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**THE 1998 FLOOD
AND
HOUSEHOLD FOOD SECURITY:
EVIDENCE FROM RURAL BANGLADESH**

**CARLO DEL NINNO
DILIP K ROY**

OCTOBER 1999

FMRSP Working Paper No. 9

FMRSP Bangladesh
Food Management & Research Support Project
Ministry of Food, Government of the People's Republic of Bangladesh

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This work was funded by the United States Agency for International Development (USAID)

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The views expressed in this report are those of the authors and do not necessarily reflect the official position of the Government of Bangladesh or USAID.

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EXECUTIVE SUMMARY

The flood of 1998 had a devastating impact on the country of Bangladesh and on the lives of rural households. In this study we made an attempt to determine the extent of the impact of the flood on household food security and the mechanisms employed by the households to maintain a minimum level of consumption. We also attempted to make an assessment of the extent and effectiveness of the aid that has been given to them by private individuals, government and non-government agencies.

The results of this study are based on a detailed household survey of 757 households in seven flood affected thanas that was carried out in the months of November and December 1998, just after the flood waters receded. In order to understand which groups of people have been more affected by the flood, we classified households according to their level of welfare, expressed in terms of their per capita household expenditure, the amount of land owned and the severity of exposure to the flood. A simple index was developed to measure the severity of exposure to the flood at the household level. According to the resulting index, households have been classified as: a) not exposed to the flood, b) moderately exposed to the flood, c) severely exposed to the flood and d) very severely exposed to the flood. While this last variable gives an indication whether the people were directly exposed to the flood, it does not measure the level of the hardship they suffered or the impact the flood had on their lives. We found, though, that this variable does correlate very well with cluster and village level indicators of flood severity and with the other variables describing the adverse impact of the flood, such as losses of agricultural production and assets.

Even though the level of losses and the lack of labor demand severely constrained the income and level of expenditure of the people exposed to the flood, we found that people were able to maintain a similar level of expenditure, albeit with a lower level of per capita food and calorie consumption, by making a few adjustments to their consumption pattern and by purchasing food on credit. In fact, they bought less rice and

deferred purchases of clothes and other nonfood items. As expected, fewer people in the lower quintiles consumed expensive sources of proteins such as meat, eggs and milk. Cereals particularly rice, dominated the consumption basket of poor rural households. The share of rice in the food budget was 53 percent for the poor compared to 31 percent for the upper quintile, the richer income brackets devoting a relatively larger share of expenditures on fish, meat and fruits.

Almost 50 percent of all households purchased food on credit in the month of the survey for an average amount of taka 1,040. While the percentage of people purchasing food on credit was slightly lower in the upper quintiles, they were able to obtain a larger amount of credit (taka 1,388 in the top quintile), to be used for more expensive foods compared to poorer people (taka 759 in the bottom quintile). The study also reveals that only 30 percent of the households not exposed to the flood purchased food such as rice, pulses, oil and other products on credit compared to 59 percent of the households very severely exposed to the flood.

Many households lost a sizable share of their agricultural production. Losses were larger for rice production and for poor people. Many people also lost vegetable production, but this amount was not very large compared to the losses of crop production. Poorer households appeared to have suffered more than richer households because the amount and the share of their losses are higher than those of households in higher expenditure quintiles. Only 24 percent of the households, non exposed to the flood, suffered losses that did not exceed on the average 13 percent of the value of the production.

Labor participation in rural areas cannot be separated from food insecurity in Bangladesh. Our analysis confirmed that there was a clear loss of the number of days worked, especially for daily laborers during the time of the flood. This was a problem given the fact that even though the official unemployment rate is very low, very few

people participate in the labor market and therefore the few sources of income available were reduced even further.

The amount of damage done by the flood to the houses and to other physical assets of people in the rural areas was extensive. The losses were greater for houses, trees, poultry and valuable household effects. In total, 55 percent of the households lost on average approximately taka 7,000, which accounts for 34 percent of the total value of their assets. In addition, some households sold assets to have an additional source of income.

The analysis also confirmed that many people contracted many debts in the period of the flood for many reasons, most of all for purchasing food. The level of their outstanding debts was also very high and corresponded roughly to half of the average monthly households expenditure.

Many private, government and non-government individuals provided several resources in kind and cash to people in the rural areas. In total, more than 56 percent of sampled households received some kind of transfers for an average of taka 1,229. Households that were more exposed to the flood received more transfers and larger amounts compared to households not exposed to the flood. 67 percent of households very severely exposed and 53 percent of severely exposed households received taka 382 and 329 respectively, compared to 27 percent of not exposed households receiving on average taka 253.

A larger percentage of poor households received some type of transfers. A total of 64 percent of the households in the bottom quintile received transfers compared to 33 percent in the top quintile. The transfers were important for the receiving households even though the value of the transfers during the July to November period was not very large (only taka 328) and represented almost 4 percent of the total household monthly expenditure over that period and of course was larger for poorer households in the bottom quintile (6 percent).

The analysis of transfers by type revealed that the largest transfer in terms of average size per receiving household (taka 4,669) was received by 11 percent of the households and included mostly private transfers. Transfers from NGOs were smaller, and were targeted more to people exposed to the flood in the period of the flood. Government transfers, like the GR and the VGF were not limited to flood exposed households, but were more targeted towards people that were either poorer or that owned smaller amounts of land. 24 percent received an average of taka 162 from the GR program and 22 percent received an average of taka 308 from the VGF program. More households in the lower quintiles received transfers both from the GR and the VGF programs. The percentage of households receiving GR transfers went down from 26 percent in the bottom quintile to 13 percent in the top quintile in the period of the flood and from 8 percent in of the bottom quintile to 6 percent in the top quintile in the period after the flood. Thus it appears that the GR program was better targeted during the period of the flood. Similarly, the percentage of households receiving VGF was 22 percent in the bottom quintile and 3 percent in the top quintile in the period of the flood and 34 percent and 10 percent respectively in the period after the flood.

In sum, the people in rural Bangladesh during the flood appear to have suffered a lot, but they have been able to maintain a minimum level of expenditure and calorie consumption, albeit lower than the minimum requirement, using a variety of strategies. One key question is how long will it take for the people that lost more income, assets and are deep into debt to improve their food security status.

1. INTRODUCTION

The 1998 flood affected the Bangladesh economy and the people of Bangladesh in many ways. As a whole, six per cent of the Gross Domestic product (GDP) was lost. More than 30 million people were marooned, as 68 percent of the country was flooded in different magnitudes. Households members were affected in different ways. They were forced away from their homes, lost agricultural production and assets and had fewer opportunities for finding jobs in the labor market. To maintain the same level of consumption they sold their assets and borrowed money, especially to purchase food.

At the time of the crisis (during the flood period), the main objective of the government, the development community and civil society was to save the lives of the people exposed to the flood through free distribution of dry food, baby food, drinking water, cash, and by providing shelter and health facilities to them. The people themselves tried to cope with the situation in many different ways. For example, they were found to preserve their seeds through different traditional ways even in that period. It is noteworthy that the whole nation was united to face the calamity, and international help was very generous.

MAIN OBJECTIVE OF THE STUDY

The main purpose, which prompted the IFPRI-FMRSP to undertake the study, arises from a concern on the food security of rural households and the non-availability of job opportunities during the flood and in the period following the flood, and to suggest policy measures to improve household food security in a sustainable way. The lessons learned from the responses of the people and the government to the flood will not only be important in case of another disaster, but also to improve the food

security of poor and landless households in time of stress. It may be noted that the seasonal period following the flood is traditionally a period of food scarcity in most areas of Bangladesh. In Bangla it is the month of Katric, which loosely speaking means "dreadful month."

There has been virtually no comprehensive quantitative information available for the period immediately after the flood apart from a few studies conducted by some organizations, which have either collected qualitative information or concentrated on their project sites where they are working or on a few key outcome variables. To that end, it was essential to document information on food expenditures, intra-family food allocation, information on anthropometry, assets and credit positions of rural households, behavior of rural labor markets, and the ways households coped in the period following the flood of July-October 1998.

The main purpose of the study is to identify the determining factors affecting the multidimensional aspects of food security problems of rural households in Bangladesh. Therefore, we tried to understand what happened to the main sources of income and labor participation of the households as well as the resulting level of their food consumption. Another important objective of the study is to find out how different people coped with the direct and indirect effects of the flood and the loss of income. Many households had to find additional sources of finance to maintain a minimum level of consumption. These included borrowing money to buy food, selling assets and finding alternative sources of income. The last objective of this study is to determine the effectiveness of the fairness of government relief distribution programs. Several million people received private and public transfers. We tried to find out when they received them, in what amount and more importantly if the poorer of the people that needed them the most had received them.

The paper is structured in the following way. In the second chapter the data collection methodology and the structure of the sampling methods are presented. In

the third chapter there is description of the methods used to classify households in various categories of welfare and flood exposure. The following four chapters describe some of the main components of the analysis dealing with expenditure in section 4, agricultural production and labor market in section 5, asset losses and borrowing strategy in section 6 and finally an analysis of transfers in section 7. The main conclusions are presented in section 8.

2. DATA COLLECTION METHODOLOGY AND SAMPLING FRAME

Since the purpose of the study has been to analyze the effect of the flood on the level of food security and the structure of the labor market, we selected those areas that would give a fair representation of the parts of the country affected by flood. In particular, for the in depth household survey we interviewed 757 households in seven flood-affected thanas.

The seven flood affected thanas were selected using three main criteria. First, we used the severity of flood as determined by the Water Board. They classified thanas to be not affected, moderately affected and severely affected, depending on the level and depth of the floodwater. Second, we used the percentage of poor people in the district in which the thana is located. Thanas with more than 70 percent of the population below the poverty line were classified as poor. Third and final, among the thanas included in each of the categories, we selected those thanas that have been included in other studies and that would give us a good regional and geographical balance throughout the six administrative divisions of the country (see Table 2.1).

Households were randomly selected using multiple stages probability sampling technique¹. In the first stage, three Unions in each thana were randomly selected. In the second stage, six villages were randomly selected from each union with probability proportional to the population in each village. Then, in each village two clusters (paras) were randomly selected using pre-assigned random numbers. Finally, three households were randomly selected in each cluster from a complete list of all households in the cluster (paras). As a result, we selected approximately six

¹ In Satoria thana this was not done because we were using the random sample used by another IFPRI study.

households per village, 36 per Union, 108 per thana for a final sample size of 757 households in 126 villages.

Three different instruments were used. A community questionnaire was used to collect information at the union level during the flood. A village level survey was conducted during November and December 1998 in 64 villages to collect information on rural labor markets. A detailed household questionnaire was used to collect information on the pattern of household expenditure, the pattern of land use at the level of plot, the participation to the rural labor market, the ownership and loss of assets, borrowing strategy and anthropometry. Several sections in the questionnaire contained retrospective questions on the situation during and before the flood.

The detailed household survey was administered at three different periods to capture the difference in labor participation and food security in the period following the flood and to understand the capabilities of recovering from the shock of the flood. The first round of data collection took place between the 3rd week of November to the 3rd week of December 1998 and will constitute the main source for the analysis presented in this report. The second round for the data collection was carried out between April and May 1999. A third round of data collection is planned for November 1999, exactly a year after the first round.

It is important to point out that even though we concentrated our analysis on the areas of Bangladesh that were affected by the flood, there are geographical differences between the areas surveyed and within the areas surveyed. This difference exists both in terms of the level of exposure to the flood and in terms of the level of economic activity. As an example, Derai, one of our study areas, is a single crop (only Boro) area. This area is always flooded and only some of the households were severely exposed to the 1998 flood, but it remains a poor area with relative few viable economic activities.

SECTION 2 TABLES

Table 2.1 — List of Thanas in the Sample

Severity of flood	Non- Poor		Poor Thanas		Total	
	Thanas	Villages	Thanas	Villages	Thanas	Villages
Severely affected	Muladi BARISAL (BA)	8	Mohammadpur MAGURA (KH) BINP	10	...	18
	Shibpur NARSHINGDI (DH) ^{BINP}	8	Saturia MANIKGANJ (DH) ^{Micro}	10	...	18
	Total Village →	16	Total Village →	20	4	36
Moderately affected	Shahrasti CHANDPUR (CI) ^{BINP}	9	Madaripur MADARIPUR (DH) ^{BINP}	10	...	19
		...	Derai SUNAMGANJ (SY) ^{HKI}	9	3	9
	Total Village →	9	Total Village →	19	...	28
Not Affected	Jessore JESSORE (KH) Micro	...	Adamdighi BOGRA (RJ) BINP	...	3	...
		...	Birganj DINAJPUR (RJ)	...	3	...
All Total	4	25	6	39	10	64

Source: Authors calculations using Household Expenditure Survey (HES) and Water Development Board (WDB) reports

3. DEFINITION OF FLOOD EXPOSURE AND WELFARE CATEGORIES

Many households have been exposed to the flood both directly and indirectly. Some people have been forced away from their home and lost many valuable assets; others could not simply find jobs that would have been otherwise available if the flood had not been so severe. At the same time not all households had the same level of resources to begin with. Some of them are poorer than others and some are rich. Some of them have more resources and were able to overcome the stress caused by the flood better than other households. In this study we carried out the analysis along a few key categories of households. First, we defined a variable that would indicate if the household had been directly exposed to the flood. Then, in order to define the level of welfare of the household we selected two key indicators: the level of total per capita expenditure and the availability of land.

MEASURES OF POVERTY: PER CAPITA HOUSEHOLD EXPENDITURE AND LAND OWNERSHIP

Several criteria have been used to calculate the poverty line for rural Bangladesh. Some researchers have used a caloric method; others have used the level of per capita expenditure. In this study we use the total per capita expenditure to determine the economic position (welfare situation) of a household. Once the households have been ranked according to their level of per capita expenditure they have been classified into five quintiles; the bottom quintile including the poorest households and the fifth the richest. Therefore, in this paper we will use a relative concept of poverty in the sense that we will be more interested in comparing the characteristics of households in different quintiles than in assessing the correct percentage of poor people.

In the calculation of the total expenditure both food and non-food expenses have been included. Food expenditure includes the value of all food consumed in the previous month and whether this food has been purchased, produced by the household or received from other sources. Non-food expenditures include most of the expenses carried out in the previous months. Large expenses for durable commodities and the estimated values of households rent have not been included².

The ranking of the households by quintiles is reported in Table 3.1. The average monthly per capita expenditure per rural household is estimated to Tk. 787.59 for the villages under study compared to the national average of Tk. 661.52 in 1995/96 (HES, 1995/96). The mean per capita expenditure varies widely over the quintile group. The mean per capita expenditure goes from Tk. 329 for the first quintile to over Tk. 1,600 for the top quintile. Poor households in the lower quintiles spend a larger share on food, and consume fewer calories (1,400 kilo-calories per day in the first quintile and 1,931 in the second quintile) than the households in the top quintiles, who spend only 52 percent on food and have almost 3,000 kilocalories per person per day.

Another variable that it is often used to indicate lower socioeconomic status is access to farmland or ownership of land. In this report we classified households according to the availability of land. The categories used are reported in Table 3.2. This table shows a clear correlation between land ownership and quintiles. Almost 50 percent of the households are landless and 68 percent have less than 50 decimals of land. Households with a very small amount of land are generally poorer and consume fewer calories than households that own more land.

² Almost all the households own their houses and their value is strongly correlated with the expenditure, therefore we do not believe that the ranking of the households would change if the value of own housing is added to the other expenses.

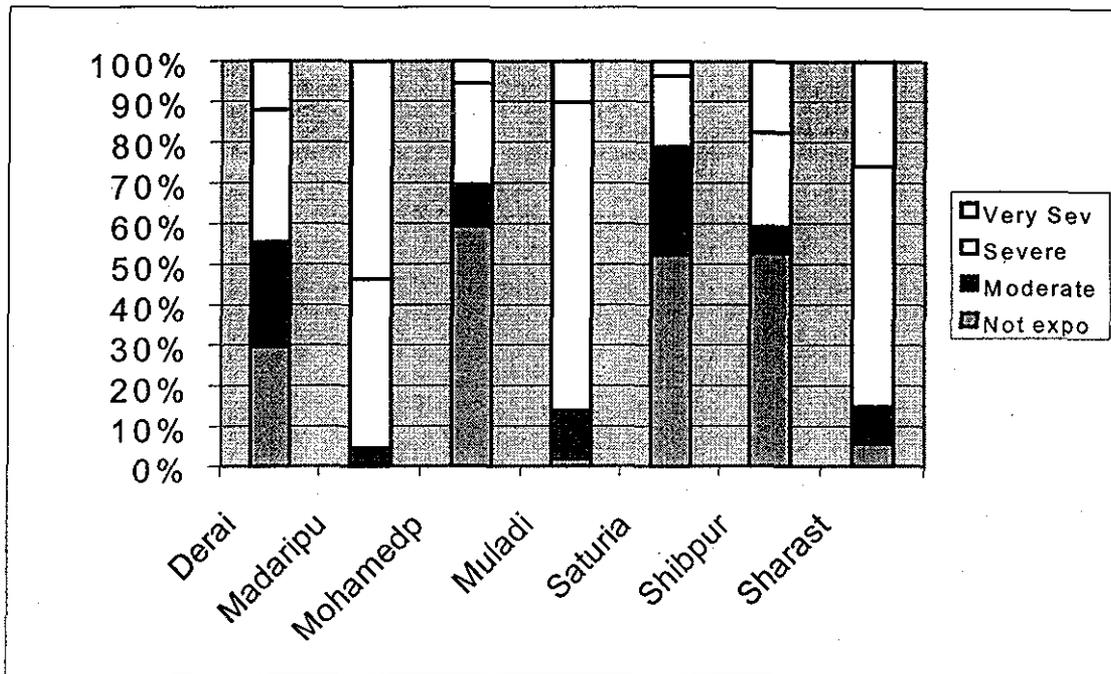
DEFINITION OF HOUSEHOLD FLOOD EXPOSURE

The extent and the severity of flood are usually measured at the macro level. The height of water above danger level in some points of the river basin area, along with the duration of flood usually provides a general indication of the severity of flood. So are the amount of damages to roads, submersion of highways, losses to agricultural output and so on. These measures give an important indication of the environment in which people lived and the hardship they had to sustain. An analysis of these measures and their usefulness for targeting can be found in the rapid appraisal (del Ninno and D. K. Roy 1999).

At the same time we also know that not all households have been exposed in the same way to the flood. Some of them had a large amount of water in their homestead and in their home, and sometimes, they had to abandon the house for some days in the period of peak flood. The direct exposure to the flood often depended on the height of the homestead and the presence of an embankment or a road that would keep the water away. In order to assess the direct exposure to the flood at the household level we developed a simple index using the information provided by the household. In particular, we used the depth of water in the homestead and in the house and the duration (number of days) of the presence of water in the house, and days spent away from home due to the flood (as a categorical variable)³. First, we created an index ranging from 0 to 5 for each of the variables used. Then we added the single indices together. The resulting index, ranging between 0 to 18, has been used to create a categorical variable in which households are classified as: a) not exposed to the flood, b) moderately exposed to the flood, c) severely exposed to the flood and d) very severely exposed to the flood. A summary of the variables used is

³ We also made some attempts to include the level of the water in the agricultural plots in the estimation of the household flood severity index. At the end we decided to use the level of water in the fields only for evaluating the impact of the flood on the use of farmland.

Figure 1.1 — Household Flood Exposure by Thana



reported in Table 3.3a below and their distribution and graphic representation is in Appendix A.

The resulting frequency distribution by thana is reported in Figure 3.1 and Table 3.3. The tables show that households in all thanas have been exposed to the flood in various levels of severity, and there is a large variation in the severity of household flood exposure depending on the thana. All together, about 58 percent of the households have been exposed severely to the flood, while 29 percent have not been exposed directly to flood.

One will note that the situation of flood severity looks worse in the three thanas Madaripur, Muladi and Sharasti where 95 percent, 76 percent and 85 percent of households have been exposed severely and very severely to the flood respectively. The average results of the severity of flood exposure at the thana level as well at the union and village level correspond to the findings and observations that have been

made at the time of the survey and the village study reported in the rapid appraisal (del Ninno and D. K. Roy).

FLOOD EXPOSURE AND LEVEL OF WELFARE

Once we had defined the level of flood exposure we wanted to find out if poor or richer households have been exposed to the flood in the same level. In other words we wanted to check if richer households could choose to be located in areas that are less prone to flooding. In Table 3.4 we report the proportion of households exposed to flood with respect to their level of per capita household expenditure grouped by quintiles. From this table it appears that the proportion of poor households (those in the bottom quintiles) in severe and very severe flood exposure is not different from that of richer households (those in the fifth quintiles) that have been subject to the same severe and very severe flood exposure. The coefficient of variation of the proportion of households due to flood exposures is found to be 39 percent both for the poor and the richer households. The Spearman rank correlation coefficient between flood exposure and quintiles for 757 households is found to be very small and insignificant. Within the severely flood exposed households (39.23 percent of total households), the coefficient of variations of quintiles is not even high. It seems that the rich do not live in flood-free houses.

