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# **Impact of Food Price Rise on School Enrollment and Dropout in the Poor and Vulnerable Households in Selected Areas of Bangladesh**

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# **Impact of Food Price Rise on School Enrolment and Dropout in the Poor and Vulnerable Households in Selected Areas of Bangladesh**

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## **EXECUTIVE SUMMARY**

This study has explored the impact of the rise in food prices on the education of children in the poor and vulnerable households in Bangladesh. A survey was conducted on these households in five districts in Bangladesh across different professions and locations. Also, a number of Focused Group Discussions were undertaken. Analyses of the survey data suggests that during early 2008 the prices of rice, pulses and edible oil increased tremendously which threatened the status of food security of these poor and vulnerable households in Bangladesh. As a result of the price hike, significant per cent of households were forced to cut their consumption of rice, pulses and edible oil. The households who could maintain the level of consumption of rice unaffected, they could do so at the cost of reduced consumption of other non-rice food items or/and by reducing the non-food expenditure, i.e., expenses on their children education. High dropout rates among the children of these households were observed because of the price hike of food items as most of the households could not continue to bear the expenses on their children's education. On average, 58 per cent and 56 per cent households in the rural and urban areas respectively experienced dropout of their children from school. A significant proportion of these dropped out children were engaged in different jobs with the aim of contributing to their household income. In this sense, the opportunity cost of sending children from these poor and vulnerable households appeared to be high as the rural and urban households could save, by not sending their children to school, around 9 per cent and 7 per cent of their monthly household expenses respectively, and the rural and urban households could earn, by withdrawing their children from schools and engaging them into any work, around 10 per cent and 11 per cent of their monthly household expenses. The 'net gain' (savings plus income) appears to be around 25 per cent of the households' monthly expenses. In all cases, the female headed households turned out to be affected more than their male counterparts. The poor and vulnerable households under consideration employed several coping strategies to combat the adverse effects of food price hike, and 'becoming more indebted by taking loans' turned out to be the most widely used coping strategy.

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## INTRODUCTION

The sharp increase in food prices over the past couple of years has raised serious concerns about the food and nutrition situation of poor people in developing countries, about inflation, and – in some countries – about civil unrest. Real prices are still below their mid-1970s peak, but they have risen dramatically to their highest point since that time.

In 2007, the food price index calculated by the Food and Agriculture Organization of the United Nations (FAO) rose by nearly 40 per cent, compared with 9 per cent the year before, and in the first months of 2008 prices again increased rapidly. Nearly every agricultural commodity is part of this rising price trend. Since 2000 – a year of low prices – the wheat price in the international market has more than tripled and maize prices have more than doubled. The price of rice jumped to unprecedented levels in March 2008. Dairy products, meat, poultry, palm oil, and cassava have also experienced price hikes, with often serious consequences for the purchasing power of the poor.

National governments and international actors are taking various steps to try to minimize the effects of higher international prices for domestic prices and to mitigate impacts on particular groups. Some of these actions are likely to help stabilize and reduce food prices, whereas others may help certain groups at the expense of others. What is needed is more effective and coherent action to help the most vulnerable populations cope with the drastic and immediate hikes in their food bills.

Higher food prices have different effects across countries and population groups. At the household level, surging and volatile food prices hit those who can afford it the least – the poor and food insecure. The few poor households that are net sellers of food will benefit from higher prices, but households that are net buyers of food – which represent the large majority of the world's poor – will be harmed. Adjustments in the rural economy, which can create new income opportunities, will take time to reach the poor.

At the household level, the poor spend about 50 to 60 per cent of their overall budget on food. Clearly, a doubling of food prices will force families to spread their entire income on food-as is often the case-they are simply forced to eat even less. Anecdotes and limited observations show that the middling poor, those on around USD 2 a day, are pulling children from school and cutting back on vegetables so they can still

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afford rice. Those on USD 1 a day are cutting back on the number of meals. The desperate – those on 50 cents a day – face disaster<sup>1</sup>.

