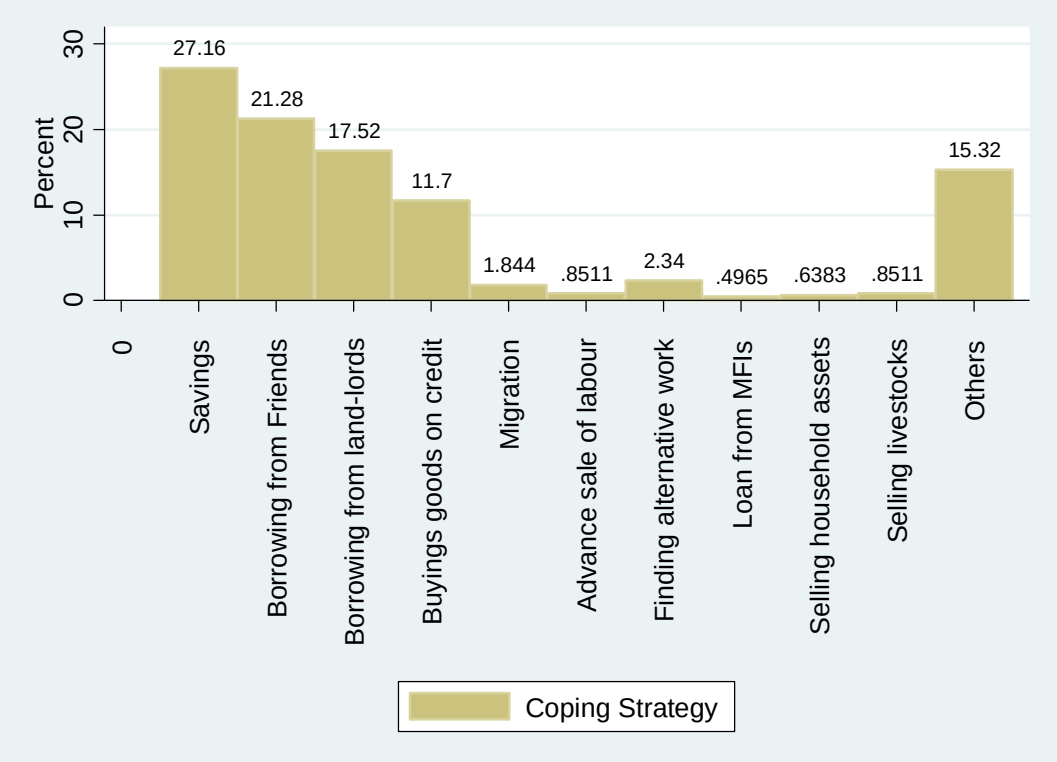

Figure 5.4: Monga Situation in Gaibandha 2012

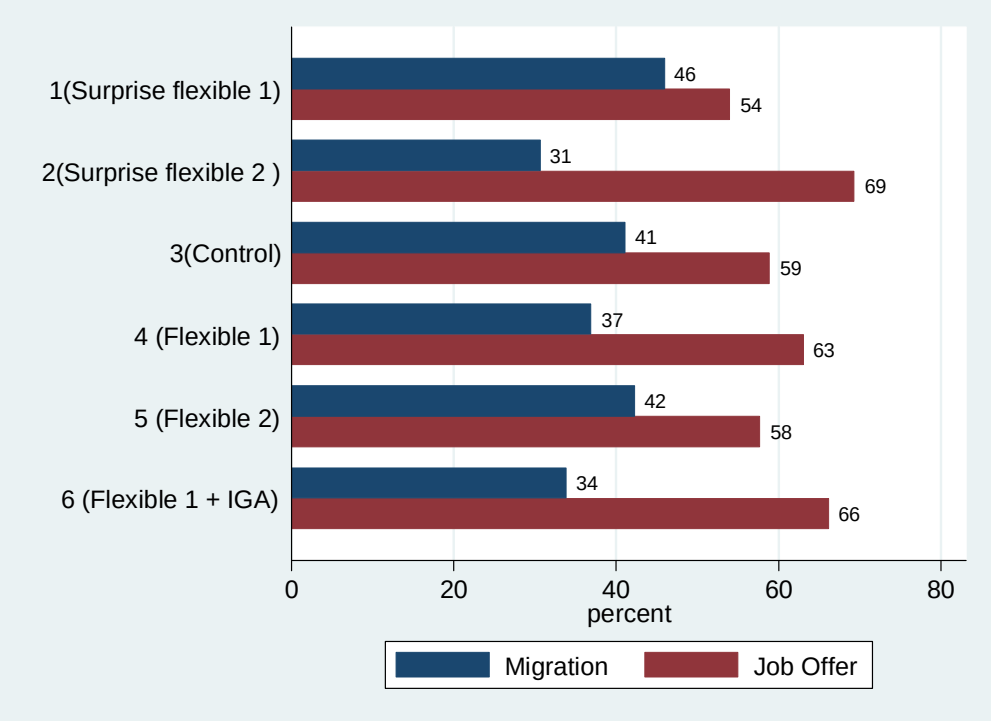

Figure 5.5: Monga Situation in Gaibandha 2012

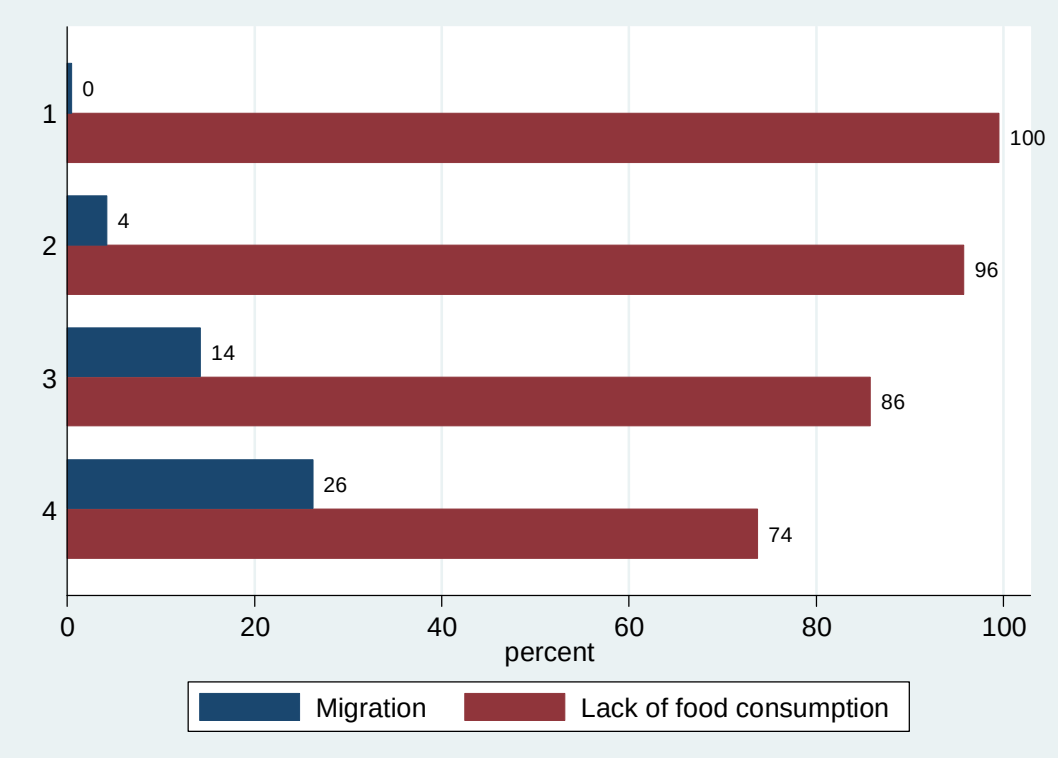

Figure 5.6: Monga Situation in Gaibandha 2012

Table 5.1: Food consumption in Monga and off-Monga period

	Mean	SD	Min	Max
Normal: How many meals do you have in a Day?	2.36	0.48	1	4
Monga: How many meals do you have in a Day?	1.62	0.55	1	3
Normal: How many eggs do you have in a Week?	1.65	2.16	0	18
Monga: How many eggs do you have in a Week?	0.45	1.31	0	16
Normal: How frequently you have meat in a Month?	0.04	0.27	0	4
Monga: How frequently you have meat in a Month?	0.02	0.15	0	2
Normal: How frequently you have fish in a Month?	2.34	1.51	0	12
Monga: How frequently you have fish in a Month?	1.14	1.17	0	12
Normal: How frequently you have milk in a Week?	0.18	0.75	0	7