We expect the effect of flood exposure to be different due to economic conditions. If the size of owned/farm land per household is related to the level of flood exposure, a different picture seems to emerge. This is reflected in the fact that large landholding households consist of only 4 percent in the very severe flood exposed category, and 14 percent in the severe flood exposed category. Similar patterns are observed at other levels of flood exposure. It is also equally important to note that only 12 percent of households have ownership of land above 150 decimals and the rest 88 percent belong to below 150 decimals landholding group. In fact there is no correlation of severity of household flood exposure and the size of landholding.

SECTION 3 TABLES

Table 3.1 — Per Capita Expenditure, Food and Non-Food Shares and Food Price Index by Quintiles

Expenditure	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	All
Mean per capita expenditure	329.44	492.58	641.60	868.51	1,631.20	787.59
St. Dev.	77.39	36.99	51.00	95.91	592.31	526.24
Food Share	74.27	70.68	69.70	63.04	51.61	65.95
Non Food Share	25.73	29.32	30.30	36.96	48.39	34.05
Food Price Index	1.05	1.06	1.25	1.26	1.44	1.21
Total Calories	1,405	1,931	2,127	2,406	2,922	2,153
No. Households	152	151	151	151	147	752

Source: FMRSP-IFPRI Household Survey 1998

Table 3.2 — Distribution by Quintiles, Food and Non-Food Expenditure Shares and Food Price Index by Land Owned

Land Owned	0-4.9	5-49	50-149	150-249	250+	All
Quintile 1	70.39	15.13	13.82	0.66	-	100
Quintile 2	52.32	24.50	15.89	5.30	1.99	100
Quintile 3	41.06	26.49	22.52	4.64	5.30	100
Quintile 4	41.72	19.21	23.18	7.28	8.61	100
Quintile 5	30.26	19.08	26.32	12.50	11.84	100
All	47.16	20.87	20.34	6.08	5.55	100
Food Share	66.98	67.90	64.71	66.41	57.51	65.92
Non Food Share	33.02	32.10	35.29	33.59	42.49	34.08
Food Price Index	1.24	1.21	1.18	1.34	1.04	1.21
Mean per Capita Expenditure	617.77	705.50	995.06	905.06	1067.12	787.59
Total Calories	1,936	2,247	2,195	2,516	2,550	2,155
No. Households	293	150	196	66	47	752

Source: FMRSP-IFPRI Household Survey 1998

Table 3.3 — Household Flood Exposure by Thana

Thana	Not exposed	Moderate	Severe	Very Severe	Total	Number
Derai	29.63	25.93	32.41	12.04	100.00	108
Madaripu	0.93	3.70	41.67	53.70	100.00	108
Mohamedp	59.26	10.19	25.00	5.56	100.00	108
Muladi	1.85	12.04	75.93	10.19	100.00	108
Saturia	52.29	26.61	17.43	3.67	100.00	109
Shibpur	52.78	6.48	23.15	17.59	100.00	108
Sharast	5.56	9.26	59.26	25.93	100.00	108
All	28.93	13.47	39.23	18.36	100.00	757

Source: FMRSP-IFPRI Household Survey 1998

Table 3.3 A — Construction of the Flood Exposure Index

Variable	Original variable		Created categorical variable	
	Range	Unit of measure	Range	Categories
Depth of Flood in the Homestead	0-12	Feet	0-5	0 to 4: same as original variable 5 : 5 feet or more
Depth of Flood in the Home	0-45	Feet	0-5	0 to 4: same as original variable 5 : 5 feet or more
Days Water in the Home	0-120	Days	0-5	0, one week, two weeks, one month, two months, more than two months
Days away from Home	0-120	Days	0-5	0, one week, two weeks, one month, two months, more than two months
Index Flood Exposed Category			0-18 0-4	Not Exposed: 0 Moderate: 1-5 Severe: 6-10 Very Severe: 11 plus

Table 3.4 — Quintiles, Food and Non-Food Expenditure Shares and Food Price Index by Flood Exposure

Flood	Not exposed	Moderate	Severe	Very Severe	All
Quintile 1	20.28	18.63	17.63	24.24	19.71
Quintile 2	20.74	17.65	20.68	18.18	19.84
Quintile 3	16.59	19.61	23.39	19.70	20.24
Quintile 4	22.58	23.53	19.32	15.15	20.11
Quintile 5	19.82	20.59	18.98	22.73	20.11
All	100.00	100.00	100.00	100.00	100.00
Food Share	69.58	67.89	68.19	71.25	69.09
Non Food Share	30.42	32.11	31.81	28.75	30.91
Food Price Index	1.34	1.07	1.14	1.26	1.21
Mean per Capita Expenditure	703.77	1,019.05	691.87	732.46	747.25
Total Calories	2,089.06	2,089.76	1,948.49	1,994.76	2,016.88
No. Households	217	102	295	132	746

Source: FMRSP-IFPRI Household Survey 1998

Table 3.5 — Household Flood Exposure by Availability of Farmland

Farming land Available	Not exposed	Moderate	Severe	Very Severe	All
0- 4.9	36.99	41.18	33.67	51.08	38.84
5- 49	22.83	15.69	22.56	13.67	20.08
50-149	24.20	21.57	28.62	26.62	26.02
150-249	9.59	10.78	9.09	5.04	8.72
250	6.39	10.78	6.06	3.60	6.34
Total	100.00	100.00	100.00	100.00	100.00
Number	219	102	297	139	757

Source: FMRSP-IFPRI Household Survey 1998

Table 3.6 — Household Flood Exposure by Land Ownership

Total land Owned	Not exposed	Moderate	Severe	Very Severe	All
0- 4.9	45.66	50.00	43.10	56.12	47.16
5- 49	21.46	14.71	22.22	21.58	20.87
50-149	20.09	22.55	20.54	18.71	20.34
150-249	5.94	5.88	7.74	2.88	6.08
250	6.85	6.86	6.40	0.72	5.55
Total	100.00	100.00	100.00	100.00	100.00
Number	219	102	297	139	757

Source: FMRSP-IFPRI Household Survey 1998

4. HOUSEHOLDS EXPENDITURE PATTERNS

Household expenditure patterns are quite revealing of the behavior of poor people, especially in a time of stress. In this section we present patterns of food and food consumption. First of all, in Table 4.1 the percentage of households consuming certain food commodities by quintiles are reported. As expected, fewer people in the lower quintiles consume expensive sources of proteins like meat, eggs and milk.

The budget shares of various food items for five expenditure classes have been studied and are reported in Table 4.2. Naturally, cereals, particularly rice, dominate in the consumption basket of rural households. The share of rice in the food budget is 53 percent of the poor compared to 31 percent for the upper quartile. The richer income brackets devote a relatively larger share of expenditures on fish, meat and fruits. As the first and second quintiles groups face roughly the same market prices so as the third and fourth quintile groups, the concomitant expenditures would show up the same type of relationship across the first and second quintiles groups, and the third and fourth quintiles groups. A similar pattern is found for households that own more land (Table 4.3). Table 4.4 reports patterns of food expenditure with respect to flood exposure. It will be noted from the results that households more exposed to the flood spend less on rice, more on wheat and more prepared foods.

Many households rely on own production and other sources for the food items they consume (Table 4.5). While several items are produced by the households, only a few are received from other sources, mostly leafy vegetables, meats, fruits, fish and prepared foods.

More important for the period of our study were the purchases of food on credit (Tables 4.6 to 4.9). Almost 50 percent of all households purchased food on credit in the month of the survey for an average of Tk. 1,040. While the percentage of

people purchasing food on credit is slightly lower in the upper quintiles, but they can obtain a larger amount of credit (Tk. 1,388 in the top quintile), which can be used for more expensive foods compared to poorer people (Tk. 759 in the bottom quintile). Instead, households with more land are less likely, or they have fewer reasons, to purchase on credit (Table 4.7). Only 41 and 26 percent of households with more than 150 and 250 decimals of land respectively purchased food on credit. Table 4.8 shows the pattern of purchases on credit by flood exposure. Only 30 percent of the households not exposed to the flood purchased food on credit compared to 59 percent of the households very severely exposed to the flood that had to purchase rice, pulses, oil and other products on credit.

The pattern of per capita calorie intake by quintiles, land ownership and flood exposure are similar to those of the budget shares (Tables 4.9, 4.10 and 4.11). Richer households in terms of quintiles consume more calories on a per capita basis than poorer households and derive a smaller percentage of them from rice and other cereals, while people with less land derive more calories from wheat than people with more land. Households not exposed to the flood and moderately exposed to the flood consume slightly more calories on a per capita basis than households more exposed to the flood and derive a smaller percentage of those calories from rice and more from wheat and from prepared foods (Table 4.11).

Patterns of non-food expenditure have been reported in Tables 4.12, 4.13 and 4.14. Richer households and households with more access to land spend more money on housing. The effect of the flood prompted larger expenses on housing and fuel. This appears to have been counterbalanced by reducing the expenses on clothing, travel, personal and other not necessary expenses (Table 4.14).

In conclusion, it seems that people exposed to the flood tried to maintain the same pattern of consumption they had before the flood. To do that they shifted their

consumption patterns for food and non-food items to some cheaper and less necessary items and more importantly many of them purchased food on credit.

SECTION 4 TABLES

Table 4.1 — Percentage of Household Consuming Food Items by Quintiles

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	All
Rice	98.68	100.00	99.34	100.00	98.64	99.34
Wheat	65.79	50.00	64.90	55.26	52.38	57.69
OtherCer	0.66	3.29	6.62	9.21	16.33	7.16
Pulses	75.00	77.63	87.42	82.89	85.03	81.56
Oil	95.39	99.34	97.35	98.68	98.64	97.88
Veges	97.37	99.34	98.68	99.34	99.32	98.81
Meat	26.32	42.11	51.66	66.45	75.51	52.25
Egg	36.18	49.34	60.26	68.42	74.15	57.56
Milk	26.97	29.61	47.02	53.95	57.82	42.97
Fruits	51.32	57.89	70.20	81.58	85.71	69.23
Fishes	93.42	97.37	98.01	98.68	99.32	97.35
Spices	98.68	100.00	98.68	98.68	100.00	99.20
Snac/etc	69.74	85.53	92.05	91.45	94.56	86.60
Tea/Bete	53.95	72.37	72.85	78.95	78.91	71.35
Prepared	15.79	17.76	27.81	28.29	41.50	26.13
Number of HH	152	152	151	152	147	754

Source: FMRSP-IFPRI Household Survey 1998

Table 4.2 — Food Expenditure Budget Shares by Quintiles

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	All
Rice	52.78	51.60	45.51	39.65	30.69	41.40
Wheat	7.14	4.38	4.54	2.69	2.94	3.87
OtherCer	0.08	0.05	0.14	0.14	0.22	0.14
Pulses	3.48	3.09	2.90	2.59	2.91	2.92
Oil	2.84	2.66	2.98	2.93	3.13	2.95
Veges	10.06	11.44	12.06	12.53	13.12	12.18
Meat	1.07	2.74	3.10	5.39	7.30	4.63
Egg	0.94	0.98	1.30	1.86	1.78	1.49
Milk	0.90	0.75	1.95	2.29	2.20	1.81
Fruits	1.46	2.07	2.01	4.57	4.92	3.45
Fishes	6.68	6.89	8.37	11.40	11.89	9.74
Spices	5.89	5.13	5.20	4.68	5.46	5.21
Snac/etc	2.53	3.54	5.09	5.02	6.94	5.11
Tea/Bete	2.74	3.79	3.68	3.61	4.23	3.74
Prepared	1.42	0.88	1.18	0.65	2.27	1.35
Total	100	100	100	100	100	100
Tot Food Exp	1459.61	2109.06	2710.68	3334.75	4179.28	2749.33

Source: FMRSP-IFPRI Household Survey 1998

Table 4.3 — Food Expenditure Budget Shares by Land Owned

	0-4.9	5-49	50-149	150-249	250+	All
Rice	41.67	39.47	40.58	44.51	40.42	41.14
Wheat	4.41	4.80	3.24	3.29	2.96	3.88
OtherCer	0.11	0.04	0.18	0.27	0.19	0.14
Pulses	2.51	2.97	3.01	2.89	3.75	2.91
Oil	2.93	2.98	2.90	3.08	3.12	2.97
Veges	12.85	12.83	12.18	11.44	11.05	12.31
Meat	3.81	3.57	6.04	5.61	4.01	4.62
Egg	1.38	1.47	1.75	1.63	1.03	1.50
Milk	1.48	1.73	1.61	1.26	3.93	1.79
Fruits	3.13	4.23	3.78	2.98	3.56	3.55
Fishes	9.13	9.60	10.13	9.77	10.35	9.70
Spices	5.53	5.61	4.70	4.41	5.68	5.20
Snac/etc	5.23	5.15	4.92	4.26	5.68	5.06
Tea/Bete	3.95	4.09	3.51	3.61	3.43	3.76
Prepared	1.87	1.47	1.47	1.00	0.84	1.48
Total	100.00	100.00	100.00	100.00	100.00	100.00
Tot Exp	2227.45	2624.37	3023.77	3596.81	4549.87	2781.02

Source: FMRSP-IFPRI Household Survey 1998

Table 4.4 — Food Expenditure Budget Shares by Household Flood Exposure

	Not Exposed	Moderate	Severe	Very Severe	All
Rice	43.81	41.62	39.52	40.33	41.14
Wheat	2.64	3.01	4.61	4.77	3.88
OtherCer	0.15	0.28	0.10	0.13	0.14
Pulses	2.43	2.29	3.27	3.29	2.91
Oil	3.10	3.20	2.89	2.79	2.97
Veges	13.40	12.05	11.47	12.74	12.31
Meat	4.98	3.84	4.87	4.08	4.62
Egg	1.44	1.48	1.51	1.56	1.50
Milk	2.60	2.57	1.34	1.00	1.79
Fruits	2.99	3.73	3.55	4.25	3.55
Fishes	9.15	10.13	10.08	9.35	9.70
Spices	4.82	5.78	5.32	5.07	5.20
Snac/etc	4.75	4.56	5.94	3.96	5.06
Tea/Bete	3.03	4.09	4.16	3.72	3.76
Prepared	0.71	1.36	1.37	2.97	1.48
Total	100.00	100.00	100.00	100.00	100.00
Tot Food Exp	2645.76	2844.56	2888.80	2719.31	2781.02

Source: FMRSP-IFPRI Household Survey 1998

Table 4.5 — Food Consumption by Source

Food Category	Total Consumption	Own Prod	Other Sources	Purchases
	Kg	%	%	%
1 Cereals	2.027	9.72	2.76	87.52
2 Pulses	0.438	16.55	0.13	83.32
3 Edible oil	0.270	0.08	0.01	99.91
4 Vegetables	6.350	14.81	0.46	84.73
5 Leafy vegetable	0.277	11.93	9.96	78.11
6 beaf-mutton	0.001	-	11.36	88.63
7 Chicken-duck	0.015	50.55	3.34	46.11
8 Eggs	0.018	24.37	0.69	74.93
9 Milk	0.041	18.34	0.80	80.86
10 Fruits	0.057	21.71	7.04	71.24
11 large fish	0.017	9.27	7.54	83.19
12 small fish	0.106	1.05	2.32	96.62
13 Spices	0.654	0.06	0.00	99.94
14 other foods	0.680	0.25	0.01	99.74
15 Beverage	0.007	-	1.91	98.09
16 Prepared food	0.012	-	6.15	93.85

Source: FMRSP-IFPRI Household Survey 1998

Table 4.6 — Average Amount and Percentage of Household Purchasing Food Commodity on Credit by Quintile

Analytical Food Group	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		All	
	Hh %	Mean Value (Tk)	Hh %	Mean Value (Tk)								
Rice	36.84	762.30	37.09	1,026.99	30.46	1,161.13	35.76	1,091.30	26.32	1,257.85	33.29	1,043.08
Wheat	15.13	252.66	14.57	215.89	10.60	320.47	9.27	232.79	5.92	255.04	11.10	252.89
Othercerc	0.00	.	0.66	25.50	0.00	.	0.00	.	2.63	84.62	0.66	72.80
Pulses	12.50	103.55	16.56	126.81	17.22	93.18	15.89	93.16	16.45	172.65	15.72	118.59
Oil	15.79	42.75	15.89	69.54	20.53	85.11	21.19	79.51	22.37	144.07	19.15	88.11
Vege	9.21	60.13	13.91	136.49	17.88	96.17	14.57	119.85	13.82	248.45	13.87	134.85
Meat	0.66	70.00	1.32	51.56	4.64	70.00	3.97	196.15	2.63	201.88	2.64	132.38
Egg	1.32	63.75	3.31	23.30	1.99	65.75	1.32	80.75	2.63	91.22	2.11	60.48
Milk	2.63	32.06	1.99	55.92	3.97	109.08	3.31	214.37	3.95	83.04	3.17	105.02
Fruits	1.32	29.88	1.99	76.33	1.99	34.58	5.30	54.75	3.29	60.10	2.77	53.86
Fishes	1.97	85.00	2.65	51.05	4.64	115.62	5.30	144.88	4.61	404.64	3.83	181.38
Spices	7.24	72.35	13.91	115.58	9.27	122.26	11.26	244.42	13.82	254.78	11.10	171.90
Snac/Etc	4.61	53.71	13.25	71.51	9.93	76.32	13.91	80.83	15.13	177.00	11.36	101.39
Tea/Bete Prepared	4.61	75.89	5.96	119.94	4.64	166.96	3.97	122.47	9.21	232.76	5.68	157.51
	0.00	0.00	1.32	93.50	1.32	82.88	0.00	0.00	4.61	563.43	1.45	390.61
Total	47.37	759.42	51.66	973.55	47.68	1,008.93	47.68	1,113.90	42.11	1,387.62	47.29	1,039.85

Source: FMRSP-IFPRI Household Survey 1998

Table 4.7 — Average Amount and Percentage of Household Purchasing Food Commodity on Credit by Land Owned

Analytical Food Group	0-4.9		5-49		50-149		150-249		250+		ALL	
	Hh %	Mean Value (Tk)	Hh %	Mean Value (Tk)	Hh %	Mean Value (Tk)	Hh %	Mean Value (Tk)	Hh %	Mean Value (Tk)	Hh %	Mean Value (Tk)
Rice	39.78	957.51	31.01	1,089.93	32.47	1,157.97	15.22	1,487.50	9.52	1,293.06	33.29	1,043.08
Wheat	13.73	225.21	10.13	381.03	11.04	233.74	2.17	102.00	2.38	35.00	11.10	252.89
Othercer	0.56	24.00	0.00	0.00	1.95	105.33	0.00	.	0.00	.	0.66	72.80
Pulses	13.17	124.31	18.35	82.20	20.78	134.53	17.39	176.51	7.14	56.25	15.72	118.59
Oil	15.41	77.31	22.78	81.42	24.68	101.14	26.09	110.29	9.52	106.57	19.15	88.11
Veges	12.61	123.93	12.03	137.20	17.53	121.52	19.57	183.18	11.90	209.10	13.87	134.85
Meat	2.80	125.12	2.53	92.81	3.25	198.00	2.17	35.00	0.00	.	2.64	132.38
Egg	2.24	71.11	1.90	38.00	1.30	41.75	2.17	10.00	4.76	95.62	2.11	60.48
Milk	1.96	83.30	3.80	98.17	6.49	121.25	0.00	.	2.38	136.00	3.17	105.02
Fruits	2.80	55.08	1.90	52.00	4.55	56.96	0.00	.	2.38	25.50	2.77	53.86
Fishes	3.36	184.23	1.90	45.45	5.19	166.50	13.04	263.50	0.00	.	3.83	181.38
Spices	11.20	157.88	8.86	201.91	12.99	130.65	13.04	332.00	9.52	173.24	11.10	171.90
Snac/Etc	9.24	76.97	8.86	54.41	18.18	125.96	17.39	147.62	7.14	236.58	11.36	101.39
Tea/Bete	5.32	125.17	4.43	222.21	8.44	124.24	4.35	378.25	4.76	233.75	5.68	157.51
Prepared	1.40	605.50	1.90	365.50	0.65	80.75	2.17	7.00	2.38	85.00	1.45	390.61
Total	50.70	1,006.34	48.10	987.26	46.10	1,203.81	41.10	1,076.90	26.19	832.34	47.29	1,039.85

Source: FMRSP-IFPRI Household Survey 1998

Table 4.8 — Average Amount and Percentage of Household Purchasing Food Commodity on Credit by Flood Exposure