Against this backdrop, this study attempts to explore the effects of the recent rise in food prices on the education of the poor and vulnerable households in Bangladesh. The overall objective of this study is to measure the impact of recent rise in food prices on school enrolment and dropout in the poor and vulnerable households in Bangladesh. The study also quantify the opportunity cost of spending time in schools as opposed to time in work and document some of the emerging practices to cope with the situation.

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<sup>1</sup>*The Economist* print edition, April 17th 2008.

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## METHODOLOGY

The study started with a desk work. In the initial stage of the work, some general information was gathered from secondary literature such as published and unpublished documents of the government and NGOs. Consultations with the relevant informed persons, agencies, and organizations were also taken place to get maximum insight about the scope of the work. The gathered information from the desk work was used in designing the questionnaire for the household survey, and preparing checklist for the Focus Group Discussions (FGDs) at the field level. The desk work also tried to find out the information gaps that would be important in conducting a good field-based research. If any such gaps were identified, efforts were undertaken to gather the relevant information from various means (such as, exploratory visits to the survey area, discussion with key informants, consulting reports and other information sources). There were some small group visits to gather basic information and important feedbacks, which were then reflected in the questionnaire and other checklists.

With a view to capturing the views of the stakeholders the study also organised several rounds of group discussions and interviewing a number of people at the field level. To administer these qualitative techniques in a way so that the collected information could be used in a systematic manner, this study developed a set of checklists, information on which was collected during the FGDs. The study invited relevant stakeholders in FGDs to minimise selection bias in the process of identifying the people with whom focused discussion could take place.

Before going to the field survey, DFID was consulted about the selection and coverage of the sample survey. Based on the consultation, sample size and location of the fields were finalized. The sample areas are (i) Sundorgonj *Upazila*, Gaibandha, (ii) Doara Bazar *Upazila*, Sunamganj, (iii) Shariatpur Sadar *Upazila*, Shariatpur; (iv) Chakaria *Upazila*, Cox's Bazar, and (v) two slums in Dhaka city: Mohakhali and Mirpur. In each of these five surveyed area, a sample size of 250 households (HHs) were selected Table 1.



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**Table 1. Sample size of the quantitative survey**

Surveyed areas	Number of HHs surveyed
Sundorgonj <i>Upazila</i> , Gaibandha	250
Doara Bazar <i>Upazila</i> , Sunamganj	250
Shariatpur Sadar <i>Upazila</i> , Shariatpur	250
Chakaria <i>Upazila</i> , Cox's Bazar	250
Mohakhali and Mirpur slums, Dhaka city	250
Total	1250

The sample households in the surveyed areas have been classified according to their professions and locations. Of the five surveyed areas, except slums of Dhaka, four are predominantly rural. Experience tells us that even in a predominantly rural area significant variations might exist with respect to the characteristics and nature of poverty depending on whether the poor live close to the *Upazila* sadar or in distant/remote villages. Therefore at first, this survey has categorized the sample households in these four areas into two groups – (a) urban households—who live within the specified areas of *Upazila* sadar, and (b) rural households – who live in villages far from the *Upazila* sadar. In each of the four *upazilas*, 150 samples were taken from the rural area and rest 100 samples were taken from the urban area. Respondents of rural category are then disaggregated further into four sub-categories based on their professions – landless farmers, day labourers (other than agricultural labourer), tempo/rickshaw/van pullers, and operators of small business/grocery shops. However, in case of urban respondents, sub-categories of professions for four areas (Gaibandha, Sunamganj, Shariatpur, and Cox's Bazar) and those of the slums in Dhaka city are almost the same with the exception that respondents from garments workers are included in the slums in Dhaka city, while respondents from day labourer are included in other urban areas. Furthermore, around 9 per cent of the total sample has been taken from female-headed households.<sup>2</sup> Table 2 shows the distribution of respondents in terms of location and profession.

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<sup>2</sup> Initially it was planned to cover around 125 female headed-households (10 per cent of the total sample). However, the survey could cover 113 female headed households (9 per cent of the total sample).