Monga: How frequently you have milk in a Week?	0.07	0.58	0	7

Table 5.2: Preliminary regression

	(1)	(2)	(3)	(4)
Surprised flexible 1	0.39***	0.39***	0.40***	0.40***
	(0.045)	(0.130)	(0.046)	(0.129)
Surprised flexible 2	0.22***	0.22	0.20***	0.20
	(0.049)	(0.152)	(0.051)	(0.156)
Flexible 1	0.32***	0.32**	0.32***	0.32**
	(0.048)	(0.127)	(0.048)	(0.127)
Flexible 2	0.23***	0.23	0.22***	0.22
	(0.050)	(0.142)	(0.051)	(0.142)
Flexible 1 + IGA	0.35***	0.35**	0.34***	0.34**
	(0.046)	(0.137)	(0.048)	(0.140)
Constant	0.46***	0.46***	0.46***	0.46***
	(0.037)	(0.105)	(0.037)	(0.104)
Village Clustered S.E	No	Yes	No	Yes
Sample	All	All	Only support	Only Support
Observations	1142	1142	1080	1080
R^2	0.077	0.077	0.082	0.082
Adjusted R^2	0.073	0.073	0.078	0.078

*Note: Standard errors are in the parenthesis. Significance code: ***1%, ** 5%, * 10%.*