Food Group	Not Exposed		Moderate		Severe		Very Sev		All	
	Hhs %	Mean Value (Tk)								
Rice	15.98	1,147.60	26.47	1,135.36	40.74	1,009.42	49.64	1,012.99	33.29	1,043.08
Wheat	2.74	190.06	13.73	275.24	14.48	265.97	15.11	229.15	11.10	252.89
Othercer	0.46	170.00	0.98	22.50	0.67	80.75	0.72	10.00	0.66	72.80
Pulses	5.02	44.89	11.76	137.10	22.22	115.40	21.58	145.23	15.72	118.59
Oil	7.76	81.18	17.65	96.75	24.58	82.06	26.62	99.03	19.15	88.11
Vege	10.50	89.95	9.80	105.15	17.17	142.48	15.11	179.61	13.87	134.85
Meat	0.46	160.00	0.00	0.00	5.39	113.24	2.16	225.21	2.64	132.38
Egg	1.37	68.00	0.98	38.25	2.69	39.45	2.88	102.44	2.11	60.48
Milk	2.28	90.10	0.98	42.50	5.05	118.01	2.16	85.83	3.17	105.03
Fruits	0.46	12.00	0.98	29.75	5.39	63.11	2.16	26.50	2.77	53.86
Fishes	1.37	46.50	2.94	146.62	4.71	213.55	6.47	187.89	3.83	181.38
Spices	5.02	47.69	8.82	249.48	14.81	167.95	14.39	214.02	11.10	171.90
Snac/Etc	9.13	72.79	7.84	53.11	14.48	124.57	10.79	98.82	11.36	101.39
Tea/Bete	0.91	136.00	0.98	63.75	8.08	209.12	11.51	88.65	5.68	157.51
Prepared	0.46	255.00	0.00	0.00	2.36	176.46	2.16	935.50	1.45	390.61
Total	29.68	752.19	46.08	899.01	55.22	1,106.76	58.99	1,214.78	47.29	1,039.85

Source: FMRSP-IFPRI Household Survey 1998

Table 4.9 — Calorie Shares by Quintiles

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	All
Rice	64.54	66.84	65.67	65.62	57.17	63.47
Wheat	11.47	7.72	7.66	5.93	5.41	7.19
OtherCer	0.02	0.03	0.18	0.08	0.22	0.12
Pulses	2.45	2.14	2.59	2.38	3.25	2.62
Oil	2.36	2.52	3.03	3.25	3.85	3.12
Veges	5.66	6.12	4.75	5.97	6.84	5.95
Meat	0.12	0.24	0.36	0.55	1.01	0.52
Egg	0.12	0.16	0.25	0.35	0.43	0.29
Milk	0.28	0.22	0.64	0.70	0.78	0.56
Fruits	0.47	0.72	0.86	1.45	1.77	1.16
Fishes	2.55	1.52	3.58	2.89	3.37	2.86
Spices	5.10	3.51	3.26	4.46	3.24	3.81
Snac/etc	2.11	5.66	4.29	5.10	6.84	5.11
Tea/Bete	0.53	0.49	1.31	0.33	0.48	0.62
Prepared	2.21	2.12	1.59	0.94	5.35	2.62
Total	100	100	100	100	100	100
Total calories	1404.71	1930.90	2127.32	2405.94	2921.82	2153.12

Source: FMRSP-IFPRI Household Survey 1998

Table 4.10 — Calorie Shares by Land Ownership

	0-4.9	5-49	50-149	150-249	250+	All
Rice	64.94	60.50	63.13	65.14	63.08	63.41
Wheat	8.78	8.55	6.54	3.26	3.40	7.17
OtherCer	0.06	0.03	0.20	0.20	0.22	0.12
Pulses	1.96	3.11	2.85	2.98	2.99	2.62
Oil	3.10	2.90	3.43	3.04	3.04	3.13
Veges	4.91	6.38	6.29	8.28	5.30	5.95
Meat	0.42	0.43	0.62	0.55	0.80	0.52
Egg	0.27	0.33	0.30	0.24	0.29	0.29
Milk	0.44	0.54	0.63	0.42	1.14	0.56
Fruits	1.00	1.19	1.36	1.12	1.21	1.16
Fishes	2.38	3.84	2.99	2.50	2.55	2.87
Spices	4.04	4.47	3.55	2.92	3.07	3.81
Snac/etc	4.44	4.95	4.74	5.32	10.17	5.15
Tea/Bete	0.47	0.60	0.41	1.30	1.13	0.62
Prepared	2.79	2.17	2.97	2.74	1.60	2.61
Total	100	100	100	100	100	100
Total Calories	1935.97	2246.64	2194.53	2516.34	2549.64	2155.15

Source: FMRSP-IFPRI Household Survey 1998

Table 4.11 — Calorie Shares by Flood Exposure

	Not Exposed	Moderate	Severe	Very Severe	All
Rice	69.16	67.41	62.67	63.95	65.52
Wheat	6.02	5.84	9.21	8.91	7.72
OtherCer	0.13	0.10	0.07	0.17	0.11
Pulses	1.91	1.99	2.88	2.67	2.43
Oil	3.25	3.28	3.55	3.43	3.40
Vege	5.40	4.88	4.62	4.79	4.92
Meat	0.52	0.43	0.53	0.39	0.49
Egg	0.31	0.26	0.25	0.25	0.27
Milk	0.67	0.48	0.42	0.37	0.49
Fruits	1.03	0.96	0.97	0.96	0.98
Fishes	2.04	2.29	2.15	2.23	2.15
Spices	3.49	3.66	3.87	3.63	3.68
Snac/etc	4.85	4.54	5.08	4.43	4.82
Tea/Bete	0.23	0.47	0.37	0.24	0.32
Prepared	0.98	3.42	3.36	3.58	2.69
Total	100	100	100	100	100
Total Calories	2089.05	2089.75	1948.49	1994.76	2016.87

Source: FMRSP-IFPRI Household Survey 1998

Table 4.12 — Non-Food Expenditure Budget Shares by Quintiles

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	All
Housing	6.68	6.54	14.88	14.99	35.95	23.47
Cloth_Ad	10.87	13.34	13.95	15.92	10.07	12.30
Cloth_Ch	4.14	7.33	6.89	4.82	4.85	5.35
SemiDura	1.38	1.69	2.00	1.65	1.76	1.74
Health	28.65	26.73	21.27	22.14	16.01	19.99
Scecial_	0.56	0.88	1.40	1.40	2.63	1.87
Educatio	5.48	8.21	8.25	7.70	4.37	6.13
Personal	10.26	8.61	7.58	5.61	3.28	5.39
Travel	5.19	6.02	6.28	6.95	4.88	5.67
Entertai	0.01	0.05	0.05	0.12	0.08	0.08
Fuel	13.10	7.95	8.39	7.42	5.92	7.26
Cig/Bete	12.32	10.36	7.53	7.11	4.08	6.40
Others	1.37	2.28	1.52	4.18	6.12	4.34
Total	100	100	100	100	100	100
All	491.18	824.67	1181.36	1760.99	3911.50	1619.45

Note: . . . Period from 1 month to 6 month recall.

Source: FMRSP-IFPRI Household Survey 1998

Table 4.13 — Non-Food Expenditure Budget Shares by Land Ownership

	0-4.9	5-49	50-149	150-249	250+	All
Housing	27.75	16.28	30.17	13.31	11.68	23.04
Cloth_Ad	10.13	14.06	9.91	19.45	17.31	12.57
Cloth_Ch	4.98	6.06	4.55	5.20	6.23	5.22
SemiDura	0.98	1.96	1.86	3.16	2.11	1.76
Health	21.66	25.06	17.83	19.92	12.87	19.68
ScECIAL_	1.43	1.12	3.06	1.40	1.77	1.90
Educatio	3.60	5.45	7.68	7.49	7.32	5.97
Personal	5.51	5.85	5.13	5.75	4.79	5.37
Travel	4.23	5.93	6.39	7.22	8.25	5.98
Entertai	0.05	0.06	0.05	0.16	0.14	0.08
Fuel	9.47	8.36	5.47	6.42	4.75	7.17
Cig/Bete	6.80	7.26	6.11	6.60	5.53	6.47
Others	3.41	2.56	1.79	3.93	17.24	4.80
All	100	100	100	100	100	100
Total	1333.24	1301.46	1855.65	1747.50	3663.33	1646.68

Source: FMRSP-IFPRI Household Survey 1998

Table 4.14 — Non-Food Expenditure Budget Shares by Flood Exposure

	Not Exposed	Moderate	Severe	Very Severe	All
Housing	16.60	17.96	21.54	39.05	23.04
Cloth_Ad	14.78	14.97	12.87	7.04	12.57
Cloth_Ch	6.61	5.46	4.65	4.35	5.22
SemiDura	2.34	1.40	1.75	1.24	1.76
Health	19.57	18.61	21.05	17.61	19.68
ScECIAL_	1.86	3.87	1.41	1.57	1.90
Educatio	6.24	6.58	6.30	4.43	5.97
Personal	6.40	6.06	5.05	4.15	5.37
Travel	6.90	5.34	7.15	2.58	5.98
Entertai	0.14	0.02	0.08	0.03	0.08
Fuel	5.58	6.17	6.85	10.82	7.17
Cig/Bete	6.63	6.30	6.82	5.61	6.47
Others	6.37	7.25	4.47	1.52	4.80
All	100	100	100	100	100
Total	1479.90	1726.12	1737.90	1657.28	1646.68

Source: FMRSP-IFPRI Household Survey 1998

5. AGRICULTURE PRODUCTION AND LABOR MARKET PARTICIPATION

It is indisputable that the flood in 1998 had a large impact on the agricultural production. Many farmers lost some of the standing crops and others were not able to cultivate the desired culture because the water had not cleared the land on time to assure the crop to develop fully. It is clear from Table 5.1 that agriculture production is very important for the rural households in our sample. More than 82 percent of them have been engaged in some form of agricultural production in the 12 months prior to the survey and produced on average commodities worth almost Tk. 10,000. While 64 percent produced crops worth more than Tk. 8,000 (50 percent for rice alone), 71 percent produced some form of vegetables worth almost Tk. 4,000. A large number of households consume a large share of the amount produced, especially in the case of vegetable producers (77 percent of crop producers sell 64 percent of the product and almost all vegetable producers consume 39 percent of the product).

Table 5.1 gives also some insight on the losses from flooding. In total, 31 percent of households suffered losses of an average of Tk. 4,500, which accounted to 26 percent of their production, because of the flood. Rice producers suffered most of the losses, 65 percent lost on average Tk. 3,500. Fewer vegetable producers (9 percent) suffered losses of only little over Tk. 500.

The values of production and losses for vegetable and non-vegetable production by land ownership, quintiles and flood exposure have been reported in Tables 5.2, 5.3 and 5.4. It emerges that, as expected, most of the production is done by households with more land, and that more of them suffered losses due to the flood, even though the share of the losses on the total amount of production is around 30 percent for almost all the land categories. Poorer households appear to have suffered more than richer households because the amount and the share of their losses are higher than those of households in

higher expenditure quintiles (Table 5.3). Finally, if we look at the percentage of losses by flood exposure (Table 5.4) we can see that only 24 percent of the households non-exposed to the flood have suffered losses that did not exceed on the average 13 percent of the value of the production.

LABOR PARTICIPATION IN THE IMMEDIATE POST-FLOOD PERIOD

Labor participation in rural areas cannot be separated from food insecurity in Bangladesh. The objective of this section is to examine labor participation by age, sex and the reasons for not looking for jobs in the period following the flood. Similarly the earnings of various labor categories are compared for the period of the flood and the periods preceding the flood.

The labor participation rate is defined as the ratio of the number of persons who are either employed or are searching for employment to the total population in the age group of 10-65. Thus, the economic participation rate represents the percentage of economically active persons (which include the employed, the persons in job search and the discouraged ones) in the population of aged 10-65 years. In Table 5.5 we report two types of participation rates by various age and gender categories in the villages under study. In the second definition we use an expanded measure of participation in which the discouraged workers were also included⁴.

We found that the labor participation rate at an aggregate level is very low (41.28 percent). When male and females are considered separately, the participation rate for males accounts for about 67 percent in the study areas, while that for females is about 14 percent. The participation rate for male children aged between 10 to 14 years remains at slightly higher than 14 percent. The participation rate increases (94 percent) for the age group of persons aged between 35 and 54.

⁴ An economically discouraged worker is defined as a person who is not employed and not in job search but reports at the survey period that there is no job available for work in the economic activities. House-keeping work is not considered as an economic activity.

Open unemployment is virtually non-existent (below 3 percent in Table 5.6). It is clear that people in rural Bangladesh are willing to work more and increase their income earning capabilities, given the fact that about one-third of the persons are very poor and consume less than 1800 calories per capita per day. It is assumed that very poor households should supply as much labor subject to job opportunities to earn their subsistence income. It appears that there is a situation of low participation, low unemployment on the one hand, and on the other hand, the problem of food insecurity for a larger majority of the population.

Table 5.7 looks at the reasons for not looking for jobs by gender and various age categories. The main reason for not participating for males is going to school especially in the 10 to 14 and 15 to 24 age groups (86 and 77 percent respectively). Looking at the reason for females, studying is only important in the 10 to 14 age categories (80 percent). Older women are mostly engaged in housekeeping activities, especially in the 25 to 64 age groups, when almost all of them are involved in housework. A larger proportion of females engaged in housework may be attributed to partly explain the low participation of females in the job market.

LABOR STATUS AND EARNINGS

Workers in rural Bangladesh are engaged mostly in unskilled manual jobs, which can be performed with little training in the task. In fact, more than one-third of the rural workers were daily laborers (Table 5.8). Dependent workers represent only 16 percent of employed persons⁵. More than half of workers were self-employed in November 1998, and the majority of them were engaged in non-farm activities, while one-fifth of the total rural employed persons worked on their own farm. The figures are quite different for women, when more than 42 percent of them were unpaid family workers.

⁵ The main difference between a dependent worker and a daily laborer is job regularity. Dependent workers are hired for a fixed amount of time. Daily laborers are hired for the day and are found to be multi-occupational, being engaged in agriculture and non-farm activities such as commercial, transport and industrial activities.

Dependent workers have relatively higher levels of education than others, and 14 percent of them have completed 10 or more years of schooling. Those employed in their own businesses are better educated than those engaged in their own farming. It is obvious that the proportion of uneducated is very high in daily labor compared to other labor status categories. About half of the daily laborers are employed in agricultural work. The manufacturing sector absorbs more than one-fourth of daily laborers, followed by construction, including earthen work and off-farm. The average daily wage rate is higher in construction work, transport and trade jobs.

A large majority of dependent workers are hired in the private sector (Table 5.9). Government and government projects absorbs one-fourth of dependent workers. The proportionate use of dependent workers was larger in the normal period than in the immediate post-flood period. On the average, more than two-thirds of dependent workers are absorbed on casual basis. The casual labor market is then a formal as well as an informal labor market. The place of job for two-thirds of the dependent workers is located outside their home district, while more than 30 percent of them work within their own thana, and this pattern remains the same over 1997-98 (Table 5.10). This means that people that have a dependent job did not move during the time of the flood.

Table 5.11 shows the number of days worked and the average monthly wage earnings for dependent workers, daily laborers and self-employed in business and cottage activities from a year ago, during the flood and in the period the following the flood. The average monthly days worked went down in the period of the flood and increased in the period after the flood to the same level of a year ago with the exception of the daily laborers. Not only on average do they work less days than dependent workers (19 days versus 27 days a year ago), but this number went down to 11 days in the period of the flood and went up to 16 days in the period after the flood.

Similarly, wage earnings were also reduced in the period of the flood. The monthly average wage earning during November 98 was about 40 percent of the monthly

earning in July-October 1997 for dependent worker, 82 percent for daily laborer and 84 percent of self-employed in non-farm activities at current prices. Female wage earnings were lower in all labor categories and the differences over two periods were less pronounced compared to male monthly income.

SECTION 5 TABLES

Table 5.1 — Agricultural Production, Allocation and Losses Due to Flood

Main Crop	Production			Consumption				Sold				Loss			
	Hhs %	Quantity kg	Mean Value Tk	Hhs %	Quantity kg	Mean Value Tk	Mean %	Hhs %	Quantity kg	Mean Value Tk	Mean %	Hhs %	Quantity kg	Mean Value Tk	Mean %
RICE	49.54	1,085.28	7,687	97.87	547.10	3,923	64.67	32.00	247.64	1,689	11.21	65.33	353.98	3,476	24.59
WHEAT	14.13	293.69	2,417	95.33	99.87	824	49.79	61.68	134.96	1,100	32.62	2.80	1.26	12	0.43
FIBRE	15.98	637.41	3,647	55.37	27.44	164	8.59	92.56	371.43	2,194	71.45	55.37	152.88	1,841	19.34
OTHERS	41.08	134.78	1,699	95.50	51.87	615	50.79	58.84	59.83	797	30.37	3.54	4.12	50	2.97
Non-veg total	64.20	1,147.01	8,459	76.53	484.15	3,642	42.21	49.04	351.55	2,602	30.65	40.03	366.52	3,728	30.59
VEGETABLE	70.81	486.72	3,790	98.69	152.88	1,130	64.49	50.75	288.25	2,310	22.81	8.84	88.72	544	12.55
ALL	82.17	1,315.64	9,876	99.04	515.22	3,857	39.16	66.72	784.00	6,031	23.83	30.58	467.87	4,553	26.23
All hholds	757.00	1,081.62	8,114		429.80	3,138	57.17		429.80	3,306	23.83		285.54	2,779	

Note: Hh No shows the Household who are related to production

Source: FMRSP-IFPRI Household Survey 1998

Table 5.2—Agricultural Production and Losses by Land Owned

Land Owned	Production		Loss		Loss %	No
	Hh	Value	Hh	Value		
	%	Tk	%	Tk		
0-4.9	36.97	4,833	13.17	2,210	31.38	357
5-49	81.01	4,363	44.30	2,000	31.43	158
50-149	90.26	8,917	53.90	5,558	38.40	154
150-249	97.83	12,391	54.35	5,247	29.75	46
250 +	100.00	26,610	57.14	6,079	18.60	42
Total	64.20	8,459	40.03	3,728	30.59	757

Land Owned	Production		Loss		Loss %	No
	Hh	Value	Hh	Value		
	%	Tk	%	Tk		
0-4.9	55.74	2,211	3.92	199	8.25	357
5-49	81.65	2,371	6.96	350	12.87	158
50-149	85.71	3,469	11.69	991	22.22	154
150-249	76.09	8,092	10.87	1,086	11.83	46
250 +	97.62	13,285	7.14	930	6.54	42
Total	70.81	3,790	8.84	544	12.55	757

Source: FMRSP-IFPRI Household Survey 1998

Table 5.3 — Agriculture Production and Losses by Quintiles, 1998

All Crops Excluding Vegetables

Quintiles	Production		Loss		Loss	No
	Hh	Value	Hh	Value		
	%	Tk	%	Tk		
1st Qui	47.37	3,914	25.66	4,658	54.34	152
2nd Qui	59.60	7,769	32.45	4,423	36.28	151
3rd Qui	72.19	8,529	39.07	4,233	33.17	151
4th Qui	70.20	9,274	33.77	2,728	22.73	151
5th Qui	71.71	11,169	33.55	3,006	21.21	152
Total	64.20	8,459	40.03	3,728	30.59	757

Vegetables

Quintiles	Production		Loss		Loss	No
	Hh	Value	Hh	Value		
	%	Tk	%	Tk		
1st Qui	54.61	2,559	4.61	178	6.49	152
2nd Qui	74.17	2,792	5.96	284	9.23	151
3rd Qui	77.48	4,245	11.26	1,166	21.55	151
4th Qui	73.51	5,729	5.96	703	10.93	151
5th Qui	74.34	3,309	5.92	271	7.58	152
Total	70.81	3,790	8.84	544	12.55	757

Source: FMRSP-IFPRI Household Survey 1998

Table 5.4 — Agriculture Production and Loss by Flood Exposure**All Crops Excluding Vegetables**

Flood Exposure	Production		Loss		Loss %	No
	Hh	Value	Hh	Value		
	%	Tk	%	Tk		
Not expo	66.21	10,527	23.74	1,530	12.69	219
Moderate	61.76	9,083	32.35	6,616	42.14	102
Severe	71.38	7,300	42.42	4,012	35.47	297
Very Sev	47.48	7,042	27.34	4,888	40.97	139
Total	64.20	8,459	40.03	3,728	30.59	757

Vegetables

Flood Exposure	Production		Loss		Loss %	No
	Hh	Value	Hh	Value		
	%	Tk	%	Tk		
Not expo	68.95	4,040	3.65	507	11.15	219
Moderate	67.65	3,218	11.76	543	14.43	102
Severe	72.73	4,534	8.75	619	12.01	297
Very Sev	71.94	2,201	3.60	439	16.63	139
Total	70.81	3,790	8.84	544	12.55	757

Table 5.5 — Labor Participation Rate by Age and Gender

Age Categories	Participation rate1(%)			Participation Rate2(%)			Persons
	Gender		All	Gender		All	
	Male	Female		Male	Female		
10-14	14.33	5.30	9.95	16.20	6.29	11.40	623
15-24	54.52	14.08	33.95	56.27	15.77	35.67	698
25-34	89.82	14.78	50.25	90.18	15.72	50.91	603
35-54	94.16	18.58	60.75	95.67	19.67	62.08	828
55-60	83.91	18.92	54.04	86.21	18.92	55.28	161
61-65	74.47	15.00	56.72	74.47	25.00	59.70	67
Total	66.80	13.80	41.28	68.22	15.05	42.62	2980

Note: Participation Rate1 is defined as % of persons working and searching for jobs while participation2 includes also discouraged.

Source: FMRSP-IFPRI Household Survey 1998

Table 5.6 — Unemployment Rate in Rural Area by Age and Gender

Age Categories	Unemployment 1 (%)			Unemployment 2 (%)			Number
	Gender		All	Gender		All	
	Male	Female		Male	Female		
10-14	1.85	1.85	1.85	15.87	15.87	15.87	623
15-24	4.78	4.78	4.78	9.50	9.50	9.50	698
25-34	1.76	1.76	1.76	3.12	3.12	3.12	603
35-54	1.93	1.93	1.93	4.19	4.19	4.18	828
55-60	0.00	0.00	0.00	2.44	2.44	2.44	161
61-65	0.00	0.00	0.00	6.06	6.06	6.06	67
Total	2.34	2.45	2.40	7.56	7.66	7.61	2980

Source: FMRSP-IFPRI Household Survey 1998

Table 5.7 — Reasons for not Looking for Jobs

Age categories	Reason of not looking job					Other	Total	Number
	No need	No jobs	Sick	Student	H Keeping			
All								
10-14	0.63	1.25	0.21	82.88	10.86	4.18	100.00	479
15-24	1.70	1.21	0.73	41.99	49.51	4.85	100.00	412
25-34	1.11	0.37	0.74	3.69	91.14	2.95	100.00	271
35-54	2.60	0.97	2.60	0.65	92.53	0.65	100.00	308
55-60	3.03	0.00	10.61	0.00	77.27	9.09	100.00	66
61-65	7.41	0.00	22.22	0.00	66.67	3.70	100.00	27
All	1.60	0.96	1.73	37.24	54.83	3.65	100.00	1563
Male								
10-14	0.86	1.72	0.00	85.84	5.58	6.01	100.00	233
15-24	2.27	2.27	0.76	76.52	9.09	9.09	100.00	132
25-34	5.26	0.00	5.26	31.58	15.79	42.11	100.00	19
35-54	30.00	5.00	20.00	0.00	40.00	5.00	100.00	20
55-60	16.67	0.00	25.00	0.00	50.00	8.33	100.00	12
61-65	0.00	0.00	33.33	0.00	66.67	0.00	100.00	12
All	3.27	1.87	3.04	71.73	11.68	8.41	100.00	428
Female								
10-14	0.41	0.81	0.41	80.08	15.85	2.44	100.00	246
15-24	1.43	0.71	0.71	25.71	68.57	2.86	100.00	280
25-34	0.79	0.40	0.40	1.59	96.83	0.00	100.00	252
35-54	0.69	0.69	1.39	0.69	96.18	0.35	100.00	288
55-60	0.00	0.00	0.00	0.00	83.33	9.26	100.00	54
61-65	13.33	0.00	0.00	0.00	66.67	6.67	100.00	15
All	0.97	0.62	24.23	24.23	71.10	1.85	100.00	1135

Source: FMRSP-IFPRI Household Survey 1998

**Table 5.8 — Distribution of Engaged Persons by Age and Job Category
(Percentages)**

Age categories	Main current type of work					Total	Number
	Dependent	Daily lab.	Own Bus.	Own Farm	Unpaid		
All							
10-14	24.56	15.79	15.79	21.05	22.81	100	57
15-24	26.36	28.18	13.64	15.45	16.36	100	220
25-34	19.11	36.18	24.23	12.29	8.19	100	293
35-54	12.47	38.85	23.52	19.22	5.93	100	489
55-60	6.02	25.30	20.48	37.35	10.84	100	83
61-65	0.00	18.18	21.21	57.58	3.03	100	33
All	16.51	33.53	21.19	19.23	9.53	100	1175
Male							
10-14	27.91	16.28	16.28	25.58	13.95	100	43
15-24	26.01	32.37	12.72	19.08	9.83	100	173
25-34	19.28	38.96	24.90	14.06	2.81	100	249
35-54	12.06	41.13	24.35	21.51	0.95	100	423
55-60	6.85	27.40	21.92	42.47	1.37	100	73
61-65	0.00	16.13	22.58	61.29	0.00	100	31
All	16.23	36.19	21.88	22.18	3.53		992
Female							
10-14	14.29	14.29	14.29	7.14	50.00	100	14
15-24	27.66	12.77	17.02	2.13	40.43	100	47
25-34	18.18	20.45	20.45	2.27	38.64	100	44
35-54	15.15	24.24	18.18	4.55	37.88	100	66
55-60	0.00	10.00	10.00	0.00	80.00	100	10
61-65	0.00	50.00	0.00	0.00	50.00	100	2
All	18.03	19.13	17.49	3.28	42.08		183

Source: FMRSP-IFPRI Household Survey 1998

Table 5.9 — Distribution of Dependent Workers by Type of Employer and Agreement (Percentages)

Type of employer	Type of agreement			All	Number
	Permanent	Casual	Exchange		
Period: July-Oct 1997					
Govern't	91.30	8.70	0.00	100.00	23
Govt Project	50.00	50.00	0.00	100.00	6
Non-Govt Project	47.62	52.38	0.00	100.00	21
Private	7.81	84.38	7.81	100.00	64
Total	34.21	61.40	4.39	100.00	114
Period: July-Oct 1998					
Govern't	95.45	4.55	0.00	100.00	22
Govt Project	50.00	50.00	0.00	100.00	8
Non-Govt Project	50.00	50.00	0.00	100.00	20
Private	6.25	85.94	7.81	100.00	64
Total	34.21	61.40	4.39	100.00	114
Period: Oct-Nov 1998					
Govern't	95.45	4.55	0.00	100.00	22
Govt Project	57.14	42.86	0.00	100.00	7
Non-Govt Project	47.62	52.38	0.00	100.00	21
Private	6.25	85.94	7.81	100.00	64
Total	34.21	61.40	4.39	100.00	114

Source: FMRSP-IFPRI Household Survey 1998

Table 5.10 — Distribution of Dependent Workers by Location of Work in Three Periods (Percentages)

Location of job	July-Oct '97	July-Oct '98	Oct-Nov '98
Same village	16.07	17.12	16.81
Same UP	14.29	13.51	13.27
Same thana	3.57	2.70	3.54
Same District	7.14	6.31	6.19
Outside	58.93	60.36	60.18
Total	100	100	100
Persons (no.)	112	111	113

Source: FMRSP-IFPRI Household Survey 1998

Table 5.11 — Monthly Average Earnings of Rural Workers in Current Main Job over Three Periods

Labor Status	July-Oct 97			July-Oct 98			Oct-Nov 98		
	No.	Earnings (Tk.)	Days	No.	Earnings (Tk.)	Days	No.	Earnings(Tk)	Days
Dep Worker									
Male	93	7486	27.02	91	5645	23.41	91	2877	27.47
Female	17	1674	27.17	16	2439	26.35	16	1325	26.76
All	110	6587	27.04	107	5166	23.86	107	2645	27.36
Daily Labor									
Male	235	1160	19.12	234	666	11.10	235	950	15.78
Female	11	723	20.30	11	357	11.03	11	590	16.72
All	246	1140	19.17	245	651	11.09	246	933	15.87
Business & Cottage									
Male	101	2296	23.10	101	1797	17.81	101	1931	23.19
Female	6	383	15.71	6	258	12.71	7	407	17.71
All	107	2189	22.63	107	1710	17.48	108	1832	22.83

Source: FMRSP-IFPRI Household Survey 1998

Table 5.12 — Persons Engaged in Public Works by Education Level (Percentages)

Type of Work	Illiterate	Primary	All	Persons	% of male	% of Persons
1998						
FFW	75.00	25.00	100.00	8.00	100.00	44.44
Others	70.00	30.00	100.00	10.00	100.00	55.55
All	72.22	27.78	100.00	18.00	100.00	100.00
1995						
FFW	94.44	5.56	100.00	18.00	100.00	72.00
Others	57.14	42.86	100.00	7.00	100.00	28.00
All	84.00	16.00	100.00	25.00	100.00	100.00

Source: FMRSP-IFPRI Household Survey 1998

Table 5.13 — Percentage Distribution of Workers in Public Works over 1995-98 (Percentages)

Main current type of work	FFW	TR	RMP	others	Weeks Worked			
					upto 4 weeks	> 4 weeks		
Type of work in 98								
Daily la	33.33	6.67	13.33	46.67	75.00	25.00	100	15
Own Busi	100.00	0.00	0.00	0.00	100.00	0.00	100	1
Own Farm	50.00	0.00	50.00	0.00	100.00	0.00	100	2
Unpaid F	100.00	0.00	0.00	0.00	0.00	0.00	0	1
Total	42.11	5.26	15.79	36.84	55.00	45.00	100	19
Type of work in 95								
Salary W	0.00	100.00	0.00	0.00	100.00	0	100	1
Daily la	80.00	0.00	5.00	15.00	47.62	52.38	100	20
Own Busi	50.00	50.00	0.00	0.00	0.00	100	100	2
Own Farm	0.00	0.00	100.00	0.00	0.00	100	100	1
Unpaid F	100.00	0.00	0.00	0.00	0.00	0	0	1
Total	72.00	8.00	8.00	12.00	52.00	48	100	25

6. ASSETS LOSSES AND BORROWING STRATEGIES

Ownership and accumulation of assets are an important determinant of welfare. During the flood many households lost a large number of assets that accounted for a sizable share of the value of their assets and were forced to consume and sell part of them to get the money necessary to purchase food.

All the households have some type of assets such as cattle, poultry and other tangible assets (Table 6.1). Almost all of them reported having at least one house (main house). More than 80 percent of the houses are roofed either with tiles, tin or concrete, and the roofs of the remaining houses (18 percent) are covered either with bamboo, chhan, leaves or jute sticks. Only less than half of households own trees. This is a pity because fruit trees can have a large positive impact on household food security, and one might guess that there are at least a few of the trees reported are fruit trees. Only 15 percent households possess a radio. Agricultural assets are owned by 40 percent of the households, while only 3.43 percent of them own irrigation equipment.

The pattern of ownership of assets by the level of welfare and the ownership of land (Tables 6.2 and 6.3) shows that richer households own more assets in general and those are also more valuable. This is more evident in the case of transport, jewelry and other valuable assets. Similarly households that own more land have more trees, cattle, chickens and agricultural assets.

Tables 6.4, 6.5 and 6.6 present losses of various tangible assets by quintiles, land ownership and flood exposure. All households, irrespective of quintiles groups, have lost assets. The amount of the losses of assets owned and the proportion to its value (in Tk.) varies from asset to asset category, and on the average, ranges from 20 percent to 40 percent. The losses were greater for houses, trees, poultry and valuable household effects. Although richer households lost some valuable assets, poorer households have

been affected more because they have fewer assets to begin with. In total, 55 percent of the household lost on average approximately Tk. 7,000, which amount to 34 percent of the total value of the assets (Table 6.4). By quintiles, 54 percent of households in the first quintile lost assets for a value of Tk. 5,600 compared to 57 percent of households in the top quintiles that lost an average of Tk. 8,500.

As expected, households with more land lost more valuable agricultural assets than those with less and no land (Table 6.5). Ultimately, households that were exposed more to flood lost more assets (82 percent for the severely exposed households compared to 20 percent of not exposed households - Table 6.6). Households in very severe flood affected category are found to have lost several pieces of agricultural and transport equipment.

Disposal of assets has been a very important coping strategy for households exposed to the flood. It is not uncommon for rural households to meet requirements for consumption by selling off parts of their assets. In fact, between 24 and 28 percent of the households consumed part of their assets, and between 8 and 10 percent sold assets (Table 6.7).

To isolate the impact of the flood we compared the trend in disposal of assets in three periods: the period before the flood (January to June), the period of the flood (July to October) and the month of November. The disposal of assets did not appear to be different for households in different quintiles (Tables 6.8, 6.9 and 6.10). The pattern is quite different for households not exposed to the flood (Tables 6.11, 6.12 and 6.13). They could consume a larger share of their assets, mostly cereals and chickens with respect to the household exposed to the flood that had to sell more of their assets, especially in the period of the flood.

BORROWING STRATEGY

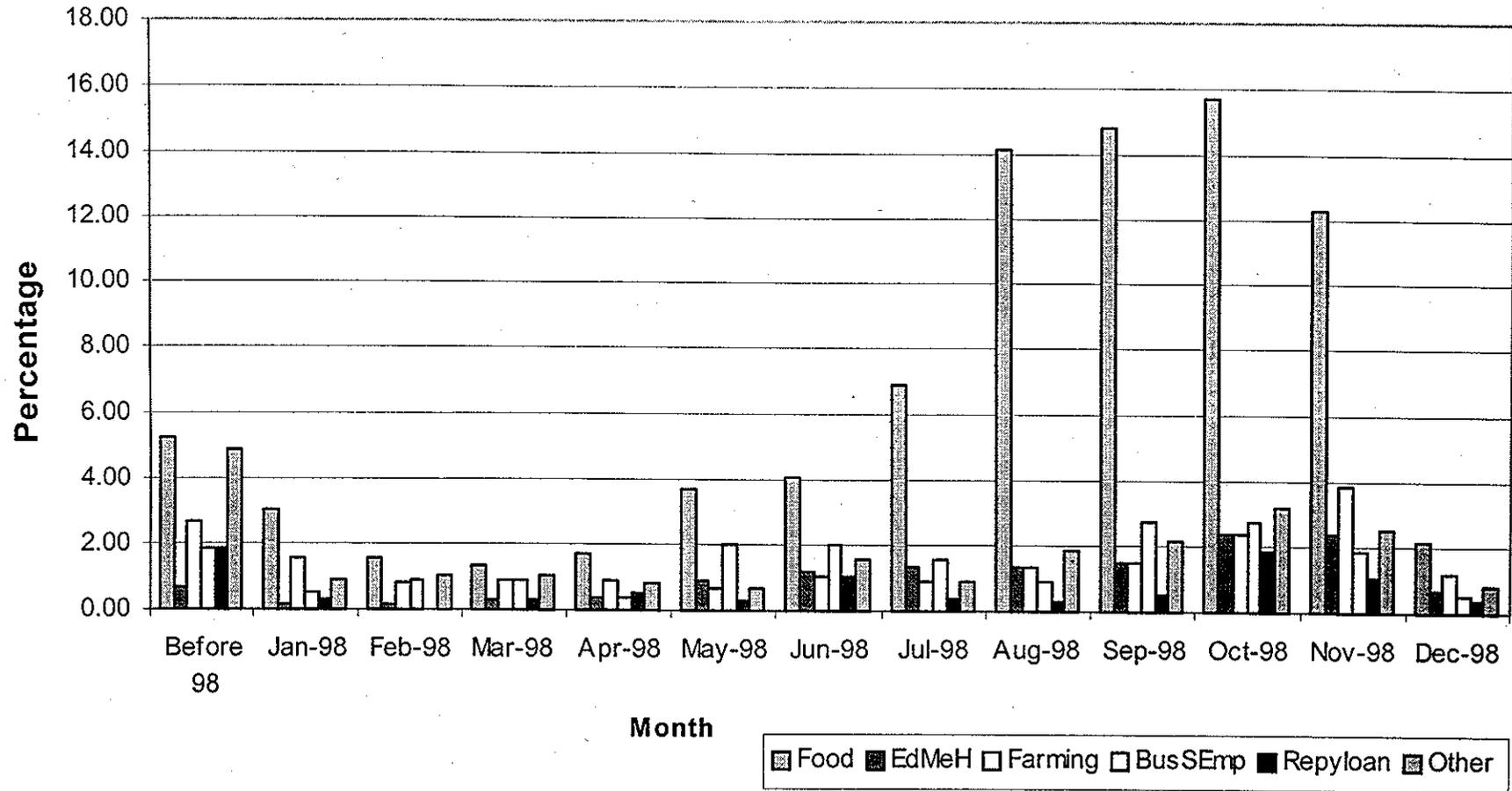
Credit is one of the coping mechanisms used by poor households to overcome food insecurity problem, particularly, in periods of crisis such as flood, draught, cyclone etc. The demand for credit in the period of flood as well as in other period appears to be extensive. The percentage of loans taken by the households increased during the flood period for all uses together (Figure 6.1 and Table 6.14), but especially for food. More than 75 percent of the sample households have contracted some loans for various uses in the surveyed villages in the 12 months before the survey. Almost half of them borrowed money to purchase food.

The average amount of loans and the amount of outstanding loans are quite sizable (Table 6.15 and 6.16). The average size of loans for food consumption and education are lower than those for farming and business, but they are still between Tk. 1,550 to Tk. 3,000, which is equal to the average amount spent in a month by a household to buy food.

It is interesting to observe that the average of size of outstanding loans is higher for people in the upper quintiles (Table 6.17). This is explained by the fact that richer households can borrow more and that they borrow more for farming and business reasons, which require higher average amounts. The reverse is true for poor households, which borrow lower amounts and mostly for food consumption. The same pattern emerges looking at the percentage of households borrowing and the size of their loans by land ownership (Table 6.18).

The percentage of households having outstanding loans after July 1, 1998 increases with the degree of flood exposure (Table 6.19). Almost 50 percent of the households very severely exposed to flood have outstanding debts of Tk. 2,600 for food. The average size of the loans for all uses is higher for households not exposed to flood. This is because the average size of loans for farming use is consistently higher than loans for food consumption use regardless of the category of flood exposure.

Figure 6.1 — Percentage of Loans by Month and Reasons in 1998



Interest rate

Loans are received from a variety of sources that charged interest rates ranging from 0 to 120 percent. Most of the loans were received from neighbors and relatives (Tables 6.20, 6.21 and 6.22). In fact, 21 percent of the households received loans from neighbors and almost 15 percent from relatives. Only mahajan, neighbors and relatives did not charge interest rates in 3, 8 and 7 percent of the cases respectively. NGOs charged lower interest rates (18 percent large NGOs and 26 percent smaller NGOs) than commercial banks (16 percent interest rates) and others who charged interest rates of more than 50 percent.

Richer people borrowed more than poorer people and more from banks, while poor and landless people had to rely more on neighbors and relatives and had to pay higher interest rates. People more exposed to the flood borrowed more, but had more access to cheaper loans from NGOs and in general received more free loans and paid lower interest rates. These results suggest that even though not too many people came forward offering interest free loans, nobody seemed to take advantage of the situation.

SECTION 6 TABLES

Table 6.1 — Assets Owned by Category

Assets categories	Households %	Quantity (Mean)	Unit Value (Mean)	Total Value in Taka (Mean)
House	98.41	2.13	12,546.67	24,394.82
Large Tree	47.16	10.74	941.86	9,238.95
Cereal	41.48	82.66	15.11	1,215.54
Cattle	47.56	1.93	4,591.03	8,103.68
Goats	20.08	1.65	662.28	969.56
Chicken	75.96	4.46	66.05	282.61
Duck	30.91	4.15	68.60	281.03
Agri Ass(cheap)	40.16	3.97	132.21	372.21
Agri Ass(Value)	3.43	1.38	12,440.79	16,345.36
Fishing	28.80	1.88	1,122.16	2,277.11
Motocycle	1.45	1.09	8,555.00	10,373.18
Transport	15.85	1.28	1,947.87	2,609.74
HH Ass(cheap)	93.53	13.14	53.10	678.97
HH Ass(Value)	27.34	1.04	1,777.21	1,858.54
Radio/watch	24.83	1.46	410.15	692.46
TV	4.23	1.00	5,534.38	5,534.38
Jewlary	44.39	2.43	1,632.59	3,800.74
Others	42.67	5.22	686.94	4,000.83
All Number	100 757			40,093.70

Note: 1) Total Value is estimate value for Assets and unitvalue calculate by Total value/quantity

2) Pady Rice and wheat convert to Rice quevalent

3) All young cattle, goat, chicken and duck convert to adalt

Source: FMRSP-IFPRI Household Survey 1998

Table 6.2 — Assets Owned by Quintiles (Number of Households, Average Quantity and Total Value in Taka)

Assets Categories	Quintile 1			Quintile 2			Quintile 3			Quintile 4			Quintile 5			All		
	Hholds	Qty	Value	Hholds	Qty	Value	Hholds	Qty	Value									
House	97.37	1.70	18,102.76	98.68	2.11	20,408.08	100.00	2.19	23,672.39	97.35	2.33	29,325.05	98.68	2.34	30,458.74	98.41	2.13	24,394.82
Large Tree	31.58	8.75	7,549.84	47.02	10.72	8,905.91	52.98	7.45	5,256.57	50.33	14.20	11,899.13	53.95	11.93	11,935.80	47.16	10.74	9,238.95
Cereal	34.21	19.86	283.87	44.37	64.06	916.30	37.09	97.96	1,443.89	43.05	94.77	1,339.70	48.68	121.42	1,859.28	41.48	82.66	1,215.54
Cattle	35.53	1.60	6,242.59	43.71	1.71	7,062.39	53.64	1.90	8,077.09	56.29	1.80	7,620.72	48.68	2.55	10,974.32	47.56	1.93	8,103.68
Goats	19.74	1.79	1,040.83	20.53	1.59	850.00	25.17	1.70	1,015.26	17.22	1.46	798.08	17.76	1.70	1,128.42	20.08	1.65	969.56
Chickens	69.74	3.07	201.68	74.83	3.76	239.48	79.47	4.77	300.74	72.85	4.86	292.05	82.89	5.61	363.88	75.96	4.46	282.61
Duck	18.42	5.59	319.64	21.85	5.98	468.48	40.40	4.07	249.59	39.74	3.14	217.92	34.21	3.47	250.96	30.91	4.15	281.03
Agri Ass(cheap)	25.66	3.33	260.62	45.70	4.17	360.12	47.02	3.97	353.92	40.40	4.00	365.41	42.11	4.12	480.02	40.16	3.97	372.21
Agri Ass(Value)	1.32	1.00	18,300.00	2.65	1.00	17,863.33	3.31	2.60	27,902.21	3.97	1.00	11,591.67	5.92	1.22	11,984.99	3.43	1.38	16,345.36
Fishing	19.08	2.38	1,949.51	31.79	2.04	1,837.95	33.11	1.86	1,589.37	30.46	1.67	1,611.44	29.61	1.62	4,401.29	28.80	1.88	2,277.11
Motorcycle	0.66	1.00	9,230.00	1.32	1.00	7,215.00	1.99	1.00	4,508.33	2.65	1.25	16,922.50	0.66	1.00	9,230.00	1.45	1.09	10,373.18
Transport	5.26	1.12	2,575.00	11.92	1.00	2,078.42	15.89	1.08	2,179.33	18.54	1.04	1,798.21	27.63	1.71	3,631.04	15.85	1.28	2,609.74
HH Ass(cheap)	93.42	10.15	426.90	92.05	10.63	483.78	97.35	12.85	700.52	91.39	13.22	711.57	93.42	18.80	1,068.13	93.53	13.14	678.97
HH Ass(Value)	11.84	1.00	1,666.67	21.85	1.12	1,781.91	31.79	1.00	1,715.58	32.45	1.02	1,783.01	38.82	1.05	2,138.98	27.34	1.04	1,858.54
Radio/watch	9.21	1.43	650.91	15.23	1.35	1,104.08	23.84	1.36	535.30	29.80	1.22	452.33	46.05	1.70	800.71	24.83	1.46	692.46
TV	0.00			0.66	1.00	5,200.00	1.32	1.00	4,000.00	5.96	1.00	4,133.33	13.16	1.00	6,335.00	4.23	1.00	5,534.38
Jewelry	31.58	1.94	2,500.83	42.38	2.47	2,822.46	42.38	2.39	2,826.65	44.37	2.78	4,764.39	61.18	2.44	5,121.00	44.39	2.43	3,800.74
Others	33.55	2.53	1,155.80	39.07	4.05	2,681.84	42.38	3.53	2,501.18	43.05	9.12	7,005.14	55.26	5.94	5,472.44	42.67	5.22	4,000.83
Total	100.00		25,439.89	100.00		33,121.70	100.00		37,639.50	100.00		48,460.81	100.00		55,799.60	100.00		40,093.70
Number	152			151			151			151			152			152		

Source: FMRSP-IFPRI Household Survey 1998

Table 6.3 — Assets Owned by Land Ownership (Number of Households, Average Quantity and Total Value in Taka)

Assets Category	0-4.9			5.0-49			50-149			150-249			250+			All		
	Hhnod	Qty	Value	Hhnod	Qty	Value	Hhnod	Qty	Value	Hhnod	Qty	Value	Hhnod	Qty	Value	Hhnod	Qty	Value
House	97.76	1.69	18,304.40	98.73	2.15	21,061.99	99.35	2.56	27,294.69	97.83	2.93	41,066.72	100.00	3.33	58,955.80	98.41	2.13	24,394.82
Large Tree	33.33	9.62	8,505.93	53.16	7.92	7,252.51	61.69	12.11	10,551.21	60.87	10.57	9,221.17	73.81	18.65	13,430.05	47.16	10.74	9,238.95
Cereal	32.49	27.24	391.31	43.67	56.76	858.76	50.65	79.85	1,190.59	54.35	182.67	2,543.24	61.90	310.95	4,637.88	41.48	82.66	1,215.54
Cattle	28.01	1.36	5,613.00	53.16	1.62	6,722.15	68.18	2.02	8,306.39	84.78	2.50	9,771.79	76.19	3.54	16,815.38	47.56	1.93	8,103.68
Goats	15.97	1.46	714.47	23.42	1.96	1,185.41	22.73	1.53	934.29	23.91	2.18	1,118.18	28.57	1.54	1,482.29	20.08	1.65	969.56
Chicken	67.79	3.63	223.28	81.01	4.54	281.43	85.06	5.31	348.14	82.61	4.93	300.11	85.71	6.18	428.75	75.96	4.46	282.61
Duck	21.29	5.16	340.79	37.34	3.58	247.03	37.66	3.40	237.84	50.00	4.05	268.04	42.86	4.26	295.83	30.91	4.15	281.03
Agri	23.53	3.40	215.29	41.14	4.02	371.00	64.29	3.97	379.08	63.04	4.03	583.62	64.29	5.59	611.05	40.16	3.97	372.21
Ass(cheap)																		
Agri	0.56	1.00	30,500.00	1.90	1.00	2,866.67	3.25	1.20	11,901.33	13.04	2.33	26,069.87	23.81	1.10	13,945.33	3.43	1.38	16,345.36
Ass(Value)																		
Fishing	24.09	2.14	1,852.36	27.85	1.86	1,814.43	38.31	1.68	1,406.37	39.13	1.33	978.56	26.19	1.91	14,243.82	28.80	1.88	2,277.11
Motorcycle	0.28	1.00	9,230.00	1.90	1.00	7,886.67	1.30	1.00	7,015.00	0.00			11.90	1.20	13,437.00	1.45	1.09	10,373.18
Transport	8.68	1.32	3,200.00	17.72	1.61	3,575.00	24.68	1.05	1,777.94	21.74	1.40	2,240.38	30.95	1.08	1,838.76	15.85	1.28	2,609.74
HH	91.88	9.60	438.54	96.20	12.03	602.16	95.45	16.90	963.11	91.30	19.90	1,109.30	92.86	25.72	1,466.00	93.53	13.14	678.97
Ass(cheap)																		
HH	15.41	1.05	1,837.65	28.48	1.02	1,808.89	47.40	1.01	1,750.41	32.61	1.07	1,840.00	45.24	1.11	2,466.72	27.34	1.04	1,858.54
Ass(Value)																		
Radio/watch	16.53	1.25	538.31	25.32	1.40	723.29	35.71	1.64	727.01	26.09	2.08	1,277.82	52.38	1.32	644.13	24.83	1.46	692.46
TV	1.96	1.00	6,442.86	3.16	1.00	3,300.00	4.55	1.00	6,428.57	8.70	1.00	5,000.00	21.43	1.00	5,611.11	4.23	1.00	5,534.38
Jewelry	36.41	2.13	2,806.40	45.57	2.47	4,163.44	53.90	2.42	3,426.84	50.00	2.04	4,255.96	66.67	4.07	8,219.11	44.39	2.43	3,800.74
Others	33.33	3.20	2,051.64	49.37	3.62	2,454.65	49.35	4.80	3,952.60	45.65	6.86	8,165.72	69.05	17.72	13,268.39	42.67	5.22	4,000.83
Total	100.00		26,345.54	100.00	7.56	35,184.53	100.00	9.77	48,288.06	100.00	17.06	68,978.23	100.00	27.20	113,739.37	100.00	9.60	40,093.70
Number	357			158			154			46			42			757		

Source: FMRSP-IFPRI Household Survey 1998

Table 6.4 — Assets Lost: Number of Households, Average Value and its Share on Total Value of Assets Owned by Quintiles

Assets Categories	Quintile 1			Quintile 2			Quintile 3			Quintile 4			Quintile 5			All		
	Hholds	% of loss	Loss Tk.	Hholds	% of loss	Loss Tk.	Hholds	% of loss	Loss Tk.	Hholds	% of loss	Loss Tk.	Hholds	% of loss	Loss Tk.	Hholds	% of loss	Loss Tk.
House	48.68	44.81	5,196.35	46.36	51.59	5,501.62	49.01	54.22	6,206.99	41.06	60.74	6,030.23	50.66	51.48	5,480.11	47.16	52.29	5,671.72
Large Tree	9.87	50.67	3,769.16	17.88	41.30	5,308.15	23.18	50.71	3,168.72	12.58	48.68	3,859.82	19.74	48.77	9,246.02	16.64	47.92	5,249.84
Cereal	0.00			0.66	6.00	78.00	0.00			0.66	8.00	128.00	2.63	29.00	1,097.07	0.79	21.67	765.72
Cattle	2.63	52.00	2,077.50	4.64	77.86	3,464.29	8.61	48.31	2,637.31	4.64	76.00	4,271.43	3.95	49.33	2,620.00	4.89	59.70	3,039.59
Goats	3.29	55.00	565.00	0.66	20.00	400.00	1.99	41.67	850.00	1.32	100.00	600.00	1.97	47.33	456.67	1.85	54.43	596.07
Chicken	11.84	55.56	94.03	14.57	69.05	162.40	15.23	42.30	119.54	18.54	58.29	134.62	16.45	62.28	194.24	15.32	57.59	143.45
Duck	3.95	40.83	325.83	3.97	42.17	218.67	8.61	46.54	158.27	5.30	55.75	143.41	3.29	63.80	76.36	5.02	49.16	180.36
Agri	1.32	8.50	25.44	3.97	11.67	24.42	5.30	10.62	15.19	2.65	7.50	23.75	3.95	13.33	58.33	3.43	10.85	29.38
Ass(cheap)																		
Agri	0.00			0.00			0.00			0.00			1.32	15.00	2,140.58	0.26	15.00	2,140.58
Ass(Value)																		
Fishing	0.66	50.00	300.00	0.00			2.65	45.00	430.33	3.31	38.60	1,407.32	1.32	40.00	572.75	1.59	41.92	850.29
Motorcycle	0.66	20.00	1,846.00	0.66	10.00	923.00	0.00			0.00			0.00			0.26	15.00	1,384.50
Transport	0.00			0.66	20.00	1,200.00	0.00			0.00			0.00			0.13	20.00	1,200.00
HH	6.58	16.00	78.00	9.27	11.79	56.11	7.28	22.27	161.36	8.61	17.85	165.81	7.24	23.64	241.74	7.79	18.00	138.22
Ass(cheap)																		
HH	1.97	5.67	77.67	2.65	10.00	115.00	3.97	10.17	132.50	3.97	10.00	168.06	4.61	7.57	130.14	3.43	8.88	131.05
Ass(Value)																		
Others	6.58	34.00	284.05	6.62	16.00	443.00	7.28	29.55	1,276.07	4.64	13.57	3,221.43	5.92	20.00	462.22	6.21	23.40	1,021.64
All	53.95	35.48	5,632.93	52.32	31.83	7,164.44	58.94	36.26	7,082.18	51.66	35.88	6,617.96	57.24	31.39	8,500.83	54.82	34.17	7,021.63
Number	152			151			151			151			152			152		

Source: FMRSP-IFPRI Household Survey 1998

Table 6.5 — Assets Lost: Number of Households, Average Value and its Share on Total Value of Assets Owned by Land Owned

Assets Categories	0- 4.9			5.0-49			50-149			150-249			250 +			Total		
	Hholds	% of loss	Loss(Tk)	Hholds	% of loss	Loss(Tk)	Hholds	% of loss	Loss(Tk)	Hholds	% of loss	Loss(Tk)	Hholds	% of loss	Loss(Tk)	Hholds	% of loss	Loss(Tk)
House	47.06	49.14	5,893.08	19.89	53.92	4,561.63	50.00	55.35	5,392.23	52.17	62.88	7,344.77	40.48	47.94	7,024.34	47.16	52.29	5,671.72
Large Tree	8.96	45.62	3,439.43	8.40	43.50	2,760.68	24.03	56.08	9,192.95	32.61	49.33	4,328.86	28.57	38.17	5,293.79	16.64	47.92	5,249.84
Cereal	0.56	7.00	69.40	0.00			0.65	45.00	652.50	6.52	23.67	1,267.67	0.00			0.79	21.67	765.72
Cattle	1.12	44.50	1,708.75	2.24	69.12	2,420.00	10.39	55.31	2,900.00	8.70	81.25	5,175.00	11.90	53.60	3,834.00	4.89	59.70	3,039.59
Goats	2.24	53.12	628.12	1.12	55.00	600.00	0.65	50.00	250.00	0.00			2.38	67.00	670.00	1.85	54.43	596.07
Chicken	12.32	56.23	125.90	7.84	71.43	152.66	16.88	51.92	161.08	23.91	45.91	103.41	16.67	50.29	214.37	15.32	57.59	143.45
Duck	4.20	46.67	171.10	3.08	63.64	260.36	5.19	33.75	115.38	2.17	50.00	150.00	7.14	49.33	116.67	5.02	49.16	180.36
Agri Ass(cheap)	2.24	10.00	15.42	1.96	12.43	30.07	3.25	8.00	13.00	8.70	13.75	72.50	4.76	10.00	37.50	3.43	10.85	29.38
Agri Ass(Value)	0.00			0.00			0.65	20.00	3,000.00	2.17	10.00	1,281.15	0.00			0.26	15.00	2,140.58
Fishing	1.68	38.83	1,042.66	0.84	53.33	728.53	1.30	40.00	505.95	2.17	30.00	750.00	0.00			1.59	41.92	850.29
Motorcycle	0.00			0.28	10.00	923.00	0.65	20.00	1,846.00	0.00			0.00			0.26	15.00	1,384.50
Transport	0.28	20.00	1,200.00	0.00			0.00			0.00			0.00			0.13	20.00	1,200.00
HH Ass(cheap)	7.28	18.85	97.71	3.92	22.14	140.07	7.79	13.33	201.04	8.70	20.00	186.02	7.14	7.33	165.66	7.79	18.00	138.22
HH Ass(Value)	1.68	8.83	115.50	0.84	13.33	275.00	6.49	9.30	144.10	8.70	6.25	48.75	7.14	6.67	84.46	3.43	8.88	131.05
Others	3.64	13.08	136.96	4.20	36.33	895.69	5.84	25.00	664.44	15.22	17.86	710.20	7.14	11.67	7,283.33	6.21	23.40	1,021.64
All	52.10	35.48	6,090.31	24.37	31.83	5,231.44	57.79	36.26	9,252.93	65.22	35.88	9,174.32	54.76	31.39	9,882.83	54.82	34.17	7,021.63
Number	357			357			154			46			42			757		

Source: FMRSP-IFPRI Household Survey 1998

Table 6.6 — Assets Lost: Number of Households, Average Value and its Share on Total Owned by Flood Exposure

Assets categories	Not exposed			Moderate			Severe			Very Severe			Total		
	Hholds	% of loss	Loss(Tk)	Hholds	% of loss	Loss(Tk)	Hholds	% of loss	Loss(Tk)	Hholds	% of loss	Loss(Tk)	Hholds	% of loss	Loss(Tk)
House	8.22	45.28	2,729.40	40.20	35.07	4,461.41	63.64	52.52	5,592.85	78.42	59.54	6,749.60	47.16	52.29	5,671.72
Large Tree	7.76	71.47	3,935.60	18.63	65.26	4,935.74	21.55	38.48	3,349.89	18.71	43.08	11,015.47	16.64	47.92	5,249.84
Cereal	0.00			0.00			1.35	19.75	982.75	1.44	25.50	331.65	0.79	21.67	765.72
Cattle	0.46	50.00	1,750.00	5.88	44.83	4,075.00	7.07	54.62	2,526.43	6.47	82.56	3,690.00	4.89	59.70	3,039.59
Goats	0.46	50.00	1,100.00	0.98	100.00	600.00	3.03	48.56	543.89	2.16	58.33	583.33	1.85	54.43	596.07
Chicken	8.22	86.17	192.09	14.71	79.67	169.27	18.52	49.38	118.06	20.14	43.54	148.22	15.32	57.59	143.45
Duck	1.37	53.00	166.27	7.84	53.75	91.75	5.72	43.88	153.72	7.19	53.30	300.75	5.02	49.16	180.36
Agri Ass(cheap)	0.00			0.00			5.72	8.94	19.58	6.47	14.44	47.89	3.43	10.85	29.38
Agri Ass(Value)	0.00			0.00			0.00			1.44	15.00	2,140.58	0.26	15.00	2,140.58
Fishing	0.46	33.00	1,980.00	1.96	20.00	833.47	2.36	47.14	837.29	1.44	50.00	347.75	1.59	41.92	850.29
Motorcycle	0.46	10.00	923.00	0.00			0.34	20.00	1,846.00	0.00			0.26	15.00	1,384.50
Transport	0.00			0.00			0.00			0.72	20.00	1,200.00	0.13	20.00	1,200.00
HH Ass(cheap)	0.46	25.00	112.50	2.94	33.33	202.00	10.44	16.84	165.16	17.27	17.29	96.52	7.79	18.00	138.22
HH Ass(Value)	0.00			3.92	15.00	352.50	5.39	7.31	87.27	4.32	9.00	100.17	3.43	8.88	131.05
Others	0.00			1.96	30.00	10,625.00	9.09	17.96	440.13	12.95	30.83	826.87	6.21	23.40	1,021.64
All	19.63	28.45	2,926.90	53.92	39.00	5,999.14	68.35	32.15	6,743.20	82.01	37.60	9,555.25	54.82	34.17	7,021.63
Number	219			102			297			139			757		

Source: FMRSP-IFPRI Household Survey 1998

Table 6.7 — Disposal of Assets in Different Time Periods

Asset Category	Consume		Lost due to flood		Sold		Total	
	Hholds	Mean Value	Hholds	Mean Value	Hholds	Mean Value	Hholds	Mean Value
	%	Taka	%	Taka	%	Taka	%	Taka
<i>January'97 to July'98</i>								
Cereal	26.42	3,471.19	0.13	445.69	2.91	3,292.01	29.46	3,439.94
Cattle	0.13	3,720.00	0.13	3,720.00	2.64	4,092.00	2.91	4,058.18
Chicken/Duck	9.25	172.75	0.53	609.94	3.57	388.40	13.34	247.71
All	27.48	3,413.70	0.79	1,100.91	8.85	2,463.72	37.12	3,137.81
<i>August'98 to October'98</i>								
Cereal	25.23	2,677.25	0.53	1,855.56	0.40	2,292.33	26.16	2,654.82
Cattle	0.00	0.00	2.64	3,731.62	2.11	3,918.20	4.76	3,814.54
Chicken/Duck	7.79	166.33	21.66	804.98	6.08	338.15	35.54	585.08
Others	0.00	0.00	0.00	0.00	0.26	1,387.50	0.26	1,387.50
All	26.42	2,605.84	22.99	1,230.30	8.45	1,373.40	57.86	1,879.31
<i>November'98</i>								
Cereal	22.06	859.62	0.00	0.00	0.79	1,108.37	22.85	868.25
Cattle	0.40	2,346.15	0.66	2,815.38	1.85	2,681.32	2.91	2,666.08
Chicken/Duck	8.19	107.87	1.45	273.75	7.00	273.62	16.64	192.07
Others	0.00	0.00	0.00	0.00	0.26	2,150.00	0.26	2,150.00
All	24.17	859.47	1.98	1,139.21	9.64	862.89	35.80	875.88
Number	757.00		757.00		757.00		757.00	

Source: FMRSP-IFPRI Household Survey 1998

Table 6.8 — Disposal of Assets between January '97 to July '98 by Quintiles

Asset Category	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		All	
	Hhno %	Value Taka										
Consumed												
Cereal	22.37	3,077.60	27.15	3,343.31	29.80	3,530.24	29.14	3,763.42	23.68	3,557.57	26.42	3,471.19
Cattle	0.00	0.00	0.66	3,720.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	3,720.00
Chicken/Duck	7.89	110.50	9.27	128.81	7.95	137.57	11.26	211.75	9.87	247.51	9.25	172.75
Total	23.68	2,943.45	27.81	3,395.21	31.79	3,343.99	29.80	3,759.79	24.34	3,561.77	27.48	3,413.70
Lost due to flood												
Cereal	0.00	0.00	0.66	445.69	0.00	0.00	0.00	0.00	0.00	0.00	0.13	445.69
Cattle	0.66	3,720.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	3,720.00
Chicken/Duck	1.32	318.23	0.66	1,272.92	0.00	0.00	0.66	530.38	0.00	0.00	0.53	609.94
Total	1.97	1,452.15	1.32	859.30	0.00	0.00	0.66	530.38	0.00	0.00	0.79	1,100.91
Sold												
Cereal	0.66	1,123.13	3.97	2,171.98	2.65	3,353.80	1.99	2,492.88	5.26	4,671.91	2.91	3,292.01
Cattle	1.97	3,720.00	3.31	3,720.00	2.65	3,720.00	3.31	5,208.00	1.97	3,720.00	2.64	4,092.00
Chicken/Duck	3.29	381.88	3.97	298.32	4.64	326.72	5.96	237.19	0.66	2,683.93	3.70	385.89
Total	5.26	1,774.06	11.26	1,965.99	9.27	2,184.45	10.60	2,228.34	7.89	4,268.27	8.85	2,463.72
Number	152		151		151		151		152		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 6.9 — Disposal of Asset between August '98 to October '98 by Quintiles

Asset Category	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		All	
	Hhno	Value										
	%	Taka										
Consumed												
Cereal	24.34	1,879.69	24.50	2,887.81	25.17	2,833.49	30.46	2,971.60	21.71	2,745.19	25.23	2,677.25
Chicken/Duck	2.63	131.31	9.93	142.91	6.62	116.62	9.93	191.94	9.87	206.60	7.79	166.33
Total	24.34	1,893.89	26.49	2,724.82	27.15	2,654.60	31.13	2,969.63	23.03	2,676.87	26.42	2,605.84
Lost due to flood												
Cereal	0.00		0.66	4,451.12	0.00	0.00	1.32	472.93	0.66	2,025.26	0.53	1,855.56
Cattle	0.66	2,985.29	2.65	3,731.62	1.99	2,985.29	2.65	4,477.94	5.26	3,731.62	2.64	3,731.62
Chicken/Duck	19.08	624.97	25.83	722.48	25.17	1,173.62	15.89	490.44	22.37	863.20	21.66	804.98
Total	19.74	703.65	26.49	1,188.86	25.83	1,373.16	19.21	1,056.14	23.68	1,700.75	22.99	1,230.30
Sold												
Cereal	0.66	278.19	0.00		0.00	0.00	0.66	2,448.11	0.66	4,150.67	0.40	2,292.33
Cattle	1.97	3,980.39	1.32	4,477.94	2.65	5,224.26	1.99	2,985.29	2.63	2,985.29	2.11	3,918.20
Chicken/Duck	5.26	219.33	5.96	370.31	7.95	330.19	9.27	312.22	1.97	711.27	6.08	338.15
Others	0.00		0.00		0.66	1,850.00	0.00		0.66	925.00	0.26	1,387.50
Total	7.24	1,270.37	7.28	1,117.15	11.26	1,571.14	11.92	876.39	4.61	2,735.81	8.45	1,373.40
Number	152		151		151		151		152		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 6.10 — Disposal of Assets for the Month of November '98 by Quintiles

Asset Category	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		All	
	Hholds %	Value Taka	Hholds %	Value Taka	Hhno %	Value Taka	Hholds %	Value Taka	Hholds %	Value Taka	Hholds %	Value Taka
Consumed												
Cereal	21.05	595.55	22.52	769.24	23.18	789.15	24.50	999.96	19.08	1,162.99	22.06	859.62
Cattle	0.00		1.32	2,346.15	0.00		0.66	2,346.15	0.00		0.40	2,346.15
Chicken/Duck	4.61	60.03	7.95	63.83	4.64	97.16	13.91	124.80	9.87	146.71	8.19	859.47
Total	22.37	572.87	24.50	854.39	25.17	744.75	27.81	999.18	21.05	1,122.73	24.17	859.47
Lost to Flood												
Cattle	0.66	2,346.15	0.66	4,692.31	0.66	2,346.15	0.00	0.00	1.32	2,346.15	0.66	2,815.38
Chicken/Duck	0.66	123.66	1.99	312.58	0.66	98.47	1.99	254.95	1.97	362.19	1.45	273.75
Total	1.32	1,234.91	1.99	1,876.68	1.32	1,222.31	1.99	254.95	3.29	1,155.78	1.98	1,139.21
Sold												
Cereal	0.66	194.17	1.99	598.68	0.00		0.66	1,941.67	0.66	2,718.33	0.79	1,108.37
Cattle	1.32	2,346.15	0.66	4,692.31	1.99	3,128.21	3.31	2,346.15	1.97	2,346.15	1.85	2,681.32
Chicken/Duck	6.58	395.81	10.60	270.43	8.61	178.61	3.97	216.40	3.95	319.45	6.74	271.02
Others	0.00		0.00		0.66	2,150.00	0.00	0.00	0.66	2,150.00	0.26	2,150.00
Total	8.55	680.35	12.58	569.22	11.92	780.12	7.95	1,288.79	7.24	1,256.68	9.64	862.89
Number	152		151		151		151		152		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 6.11 — Disposal of Assets between January '97 to July '98 by Flood Exposure

Asset Category	Not Exposed		Moderate		Severe		Very Severe		All	
	Hhno %	Value Taka								
<i>Consumed</i>										
Cereal	38.81	3,565.50	30.39	3,663.84	20.54	3,361.36	16.55	3,154.30	26.42	3,471.19
Cattle	0.46	3,720.00	0.00		0.00		0.00		0.13	3,720.00
Chicken/Duck	18.72	200.34	14.71	137.90	4.04	119.89	1.44	185.63	9.25	172.75
Total	41.55	3,461.55	31.37	3,613.98	20.88	3,330.35	16.55	3,170.44	27.48	3,413.70
<i>Lost to Flood</i>										
Cereal	0.00		0.00	0.00	0.34	445.69	0.00	0.00	0.13	445.69
Cattle	0.00		0.00	0.00	0.00	0.00	0.72	3,720.00	0.13	3,720.00
Chicken/Duck	0.00		0.00	0.00	1.35	609.94	0.00	0.00	0.53	609.94
Total	0.00		0.00		1.68	577.09	0.72	3,720.00	0.79	1,100.91
<i>Sold</i>										
Cereal	1.83	791.09	0.98	356.55	4.04	4,360.31	3.60	3,315.91	2.91	3,292.01
Cattle	1.83	3,720.00	2.94	4,960.00	3.70	4,058.18	1.44	3,720.00	2.64	4,092.00
Chicken/Duck	1.83	142.50	2.94	198.88	6.40	434.70	1.44	689.50	3.70	385.89
Total	5.48	1,551.20	5.88	2,638.86	13.47	2,630.58	6.47	2,822.06	8.85	2,463.72
Number	219		102		297		139		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 6.12 — Disposal of Assets between August '98 to October '98 by Flood Exposure

Asset Category	Not Exposed		Moderate		Severe		Very Severe		All	
	Hhno	Value								
	%	Taka								
<i>Consumed</i>										
Cereal	40.64	2,515.38	29.41	2,475.56	17.17	3,038.54	15.11	2,774.00	25.23	2,677.25
Chicken/Duck	15.98	186.70	8.82	140.07	4.71	144.15	0.72	0.00	7.79	166.33
Total	43.38	2,425.30	29.41	2,517.58	17.85	2,961.96	15.83	2,647.91	26.42	2,605.84
<i>Lost to Flood</i>										
Cereal	0.00	0.00	0.00	0.00	0.00	0.00	2.88	1,855.56	0.53	1,855.56
Cattle	2.28	4,179.41	2.94	3,980.39	1.35	3,731.62	5.76	3,358.46	2.64	3,731.62
Chicken/Duck	6.39	786.11	14.71	887.17	29.29	882.13	34.53	644.98	21.66	804.98
Total	7.76	1,876.62	16.67	1,485.22	29.97	1,030.02	36.69	1,279.39	22.99	1,230.30
<i>Sold</i>										
Cereal	0.46	278.19	0.98	2,448.11	0.34	4,150.67	0.00	0.00	0.40	2,292.33
Cattle	1.83	2,985.29	0.00		3.03	4,312.09	2.16	3,980.39	2.11	3,918.20
Chicken/Duck	4.57	215.36	2.94	164.69	7.41	387.93	7.91	397.51	6.08	338.15
Others	0.00		0.00	0.00	0.34	1,850.00	0.72	925.00	0.26	1,387.50
Total	6.85	958.20	3.92	735.54	10.77	1,667.00	9.35	1,326.06	8.45	1,373.40
Number	219		102		297		139		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 6.13 — Disposal of Assets for the Month of November '98 by Flood Exposure

Asset Category	Not Exposed		Moderate		Severe		Very Severe		All	
	Hholds %	Value Taka	Hholds %	Value Taka	Hholds %	Value Taka	Hholds %	Value Taka	Hholds %	Value Taka
Consumed										
Cereal	36.53	785.89	27.45	683.74	14.48	1,144.23	11.51	771.21	22.06	859.62
Cattle	0.46	2,346.15	0.00		0.34	2,346.15	0.72	2,346.15	0.40	2,346.15
Chicken/Duck	15.07	112.38	13.73	91.84	4.04	126.71	2.16	57.63	8.19	107.87
Total	38.81	810.89	31.37	638.46	16.16	1,105.59	12.95	825.46	24.17	859.47
Lost due to flood										
Cattle	0.00	0.00	0.00	0.00	1.01	3,128.21	1.44	2,346.15	0.66	2,815.38
Chicken/Duck	0.91	160.29	1.96	283.95	1.68	246.62	1.44	444.82	1.45	273.75
Total	0.91	160.29	1.96	283.95	2.36	1,516.82	2.88	1,395.49	1.98	1,139.21
Sold										
Cereal	2.28	1,281.50	0.00	0.00	0.34	242.71	0.00	0.00	0.79	1,108.37
Cattle	1.37	3,128.21	2.94	2,346.15	1.68	1,876.92	2.16	3,910.26	1.85	2,681.32
Chicken/Duck	5.48	188.54	4.90	155.72	9.09	293.87	6.47	391.83	7.00	273.62
Others	0.00		0.00	0.00	0.34	2,150.00	0.72	2,150.00	0.26	2,150.00
Total	8.22	1,003.03	7.84	977.13	11.45	579.76	9.35	1,339.02	9.64	862.89
Number	219		102		297		139		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 6.14 — Loans Taken by Month and Reason

Month of Borrowing	Food	Ed.Med	Farming	Bus Emp	Rep. Loan	Other	All
Before 98	5.28	0.66	2.64	1.85	1.85	4.89	14.13
Jan-98	3.04	0.13	1.59	0.53	0.26	0.92	6.21
Feb-98	1.59	0.13	0.79	0.92	0.00	1.06	4.49
Mar-98	1.32	0.26	0.92	0.92	0.26	1.06	4.76
Apr-98	1.72	0.40	0.92	0.40	0.53	0.79	4.62
May-98	3.70	0.92	0.66	1.98	0.26	0.66	8.06
Jun-98	4.10	1.19	1.06	1.98	1.06	1.59	9.38
Jul-98	6.87	1.32	0.92	1.59	0.40	0.92	11.49
Aug-98	14.13	1.32	1.32	0.92	0.26	1.85	19.02
Sep-98	14.80	1.45	1.45	2.77	0.53	2.11	21.93
Oct-98	15.72	2.38	2.38	2.77	1.85	3.17	26.02
Nov-98	12.29	2.38	3.83	1.85	1.06	2.51	22.32
Dec-98	2.11	0.66	1.19	0.53	0.40	0.79	5.42
All	46.63	10.30	14.93	12.81	7.53	17.70	75.17
Number	353	78	113	97	57	134	569

Table 6.15 — Average Amount of Loans Taken by Month and Reason

Month Variable Month of	Food	Ed.Med	Farming	Bus Emp	Rep. Loan	Other	All
Before 98	5,931.38	2,440.00	7,900.00	16,692.86	8,107.14	18,559.46	13,597.69
Jan-98	2,062.61	1,000.00	4,333.33	10,000.00	3,000.00	5,942.86	4,000.85
Feb-98	1,675.00	450.00	5,075.00	22,000.00		12,500.00	8,970.59
Mar-98	1,360.00	1,600.00	5,000.00	5,928.57	5,000.00	11,306.25	5,381.94
Apr-98	1,807.69	1,766.67	4,028.57	4,566.67	4,500.00	2,150.00	2,902.86
May-98	2,333.93	1,828.57	2,700.00	3,543.33	4,000.00	15,520.00	3,777.05
Jun-98	2,283.87	5,166.67	6,150.00	12,900.00	4,375.00	6,821.67	6,036.20
Jul-98	2,032.88	3,090.00	3,142.86	5,037.50	1,500.00	5,950.00	3,048.39
Aug-98	2,092.20	2,120.00	4,070.00	2,500.00	1,000.00	5,292.86	2,634.48
Sep-98	1,861.43	1,031.82	3,318.18	6,633.33	4,250.00	3,371.88	2,810.72
Oct-98	1,505.34	1,351.67	4,722.22	4,666.67	4,860.71	4,392.71	2,854.29
Nov-98	1,427.72	1,897.22	5,286.21	4,364.29	3,818.75	5,031.58	3,002.83
Dec-98	725.00	1,040.00	4,611.11	10,500.00	2,666.67	4,850.00	3,351.22
Total	3,794.94	2,674.10	6,596.02	11,834.02	5,624.56	11,126.38	9,179.87

Table 6.16 — Average Amount of Outstanding Loans by Month and Reason

Month Variable Month of	Food	Ed.Med	Farming	Bus Emp	Rep. Loan	Other	All
Before 98	6,321.00	3,506.00	6,672.40	13,190.71	9,241.79	15,622.81	12,225.63
Jan-98	2,092.09	2,000.00	3,125.42	5,440.00	2,700.00	4,688.57	3,140.49
Feb-98	1,818.50	450.00	4,342.50	19,895.00		12,495.00	8,457.41
Mar-98	1,800.00	2,760.00	5,411.43	3,072.29	440.00	10,901.50	4,749.94
Apr-98	1,579.62	3,120.00	4,225.71	2,183.33	2,032.50	1,170.50	2,319.37
May-98	2,645.89	1,853.14	3,100.00	2,683.67	4,600.00	13,720.00	3,616.59
Jun-98	2,641.23	5,651.11	4,955.00	11,766.67	4,667.50	7,679.42	6,055.33
Jul-98	1,873.40	3,100.30	3,176.86	5,441.67	1,500.00	5,710.71	2,993.48
Aug-98	1,754.06	2,550.00	4,190.00	1,821.43	500.00	5,532.50	2,404.78
Sep-98	1,741.21	1,353.45	3,842.73	6,831.14	5,622.50	3,927.50	2,897.34
Oct-98	1,555.82	1,628.33	4,822.28	4,771.71	4,404.64	5,275.08	3,006.26
Nov-98	1,598.71	1,891.94	5,536.10	4,409.29	4,683.75	4,924.32	3,171.86
Dec-98	486.88	1,080.00	4,438.00	12,417.50	2,953.33	4,970.00	3,450.78
Total	3,793.22	3,062.15	6,312.44	10,552.74	5,724.91	10,418.40	8,869.68

Table 6.17 — Average Amount of Outstanding Loans Taken after July 1 by Type and Quintiles

Item	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		Total	
	Percent	Amount	Percent	Amount								
Food	48.68	1,999.77	43.05	2,285.85	44.37	2,637.01	31.13	2,999.45	32.89	4,150.24	40.03	2,711.98
Ed. Med	12.50	1,126.58	5.96	1,138.89	5.96	1,574.00	5.30	2,784.38	9.21	5,147.14	7.79	2,375.53
Farming	8.55	5,077.69	7.28	4,786.55	5.30	4,644.50	7.95	4,387.33	15.79	7,718.00	8.98	5,789.68
Bus Emp	4.61	2,257.14	9.27	4,554.36	9.93	6,144.27	9.93	5,780.00	9.21	12,477.50	8.59	6,663.23
Rep loan	2.63	2,443.75	2.65	6,367.50	5.30	5,062.50	3.97	4,641.67	5.92	3,598.89	4.10	4,386.61
Other	8.55	3,781.54	7.95	7,280.50	8.61	3,398.54	8.61	6,985.00	13.82	7,559.14	9.51	5,975.75
All	54.61	2,538.02	47.02	3,068.49	51.66	2,936.10	47.02	3,939.10	53.29	7,004.44	50.73	3,918.15
Number	152		151		151		151		152		757	

Table 6.18 — Average Amount of Outstanding Loans Taken After July 1 by Type and Total Land Owned

Reason Categories	0- 4.9		5.0-49		50-149		150-249		250 +		Total	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Food	43.42	2,134.63	41.77	2,335.62	38.31	3,676.44	32.61	6,300.00	19.05	3,162.50	40.03	2,711.98
Ed. Med	10.08	1,994.17	4.43	2,772.29	8.44	2,496.92	2.17	3,000.00	4.76	6,750.00	7.79	2,375.53
Farming	3.64	4,190.92	9.49	7,263.67	14.29	5,683.91	21.74	6,271.50	19.05	5,312.50	8.98	5,789.68
Bus Emp	10.64	4,303.26	9.49	6,143.53	3.90	7,699.67	4.35	16,100.00	9.52	24,758.75	8.59	6,663.23
Rep loan	4.48	2,797.19	3.16	3,724.00	4.55	5,415.71	6.52	11,566.67	0.00		4.10	4,386.61
Other	12.04	4,430.14	7.59	6,258.33	7.14	5,481.09	2.17	8,000.00	11.90	19,273.20	9.51	5,975.75
All	54.06	2,803.52	50.63	3,808.99	47.40	4,839.70	41.30	6,665.21	45.24	9,412.37	50.73	3,918.15
Number	357		158		154		46		42		757	

Table 6.19 — Average Amount of Outstanding Loans Taken After July 1 by Type and Flood Exposure

	Not expo		Moderate		Severe		Very Sev		All	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Food	28.31	2,293.71	40.20	2,713.17	44.44	2,966.66	48.92	2,598.24	40.03	2,711.98
Ed. Med	6.39	2,432.14	11.76	1,760.83	8.08	2,152.75	6.47	3,701.11	7.79	2,375.53
Farming	10.96	3,945.21	9.80	5,908.40	6.73	7,687.40	10.07	6,155.79	8.98	5,789.68
Bus Emp	7.31	7,277.31	10.78	11,687.09	8.75	5,170.96	8.63	4,472.50	8.59	6,663.23
Rep loan	5.94	5,274.62	3.92	2,535.00	3.03	5,141.67	3.60	2,200.00	4.10	4,386.61
Other	8.22	6,240.67	13.73	6,064.29	8.75	6,410.23	10.07	4,739.71	9.51	5,975.75
All	43.38	4,349.71	49.02	4,420.68	52.86	3,886.28	58.99	3,172.79	50.73	3,918.15
Number	219		102		297		139		757	

Table 6.20 — Number of Loans Taken at Zero Interest Rate and Annual Interest Rate by Source and Quintiles

Source	Quintile 1			Quintile 2			Quintile 3			Quintile 4			Quintile 5			Total Loan taken	Total Loans at zero IR	Annual IR
	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR			
	(%)	(%)		(%)	(%)		(%)	(%)		(%)	(%)		(%)	(%)		(%)	(%)	
Big NGO	0.66		10.75	3.97		36.00	3.97		11.26	3.97		13.70	3.95		11.31	3.30		17.77
CommBank	4.61		16.28	3.31	0.66	12.15	2.65		14.37	5.30	0.66	25.62	13.16	1.32	13.53	5.81	0.53	16.09
Coop	4.61		60.94	3.97		51.68	0.00		59.54	1.32		64.88	4.61		85.80	2.91		65.77
Other NGO	2.63		11.60	3.97		13.39	3.97		22.07	3.97		65.32	3.29		10.90	3.57		26.29
Mahajan	7.24	3.29	54.21	3.97	2.65	40.50	6.62	4.64	41.60	6.62	1.32	77.13	5.92	1.32	94.03	6.08	2.64	62.45
Neighbor	20.39	5.26	84.01	25.83	11.26	66.46	21.19	7.95	66.25	16.56	5.30	66.81	23.03	9.87	60.54	21.40	7.79	68.54
Relative	15.79	3.95	62.63	12.58	5.30	72.75	16.56	9.27	48.13	12.58	6.62	53.82	16.45	7.89	39.55	14.80	7.13	54.54
All	55.92	15.13	62.37	57.62	19.87	56.14	54.97	21.19	48.47	50.33	13.91	56.36	70.39	20.39	45.93	57.86	18.10	56.54
Number	152			151			151			151			152			757		

Table 6.21 — Number of Loans Taken at Zero Interest Rate and Annual Interest Rate by Source and Total Land Owned

Source	0 - 4.9			5.0 - 4.9			50 - 149			150 - 249			250 +			Total Loan taken	Total Loans at zero IR	Annual IR
	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR			
	(%)	(%)		(%)	(%)		(%)	(%)		(%)	(%)		(%)	(%)		(%)	(%)	
Big NGO	4.76		11.68	3.16		37.14	1.30		20.46	2.17		12.51	0.00		12.54	3.30		17.76
CommBank	1.12	0.00	15.23	5.70	1.27	13.54	11.69	0.00	20.62	13.04	0.00	12.44	16.67	4.76	11.17	5.81	0.53	16.09
Coop	3.08		84.81	3.80		43.01	2.60		39.42	2.17		120.41	0.00		52.84	2.91		65.77
Other NGO	2.80		11.39	5.70		39.18	4.55		66.49	0.00		59.23	2.38		10.01	3.57		26.29
Mahajan	6.44	1.96	86.60	5.06	3.80	18.35	4.55	1.95	60.25	15.22	6.52	66.13	2.38	2.38	69.52	6.08	2.64	62.45
Neighbor	24.09	7.00	77.54	20.89	8.23	63.78	18.83	8.44	57.38	15.22	8.70	58.21	16.67	9.52	67.21	21.40	7.79	68.54
Relative	15.97	6.16	56.65	16.46	8.23	40.90	14.29	8.44	52.78	6.52	6.52	41.57	9.52	7.14	18.03	14.80	7.13	54.54
All	58.26	15.13	65.79	60.76	21.52	44.32	57.79	18.83	48.96	54.35	21.74	43.35	47.62	23.81	31.51	57.86	18.10	56.54
Number	357			158			154			46			42			757		

Table 6.22 — Number of Loans Taken at Zero Interest Rate and Annual Interest Rate by Source and Flood Exposure

Source	Not exposed			Moderate			Severe			Very severe			Total		
	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR	Loans taken	Loans taken at zero IR	Annual IR
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Big NGO	1.37		17.33	4.90		10.90	3.37		12.72	5.04		30.04	3.30		17.75
Comm Bank	5.94	0.91	14.15	4.90		14.69	6.73	0.67	12.87	4.32		31.45	5.81	0.53	16.09
Coop	2.28		58.51	0.98		120.41	3.70		54.13	3.60		90.87	2.91		65.77
Other NGO	3.20		60.02	9.80		36.10	1.68		21.24	3.60		10.21	3.57		26.29
Mahajan	2.28		139.60	9.80	5.88	51.91	8.08	4.71	49.97	5.04		84.94	6.08	2.64	62.45
Neighbor	19.63	5.48	74.79	18.63	4.90	80.92	20.54	9.76	61.20	28.06	9.35	72.10	21.40	7.79	68.54
Relative	14.16	5.94	53.04	13.73	5.88	67.48	13.80	7.41	52.16	18.71	9.35	50.09	14.80	7.13	54.54
All	48.86	12.33	60.81	62.75	16.67	56.42	57.91	22.56	47.42	68.35	18.71	59.08	57.86	18.10	56.54
Number	219			102			297			139			757		

7. SOCIAL ASSISTANCE

During the time of the flood and in the period following the flood several government, non government organizations and private individuals provided support in cash and kind to the people in rural areas that have been affected by the flood in one way or another. In this section, there is an attempt to analyze the amount and the allocation of the benefits received by the households from social assistance by government and private organizations by type of transfers, extent of poverty and degree of flood exposure.

Table 7.1 presents the average size of the transfers received per households by the main types of programs and their composition by cash and kind for the flood period July-October 1998 (three months period), the month of November 1998 (one month) and the whole period of July-November 1998 (four months). In total, more than 56 percent of sampled households have received some kind of transfers for an average of Tk. 1,229 in total.

The GR and the VGF programs were the two largest programs in terms of number of people covered, 24 percent received an average of Tk. 162 from the GR program and 22 percent received an average of Tk. 308 from the VGF programs. It also appears that more households (18 percent of the total) received GR in the period of the flood and more people (20 percent) received VGF transfers in the month of November. The largest transfer in terms of average size per receiving household (Tk. 4,669) was received by 11 percent of the households and included other revenues, which were mostly private transfers.

FLOOD RELATED TRANSFERS

The distribution of households receiving transfers from remittances, regular programs and emergency programs because of the flood and the amount they receive and the share on total monthly expenditure have been reported in Tables 7.2 to 7.10. As we

can see in Table 7.14, covering the whole period between July and November 1998, households in all welfare categories received remittances and regular transfers. Total assistance for flood did not appear to be very well targeted. A total of 64 percent of the households in the bottom quintile received transfers compared to 33 percent in the top quintile. The value of the transfer during the July to November period was only Tk. 328 and represented almost 4 percent of the total household monthly expenditure over that period and of course was larger for poorer households in the bottom quintile (6 percent).

The poor targeting of all the transfers together is confirmed by the analysis by land distribution. Even though, more of the households with less land received flood transfers, still large land owning households with more than 150 decimals of land received more than it was expected.

Households that were more exposed to the flood received more transfers and larger amounts compared to households not exposed to the flood; 67 percent of households very severely exposed and 53 percent of severely exposed households received Tk. 382 and 329 respectively, compared to 27 percent of not exposed households receiving on average Tk. 253.

TARGETING OF INDIVIDUAL TRANSFERS

A slightly different picture emerges if all floods related transfers are analyzed individually. The distribution of the households receiving transfers from individual programs and the average total value of those transfers by quintiles, land ownership and flood exposure are reported for the period of the flood, the period after the flood and the whole period together in Tables 7.11 to 7.19.

With respect to expenditure by quintile categories, it is observed that more households in the lower quintiles received transfers both from the GR and the VGF programs. The percentage of households receiving GR transfers went down from 26 percent in the bottom quintile to 13 percent in top quintile in the period of the flood and from 8 percent in of the bottom quintiles to 6 percent in the top quintile in the period after

the flood. Thus it appears that the GR program was better targeted in the period of the flood. Similarly, the percentage of households receiving VGF was 22 percent in the bottom quintile and 3 percent in the top quintile in the period of the flood and 34 percent and 10 percent respectively in the period after the flood.

The result of the targeting with respect to the ownership of land reported in Tables 7.14 and 7.15 shows better targeting, but overall very similar conclusions. The GR program was better targeted in the period of the flood, than in the period after the flood. The VGD program did a little better for households with no or small amounts of land.

Finally, the targeting with respect to the exposure to the flood was reported in Tables 7.17 and 7.19. It emerges that some programs, like CARE, were targeted more directly towards flood-exposed households, than towards poor households. In fact, their intervention was limited to the period of the flood and to severely and very severely exposed households (10 and 22 percent of the households in those two groups respectively received transfers of over Tk. 300).

The VGF and the GR programs instead were not targeted exclusively to flood exposed households. In the period of the flood 10 percent of the households not exposed to the flood received VGF compared to 10 percent of severely exposed households and 13 percent of very severely exposed households. The situation improved in the period after the flood when 16 percent of the not exposed households received VGF compared to 22 of severely exposed households. Compared to the VGF, the GR program was slightly better targeted to flood-exposed households, especially in the period of the flood, when only 5 percent of the non-flood exposed households received GR transfers.

It is important to remember that in the period of the flood the VGF programs were already in place and cards had already assigned already to poor households regardless of the exposure to the flood. It was only after September 1998 that the VGF program was used as a key instrument to help households in flood areas. Moreover, the clear intent of the program is to target poor people and, as we have mentioned before, direct flood

exposure is only one way to measure the impact of the flood on the food security of the people. It is possible that poor households that were not forced away from their home still could not find a job and had fewer resources to buy food.

TARGETING OF VGF AND GR

Finally, in Table 7.20 and 7.21 we concentrated our analysis on the allocation of resources of the GR and the VGD programs by quintiles and land ownership. Taking into account the fact that 40 percent of the households are in the bottom two quintiles and 68 percent have less than 50 decimals of land, we compared the percentages of households that received VGF and GR contributions in those categories.

From Table 7.20 that reports the distribution of the households receiving VGF contribution and the share of the total amount of transfer, we found that 47 percent of the households are in the bottom two quintiles and that 85 percent of them have less than 50 decimals of land. In any case, approximately 50 percent of the households that received 50 percent of the transfers have less than 50 decimals of land and are in the bottom two quintiles.

A similar picture emerges for the GR program (Table 7.21). Even though the GR does not seem to be as well targeted as the VGF. This time 43 percent of the households are in the bottom two quintiles and 78 percent of them have less than 50 decimals of land and 4 percent have more than 150 decimals of land.

In conclusion, the VGF was not very well targeted towards flood-exposed households, but it was more targeted towards households with small amounts of land. On the other hand, the GR programs were targeted better towards flood exposed households in the period of the flood.

SECTION 7 TABLES

Table 7.1 — Amount of Transfers Received by Type and Kind (Taka per Household)

	Cash	Rice	Wheat	All	Percent Received	N
July – October 1998						
Stipend	271.53	10.08	0	281.61	2.25	17
GR	6.46	140.78	9.85	157.1	18.49	140
TR	0.17	260.15	8.32	268.64	5.81	44
VGF	0	169.87	83.24	253.11	10.83	82
VGD	0	51.94	459.4	511.35	2.25	17
CARE	17.26	299.95	0	317.21	8.19	62
O. Assistance	189.14	85.25	26.44	300.83	2.38	18
O. Revenue	2682.12	342.14	0	3024.26	8.59	65
Total	553.58	265.80	50.62	870.00	43.99	333
October- November 1998						
Stipend	174.09	0.00	0.00	174.09	1.45	11
GR	16.18	95.52	28.16	139.85	7.66	58
TR	32.38	79.23	3.50	115.11	1.06	8
VGF	0.00	121.64	79.98	201.62	19.95	151
VGD	0.00	36.41	172.27	208.68	2.51	19
CARE	39.14	214.19	0.00	253.33	0.92	7
O. Assistance	218.83	26.80	3.50	249.13	0.79	6
O. Revenue	3323.73	62.68	0.00	3386.41	7.27	55
Total	669.66	108.36	60.83	838.85	36.99	280
July – November 1998						
Stipend	283.96	7.45	0	291.41	3.04	23
GR	9.96	136.49	16.28	162.73	24.44	185
TR	5.79	262.62	8.57	276.98	6.08	46
VGF	0	194.56	113.87	308.43	21.93	166
VGD	0	78.74	554.15	632.89	2.64	20
CARE	20.06	299.94	0	320	8.85	67
O. Assistance	224.64	80.73	23.67	329.04	2.77	21
O. Revenue	4355.4	313.25	0	4668.65	10.83	82
Total	870.83	278.34	79.36	1228.54	56.41	427

Source: FMRSP-IFPRI Household Survey 1998

Table 7.2 — Amount of Transfers Received and Share of Total Month Expenditure by Kind and Quintiles

PERIOD: JULY-OCTOBER

Per Capita Expend Quintiles	Remittance			Regular			Flood			Total			Number
	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	
	%	%	Taka	%	%	Taka	%	%	Taka	%	%	Taka	
1st Qui	8.55	22.72	798.94	9.87	12.26	359.00	46.71	7.19	291.15	53.95	12.07	444.42	152
2nd Qui	7.28	26.88	2,005.23	3.31	8.94	372.48	36.42	3.60	242.76	43.05	8.29	573.41	151
3rd Qui	7.95	41.51	4,966.38	7.28	3.20	301.17	39.07	2.96	267.62	47.68	9.84	1,093.04	151
4th Qui	5.96	27.22	3,861.11	3.97	2.30	352.38	30.46	2.85	293.84	37.09	6.96	899.66	151
5th Qui	12.50	15.65	3,672.99	7.24	1.54	565.53	23.68	2.06	302.95	38.16	6.70	1,498.51	152
All	8.45	25.49	3,071.52	6.34	6.14	393.65	35.27	4.08	278.04	43.99	9.05	869.99	757

Source: FMRSP-IFPRI Household Survey 1998

Table 7.3 — Amount of Transfers Received and Share of Total Month Expenditure by Kind and Quintiles

PERIOD: OCTOBER-NOVEMBER

Per Capita Expend Quintiles	Remittance			Regular			Flood			Total			Number
	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	
	%	%	Taka	%	%	Taka	%	%	Taka	%	%	Taka	
1st Qui	7.24	40.12	414.70	8.55	19.72	206.27	42.11	13.93	181.85	51.32	20.37	242.07	152
2nd Qui	9.27	55.43	1,789.10	3.31	11.93	214.04	27.81	8.49	198.72	37.09	21.29	615.43	151
3rd Qui	6.62	25.81	1,063.72	4.64	5.58	220.85	28.48	8.20	221.99	35.76	12.04	402.38	151
4th Qui	5.96	136.97	11,824.67	3.31	3.42	197.88	25.83	4.66	160.61	33.11	28.63	2,273.51	151
5th Qui	7.24	61.01	3,598.57	3.29	2.23	217.55	18.42	3.13	194.84	27.63	18.33	1,098.27	152
All	7.27	61.44	3,386.41	4.62	10.95	210.71	28.53	8.66	190.97	36.99	20.12	838.85	757

Source: FMRSP-IFPRI Household Survey 1998

Table 7.4 — Amount of Transfers Received and Share of Total Month Expenditure by Kind and Quintiles

PERIOD: JULY-NOVEMBER

Per Capita Expend Quintiles	Remittance			Regular			Flood			Total			Number
	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	
	%	%	Taka	%	%	Taka	%	%	Taka	%	%	Taka	
1st Qui	9.21	23.71	1,067.71	11.84	11.22	448.13	63.82	6.24	333.09	69.74	10.75	521.93	152
2nd Qui	11.26	24.46	2,770.88	3.97	8.07	488.76	45.70	3.45	314.46	54.30	8.56	874.82	151
3rd Qui	9.93	29.21	4,682.25	9.27	2.58	347.05	49.01	2.96	342.37	58.94	7.79	1,128.40	151
4th Qui	8.61	37.84	10,859.39	5.30	1.83	387.96	41.06	2.32	319.04	49.67	8.67	2,187.42	151
5th Qui	13.82	18.61	5,208.15	9.21	1.11	522.04	32.89	1.55	327.23	49.34	6.45	1,773.88	152
All	10.57	25.86	4,785.37	7.93	5.28	437.83	46.5	3.65	328.08	56.41	8.59	1,228.54	757

Source: FMRSP-IFPRI Household Survey 1998

Table 7.5 — Amount of Transfers Received and Share of Total Month Expenditure by Kind and Total Land Owned

PERIOD: JULY-OCTOBER

Total Land Owned	Remittance			Regular			Flood			Total			Number
	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	
	%	%	Taka	%	%	Taka	%	%	Taka	%	%	Taka	
0- 4.9	6.44	24.26	2,023.20	6.72	9.36	380.45	43.42	4.81	291.78	49.86	8.59	566.80	357
5.0-49	9.49	20.02	2,484.40	5.70	4.45	311.22	39.24	3.11	237.35	48.10	7.01	720.83	158
50-149	9.74	37.96	4,494.21	5.19	2.28	306.06	24.03	3.56	314.38	33.12	14.11	1,597.92	154
150-249	10.87	10.74	2,417.91	6.52	1.52	210.00	17.39	1.11	176.15	32.61	4.47	941.92	46
250 +	14.29	25.06	5,545.83	9.52	1.75	971.25	11.90	1.76	250.56	30.95	12.78	2,954.83	42
All	8.45	25.49	3,071.52	6.34	6.14	393.65	35.27	4.08	278.04	43.99	9.05	869.99	757

Source: FMRSP-IFPRI Household Survey 1998

Table 7.6 — Amount of Transfers Received and Share of Total Month Expenditure by Kind and Total Land Owned

PERIOD: OCTOBER-NOVEMBER

Total Land Owned	Remittance			Regular			Flood			Total			Number
	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	
	%	%	Taka	%	%	Taka	%	%	Taka	%	%	Taka	
0- 4.9	5.88	52.36	1,522.81	4.48	17.16	215.94	31.65	9.91	198.31	38.66	18.07	419.15	357
5.0-49	6.96	24.89	960.39	6.33	7.12	182.70	33.54	8.94	196.39	41.77	12.41	345.45	158
50-149	9.09	37.07	2,074.94	2.60	3.65	164.30	27.27	5.75	170.46	35.71	14.09	670.29	154
150-249	6.52	5.50	300.00	6.52	2.70	253.33	17.39	4.47	159.11	28.26	4.64	225.61	46
250 +	14.29	245.09	18,960.00	4.76	7.39	337.75	0.00			19.05	185.66	304.44	42
All	7.27	61.44	3,386.41	4.62	10.95	210.71	28.53	8.66	190.97	36.99	20.12	838.85	757

Source: FMRSP-IFPRI Household Survey 1998

Table 7.7 — Amount of Transfers Received and Share of Total Month Expenditure by Kind and Total Land Owned

PERIOD: JULY-NOVEMBER

Total Land Owned	Remittance			Regular			Flood			Total			Number
	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	
	%	%	Taka	%	%	Taka	%	%	Taka	%	%	Taka	
0- 4.9	7.84	24.76	2,804.02	7.84	8.47	449.49	54.62	4.31	346.84	61.34	8.08	724.81	357
5.0-49	10.76	17.27	2,813.54	8.86	3.42	330.57	50.63	3.29	314.06	59.49	6.43	825.35	158
50-149	0.13	27.84	4,823.12	5.84	1.93	345.08	38.31	2.70	318.50	49.35	9.65	1,557.36	154
150-249	13.04	7.40	2,164.92	8.70	1.36	347.50	28.26	1.20	206.31	45.65	3.11	812.46	46
250 +	21.43	53.38	16,337.22	11.90	1.79	912.10	11.90	1.32	250.56	40.48	29.17	8,991.08	42
All	10.57	25.86	4,785.37	7.93	5.28	437.83	46.50	3.65	328.08	56.41	8.59	1,228.54	757

Source: FMRSP-IFPRI Household Survey 1998

Table 7.8 — Amount of Transfers Received and Share of Total Month Expenditure by Kind and Flood Exposure

PERIOD: JULY-OCTOBER

Flood Exposure	Remittance			Regular			Flood			Total			Number
	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	
	%	%	Taka	%	%	Taka	%	%	Taka	%	%	Taka	
Not expo	8.68	38.12	3,807.59	7.76	6.74	369.11	15.07	4.22	211.77	28.77	15.53	1,358.85	219
Moderate	9.80	15.42	2,521.80	5.88	5.39	313.62	30.39	4.73	240.76	27.25	8.77	909.56	102
Severe	9.76	18.50	2,828.15	4.38	4.52	524.27	42.09	3.62	277.39	49.83	7.08	834.50	297
Very Sev	4.32	36.10	2,833.08	8.63	7.41	326.94	56.12	4.49	321.93	60.43	7.81	548.00	139
All	8.45	25.49	3,071.52	6.34	6.14	393.65	35.27	4.08	278.04	43.99	9.05	869.99	757

Source: FMRSP-IFPRI Household Survey 1998

Table 7.9 — Amount of Transfers Received and Share of Total Month Expenditure by Kind and Flood Exposure

PERIOD: OCTOBER-NOVEMBER

Flood Exposure	Remittance			Regular			Flood			Total			Number
	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	
	%	%	Taka	%	%	Taka	%	%	Taka	%	%	Taka	
Not expo	6.85	61.37	1,873.42	5.94	14.71	268.50	21.46	10.04	173.72	31.51	22.95	576.18	219
Moderate	5.88	133.50	11,116.67	2.94	8.90	140.16	28.43	9.20	196.78	35.29	30.40	2,022.98	102
Severe	9.76	50.13	2,981.08	3.37	5.71	191.37	30.30	8.28	188.74	38.72	19.62	916.10	297
Very Sev	3.60	40.83	1,000.00	6.47	12.03	172.23	35.97	7.73	207.83	43.17	11.65	282.36	139
All	7.27	61.44	3,386.41	4.62	10.95	210.71	28.53	8.66	190.97	36.99	20.12	838.85	757

Source: FMRSP-IFPRI Household Survey 1998

Table 7.10 — Amount Transfers received and Share of Total Month Expenditure by Kind and Flood Exposure

PERIOD: JULY-NOVEMBER

Flood Exposure	Remittance			Regular			Flood			Total			Number
	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	Percent Receiving	Average Share	Amount	
	%	%	Taka	%	%	Taka	%	%	Taka	%	%	Taka	
Not expo	10.50	33.62	4,367.19	9.59	6.37	465.01	27.40	3.71	252.55	42.92	12.02	1,333.66	219
Moderate	11.76	26.32	7,659.83	7.84	3.86	287.77	41.18	4.21	313.57	49.02	10.47	2,147.81	102
Severe	12.79	20.15	4,433.36	6.06	3.24	484.95	52.86	3.35	329.05	61.95	7.33	1,243.79	297
Very Sev	5.04	30.50	3,142.64	9.35	7.21	421.03	66.91	3.86	381.74	71.22	6.73	636.10	139
All	10.57	25.86	4,785.37	7.93	5.28	437.83	46.50	3.65	328.08	56.41	8.59	1,228.54	757

Source: FMRSP-IFPRI Household Survey 1998

Table 7.11 — Households Receiving Resources and Average Amount of Resources Received by Type and Quintiles (Taka per Household)

PERIOD: JULY-OCTOBER

Code Revenue	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		Total	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Stipen	1.32	90.50	0.66	225.00	1.99	308.33	1.32	198.18	5.92	340.00	2.25	281.61
GR	25.66	153.40	17.88	167.27	20.53	121.29	15.23	173.81	13.16	186.87	18.49	157.10
TR	3.95	133.72	5.96	169.67	9.27	376.58	5.30	279.07	4.61	283.73	5.81	268.64
VGF	21.71	287.26	10.60	213.59	10.60	214.22	7.95	280.54	3.29	212.81	10.83	253.11
VGD	6.58	484.93	0.66	849.54	2.65	355.20	1.32	786.61	0.00		2.25	511.35
CARE	8.55	339.02	7.95	324.24	7.28	302.75	7.95	326.66	9.21	294.18	8.19	317.21
O Assist	2.63	88.65	2.65	196.97	3.31	193.41	1.32	72.35	1.97	1,053.59	2.38	300.83
O Revenu	8.55	798.94	7.28	2,005.23	7.95	4,966.38	5.96	3,861.11	13.16	3,489.34	8.59	3,024.26
All	53.95	444.42	43.05	573.41	47.68	1,093.04	37.09	899.66	38.16	1,498.51	43.99	870.00
Number	152		151		151		151		152		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 7.12 — Households Receiving Resources and Average Amount of Resources Received by Type and Quintiles (Taka per Household)

PERIOD: OCTOBER-NOVEMBER

Code of Revenue	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		Total	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Stipend	1.32	165.00	0.66	75.00	1.32	142.50	1.99	155.00	1.97	253.33	1.45	174.09
GR	7.89	103.93	6.62	127.25	9.93	210.95	7.95	82.61	5.92	159.58	7.66	139.85
TR	0.66	145.00	1.32	234.87	0.66	93.65	0.66	49.24	1.97	54.41	1.06	115.11
VGF	34.21	197.04	19.87	207.39	18.54	200.83	17.22	200.89	9.87	208.64	19.95	201.62
VGD	6.58	219.07	0.66	283.18	2.65	159.73	1.32	262.20	1.32	163.89	2.51	208.68
CARE	0.00		1.32	191.24	1.32	332.25	0.00		1.97	242.11	0.92	253.33
O Assist	0.66	160.78	1.99	237.33	1.32	311.00	0.00		0.00		0.79	249.13
O Revenue	7.24	414.70	9.27	1,789.10	6.62	1,063.72	5.96	11,824.67	7.24	3,598.57	7.27	3,386.41
Total	51.32	242.07	37.09	615.43	35.76	402.38	33.11	2,273.51	27.63	1,098.27	36.99	838.85
Number	152		151		151		151		152		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 7.13 — Households Receiving Resources and Average Amount of Resources Received by Type and Quintiles (Taka per Household)

PERIOD: JULY-NOVEMBER

Code of Revenue	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		Total	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Stipend	2.63	127.75	0.66	300.00	2.65	302.50	2.65	215.34	6.58	382.00	3.04	291.41
GR	31.58	150.62	23.84	160.80	27.81	164.86	21.19	155.91	17.76	191.61	24.44	162.73
TR	3.95	157.89	6.62	199.68	9.27	383.27	5.30	285.22	5.26	268.67	6.08	276.98
VGF	39.47	328.76	22.52	283.50	19.21	312.09	17.22	330.38	11.18	246.69	21.93	308.43
VGD	6.58	704.00	0.66	1,132.71	3.31	411.95	1.32	1,048.81	1.32	163.89	2.64	632.89
CARE	8.55	339.02	9.27	305.24	8.61	307.29	7.95	326.66	9.87	322.99	8.85	320.00
O Assist	3.29	103.07	3.31	299.98	3.97	264.84	1.32	72.35	1.97	1,053.59	2.77	329.04
O Revenue	9.21	1,067.71	11.26	2,770.88	9.93	4,682.25	9.27	10,083.72	14.47	4,971.42	10.83	4,668.65
Total	69.74	521.93	54.30	874.83	58.94	1,128.40	49.67	2,187.41	49.34	1,773.88	56.41	1,228.54
Number	152.00		151.00		151.00		151.00		152.00		757.00	

Source: FMRSP-IFPRI Household Survey 1998

Table 7.14 — Households Receiving Resources and Average amount of Resources Received by Type and Total Land Owned

PERIOD: JULY-OCTOBER

Code of Revenue	0- 4.9		5.0-49		50-149		150-249		250 +		Total	
	Percent	Amount										
Stipend	1.68	341.67	0.63	225.00	2.60	249.34	6.52	210.00	7.14	295.00	2.25	281.61
GR	24.09	166.80	20.25	151.85	11.04	123.75	6.52	121.89	4.76	160.33	18.49	157.10
TR	6.44	236.72	5.70	374.45	6.49	282.96	4.35	87.95	0.00		5.81	268.64
VGF	14.85	264.34	11.39	194.30	6.49	303.63	2.17	211.12	0.00		10.83	253.11
VGD	2.80	546.10	2.53	465.30	1.95	456.91	0.00		0.00		2.25	511.35
CARE	10.64	300.69	5.70	332.14	6.49	366.26	4.35	328.25	7.14	310.71	8.19	317.21
O Assist	2.80	161.98	3.80	119.13	0.65	80.39	0.00		2.38	3,000.00	2.38	300.83
O Revenue	6.44	2,023.20	9.49	2,484.40	10.39	4,213.32	10.87	2,417.91	14.29	5,545.83	8.59	3,024.26
All	49.86	566.80	48.10	720.82	33.12	1,597.92	32.61	941.92	30.95	2,954.83	43.99	870.00
Number	357		158		154		46		42		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 7.15 — Households Receiving Resources and Average Amount of Resources Received by Type and Land Owned (Taka per Household)

PERIOD: OCTOBER-NOVEMBER

Code of Revenue	0- 4.9		5.0-49		50-149		150-249		250 +		Total	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Stipend	0.00		3.16	165.00	1.30	127.50	6.52	253.33	2.38	75.00	1.45	174.09
GR	7.00	154.55	8.23	164.83	10.39	107.70	8.70	95.44	0.00		7.66	139.85
TR	0.84	64.04	0.63	100.00	1.95	182.32	2.17	81.78	0.00		1.06	115.11
VGF	24.37	203.31	24.68	199.57	13.64	198.23	8.70	202.33	0.00		19.95	201.62
VGD	3.36	215.19	3.16	196.11	1.30	201.10	0.00		0.00		2.51	208.68
CARE	0.56	332.25	1.27	191.24	1.95	242.11	0.00		0.00		0.92	253.33
O Assist	1.12	218.20	0.63	21.50	0.00		0.00		2.38	600.50	0.79	249.13
O Revenue	5.88	1,522.81	6.96	960.39	9.09	2,074.94	6.52	300.00	14.29	18,960.00	7.27	3,386.41
All	38.66	419.15	41.77	345.45	35.71	670.29	28.26	225.61	19.05	14,304.44	36.99	838.85
Number	357		158		154		46		42		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 7.16 — Households Receiving Resources and Average amount of Resources Received by Type and Total Land Owned

PERIOD: JULY-NOVEMBER

Code of Revenue	0- 4.9		May-49		50-149		150-249		250 +		Total	
	Percent	Amount	Percent	Amount								
Stipend	1.68	341.67	3.16	210.00	3.25	250.47	8.70	347.50	7.14	320.00	3.04	291.41
GR	29.13	175.08	25.95	170.78	20.78	119.59	13.04	124.57	4.76	160.33	24.44	162.73
TR	6.44	245.07	5.70	385.56	7.79	281.38	4.35	128.84	0.00		6.08	276.98
VGF	27.73	320.19	25.95	275.14	14.29	327.24	8.70	255.11	0.00		21.93	308.43
VGD	3.36	670.27	3.16	568.35	1.95	590.98	0.00		0.00		2.64	632.89
CARE	10.92	310.02	6.96	306.52	7.79	365.75	4.35	328.25	7.14	310.71	8.85	320.00
O Assist	3.36	207.71	3.80	122.71	0.65	80.39	0.00		4.76	1,800.25	2.77	329.04
O Revenue	7.84	2,804.02	11.39	2,657.24	13.64	4,593.44	13.04	2,164.92	21.43	16,337.22	10.83	4,668.65
All	61.34	724.80	59.49	825.35	49.35	1,557.36	45.65	812.46	40.48	8,991.08	56.41	1,228.54
Number	357		158		154		46		42		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 7.17 — Households Receiving Resources and Average amount of Resources Received by Type and Flood Exposure (Taka per Household)

PERIOD: JULY-OCTOBER (Three Months)

Code of Revenue	Not expo		Moderate		Severe		Very Sev		Total	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Stipend	3.20	281.62	1.96	480.00	2.02	279.17	1.44	90.50	2.25	281.61
GR	5.02	166.34	18.63	115.08	24.58	164.54	26.62	161.26	18.49	157.10
TR	0.91	89.67	3.92	355.98	7.41	302.89	11.51	222.08	5.81	268.64
VGF	10.05	226.34	12.75	240.77	9.76	239.43	12.95	316.79	10.83	253.11
VGD	2.74	636.26	0.00		1.01	544.14	5.76	405.36	2.25	511.35
CARE	0.00		2.94	240.99	9.76	312.25	21.58	329.61	8.19	317.21
O Assist	2.28	97.18	3.92	230.43	1.68	701.61	2.88	124.84	2.38	300.83
O Revenue	8.68	3,807.59	9.80	2,521.80	10.10	2,733.88	4.32	2,833.08	8.59	3,024.26
Total	28.77	1,358.85	37.25	909.56	49.83	834.49	60.43	548.00	43.99	870.00
Number	219		102		297		139		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 7.18 — Households Receiving Resources and Average amount of Resources Received by Type and Flood Exposure (Taka per Household)

PERIOD: OCTOBER-NOVEMBER (One Month)

	Not exposed to flood		Moderate		Severe		Very Severe		Total	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Stipend	1.83	127.50	0.98	180.00	2.02	204.17	0.00		1.45	174.09
GR	5.02	73.12	2.94	112.66	8.42	146.19	13.67	174.45	7.66	139.85
TR	0.46	145.00	1.96	200.98	1.01	77.01	1.44	71.44	1.06	115.11
VGF	16.44	200.43	23.53	206.95	20.54	202.04	21.58	197.91	19.95	201.62
VGD	2.74	269.87	0.98	140.47	1.01	225.58	6.47	169.84	2.51	208.68
CARE	0.00		0.00		1.35	194.14	2.16	332.25	0.92	253.33
O Assist	1.37	453.76	0.98	100.00	0.34	12.00	0.72	21.50	0.79	249.13
O Revenue	6.85	1,873.42	5.88	11,116.67	9.76	2,981.08	3.60	1,000.00	7.27	3,386.41
Total	31.51	576.18	35.29	2,022.97	38.72	916.10	43.17	282.36	36.99	838.85
Number	219		102		297		139		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 7.19 — Number of Households Receiving Resources and Average Amount of Resources Received by Type and Flood Exposure (Taka per Household)

PERIOD: JULY-NOVEMBER (Four Months)

	Not exposed		Moderate		Severe		Very Severe		Total	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Stipend	4.11	275.71	2.94	380.00	3.03	322.22	1.44	90.50	3.04	291.41
GR	9.59	125.43	21.57	114.75	30.64	172.15	36.69	181.98	24.44	162.73
TR	0.91	162.17	5.88	304.31	7.41	313.39	11.51	231.01	6.08	276.98
VGF	18.72	297.44	24.51	323.87	21.89	296.43	25.18	332.56	21.93	308.43
VGD	2.74	906.13	0.98	140.47	1.35	577.28	6.47	530.17	2.64	632.89
CARE	0.00		2.94	240.99	10.44	317.16	23.74	329.85	8.85	320.00
O Assist	3.20	263.88	3.92	255.43	2.02	586.67	2.88	130.21	2.77	329.04
O Revenue	10.50	4,367.19	11.76	7,659.83	13.47	4,211.70	5.04	3,142.64	10.83	4,668.65
Total	42.92	1,333.66	49.02	2,147.81	61.95	1,243.80	71.22	636.10	56.41	1,228.54
Number	219		102		297		139		757	

Source: FMRSP-IFPRI Household Survey 1998

Table 7.20 — Value of VGF Transfer Received by Quintiles and Land Ownership (Percentage of Hh and of Total Resources)

Per Capita Expend Quintiles	0-4.9		5.0-49		50-149		150-249		Total	
	Household	Resources								
Quintile 1	25.30	26.78	7.83	7.11	3.01	4.63			36.14	38.53
Quintile 2	12.65	11.68	4.82	4.32	2.41	2.43	0.60	0.40	20.48	18.83
Quintile 3	7.83	8.72	7.23	6.86	1.81	1.69	0.60	0.40	17.47	17.68
Quintile 4	9.04	10.85	2.41	2.07	3.61	3.04	0.60	0.82	15.66	16.78
Quintile 5	4.82	3.87	2.41	1.67	2.41	2.27	0.60	0.38	10.24	8.19
All	59.64	61.91	24.70	22.03	13.25	14.06	2.41	1.99	100.00	100.00

Total Number of Hh = 166

Total Amount = 51199.38

Source: FMRSP-IFPRI Household Survey 1998

Table 7.21 — Value of GR Transfer Received by Quintiles and Land Ownership (Percentage of Hh & of Total Resources)

Per Capita Expend Quintiles	0-4.9		5.0-49		50-149		150-249		250+		Total	
	Household	Resources										
Quintile 1	17.84	18.07	4.86	3.03	3.24	2.92					25.95	24.02
Quintile 2	12.43	14.17	3.24	2.32	2.70	2.03	1.08	0.71			19.46	19.23
Quintile 3	10.27	11.44	8.65	9.50	3.24	1.46	0.54	0.60			22.70	23.00
Quintile 4	7.03	5.31	4.86	7.56	2.70	1.46	1.62	1.18	1.08	1.07	17.30	16.57
Quintile 5	8.65	11.49	0.54	0.85	5.41	4.84					14.59	17.18
All	56.22	60.48	22.16	23.26	17.30	12.71	3.24	2.48	1.08	1.07	100.00	100.00

Total Number of Hh = 185

Total Amount = 30,105.05

Source: FMRSP-IFPRI Household Survey 1998

8. CONCLUSIONS

The flood of 1998 had a devastating impact on the country of Bangladesh and on the lives of rural households. In this study we tried to find out the extent of the impact of the flood on households food security and the mechanism employed by the households to stay alive and maintain a minimum level of consumption. We also attempted to make an assessment of the extent and effectiveness of the aid that has been given to them by private individuals, government and non-government agencies.

In our analysis we made an attempt to understand which groups of people have been more affected by the flood. In order to do that, we classified households according to their level of welfare expressed in terms of their per capita household expenditure and land ownership and to their direct exposure to the flood. This last variable gives only an indication whether the people were directly exposed to the flood, but does not measure the level of the hardship they suffered or the impact the flood had on their lives. We found, though, that this variable correlates very well with cluster and village level indicators of flood severity and with the other variables describing the adverse impact of the flood, like losses of agricultural production and assets.

Even though the level of losses and lack of labor demand severely constrained the consumption level of the people affected by the flood, we found that people were able to maintain a similar level of consumption, albeit very low in terms of per capita caloric consumption, by making a few adjustments to their consumption pattern and by purchasing food on credit. In fact, they bought less rice and deferred purchases of clothes and other nonfood items. At the same time, almost half of all households purchased food on credit for an average value of approximately Tk. 1,000, which is 25 percent of the typical total monthly expenditure and over one third of food expenditure.

Many households lost a sizable share of their agricultural production. Losses were larger for rice production and for poor people. Many people also lost vegetable production, but their size and value was not very large compared to the losses of crop production. Our data confirmed that there was a clear loss of the number of days, especially during the time of the flood. This was more of a problem given the fact that even though the unemployment rate is very low, very few people participated in the labor market and therefore the few sources of income available were reduced even further.

It was not surprising to find the extent of the damage done to the flood to the houses and to the physical assets of people in the rural areas. Many households lost between 20 to 40 percent of the value of their assets and several resorted to selling them to have an additional source of income. We also confirmed that many people contracted many debts in the period of the flood for many reasons, but most of all for purchasing food. The level of their outstanding debts is also very high and corresponds roughly to half of the average monthly households expenditure.

Many private individuals, government and non-government individuals provided several resources in kind and cash to the people in the rural areas. We found that the size of the private transfers was quite large, but were received by only a small number of people that were not necessarily among the most needy. On the other hand transfers from NGOs were smaller, and to more people in the period of the flood and targeted to flood exposed individuals. Government transfers, like the GR and the VGF were not limited to flood exposed households, but were more targeted towards people that were either poorer or that owned smaller amounts of land.

In sum, the people in rural Bangladesh in the period of the flood appear to have suffered a lot, but they have been able to survive using a variety of means and strategies. One key question is how long will it take for the people that lost more income, assets and are deep into debt to improve their food security status.

**APPENDIX A: DISTRIBUTION AND PLOTS OF CATEGORICAL
VARIABLES USED FOR THE FLOOD EXPOSURE INDEX**

Table A1 — Frequency Distribution of Categorical Variables Used for the Flood Exposure Index

Feet	Category	Frequency	Percentage
0	0	246	32.50
.1- 1	1	110	14.53
1.1-2	2	141	18.63
2.1-1	3	176	23.25
3.1-2.1	4	53	7.00
4.1-1	5	31	4.10
0	0	246	32.50
.1- 1	1	80	10.57
1.1-2	2	147	19.42
2.1-1	3	173	22.85
3.1-2.1	4	43	5.68
4.1-1	5	39	5.15
5.1 +	6	29	3.83
Days	Category	Frequency	Percentage
0	0	246	32.50
0-7	1	80	10.57
7.1-15	2	147	19.42
15.1-30	3	216	28.53
30.1-60	4	39	5.15
60.1 +	5	29	3.83
0	0	623	82.30
0-7	1	16	2.11
7.1-15	2	25	3.30
15.1-30	3	36	4.76
30.1-60	4	29	3.83
60.1 +	5	26	3.43

Figure A1 — Frequency Distribution of Households by Various Variables of Flood Exposure

Water in homestead	Freq.	
0	246	*****
1	110	*****
2	141	*****
3	176	*****
4	53	*****
5	31	*****
Total	757	

Water in home	Freq.	
0	24	*****
1	80	*****
2	147	*****
3	173	*****
4	43	*****
5	39	*****
6	29	*****
Total	757	

Days water	Freq.	
0	246	*****
1	80	*****
2	147	*****
3	216	*****
4	39	*****
5	29	*****
Total	757	

Days away	Freq.	
0	623	*****
1	16	*
2	25	**
3	36	***
4	29	**
5	26	**
Total	757	

Index	Freq.	
0	217	*****
1	15	****
2	9	**
3	18	****
4	27	*****
5	35	*****
6	50	*****
7	66	*****
8	71	*****
9	55	*****
10	45	*****
11	41	*****
12	29	*****
13	19	****
14	20	****
15	13	***
16	9	**
17	10	**
18	6	*
19	2	
Total	757	

FMRSP Bangladesh

**Food Management & Research Support Project
Ministry of Food, Government of the People's Republic of Bangladesh**



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