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**Table 2. Distribution of samples**

Categories of households	Sample size
Total	1250
Rural landless farmer	186
Rural day labourer (other than agricultural labour)	138
Rural tempo/rickshaw/van puller	131
Rural small business/grocery shop	145
Rural sub-total	600
Urban salaried job (peon/guard/cleaner)	90
Urban day labourer	106
Urban tempo/rickshaw/van puller	102
Urban small business/grocery shop	102
Urban sub-total	400
Dhaka city (slum) salaried job: peon/guard/cleaner	61
Dhaka city (slum) garments worker	70
Dhaka city (slum) tempo/rickshaw/van/bus helper	59
Dhaka city (slum) hawker/small business/grocery shop	60
Dhaka city (slum) sub-total	250
Day labourer: rural and urban (excluding Dhaka slums)	244
Tempo/rickshaw/van/bus helper: rural and urban (excluding Dhaka slums)	233
Hawker/small business/grocery shop: rural and urban (excluding Dhaka slums)	247
Female Headed Households	113

Having finalized the questionnaire, pre-testing of all field instruments was undertaken. Based on the pre-testing experiences and feedbacks received from enumerators and field supervisors, the questionnaires were modified. The enumerators and supervisors (for both quantitative survey and FGDs) were trained on the survey questionnaire in an intensive training programme. The actual survey was conducted among the sample villages and sample households in the selected study areas. The enumerators collected data by interviewing households and gathering information. The quality of data collection was ensured through regular supervision by the supervisors who kept regular contacts with the team leader of the study. Alongside the conduction of the survey there was a number of Focused Group Discussion (FGD) in the survey areas. The feedbacks from the FGDs helped in the qualitative analysis of the research.

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## **PRICE HIKE AND CONSUMPTION RESPONSE FROM THE POOR AND VULNERABLE HOUSEHOLDS**

### **Inflation for the poor and vulnerable households**

It has long been argued that inflation hurts the poor and vulnerable people most as they do not have any social support networks. Raihan and Haque (2007)<sup>3</sup> argue that the official statistics on inflation in Bangladesh is irreverent as far as the poor people's perspectives are concerned. They find that poor households in Bangladesh consume completely different baskets of food items as compared to the official food basket used to construct consumer price index (CPI). According to the authors, the CPIs calculated by the Bangladesh Bureau of Statistics (BBS) hardly reflect the inflation rates faced by poor and vulnerable households. This can be manifested by the fact that BBS's calculation of CPIs by attaching 48.8 per cent weight for food items is not consistent with the consumption pattern of many poor and vulnerable households in Bangladesh. Raihan and Haque (2007) construct the CPIs for the poor and vulnerable household groups and calculate food inflation rates for these selected household groups. The results appear to be strikingly different from the official statistics on food inflation rates. Raihan and Haque (2007, 2008) conduct survey on few poor and vulnerable household groups of Dhaka city and in rural areas to construct the typical consumption baskets of these household groups. These groups are petty traders, readymade garments workers, rickshaw-pullers, and day labourers in Dhaka city and small farmers, rickshaw pullers, day labourers and small traders in rural areas. The inflation rates for these poor and vulnerable households, as calculated by (Raihan and Haque 2007, 2008)<sup>4</sup> are reported in Table 3. It appears that the food inflation rates for the poor and vulnerable households are much higher than the official rates stated by BBS.

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<sup>3</sup> Raihan S and Haque I (2007). Inflation of the Marginalised: Beyond the Conventional Arithmetic. *Bangladesh Economic Outlook*, Volume I, Number 1, September 2007.

<sup>4</sup> Raihan S and Haque I (2008). Inflation for the Marginalised Groups in Bangladesh. *Bangladesh Economic Outlook*, Volume I, Number 4, June 2008.

**Table 3. Food inflation rates for the poor and vulnerable households in Dhaka city and rural areas**

Household Category	Point to point food inflation rate				
	Aug-07 over Aug-06	Jan-08 over Jan-07	Mar-08 over Mar 07	Apr-08 over April-07	May-08 over May 07
Dhaka city small traders	21.60	21.27	20.43	19.76	19.04
Dhaka city RMG workers	18.06	22.54	21.73	20.03	19.65
Dhaka city rickshaw puller	23.11	23.16	21.32	20.09	19.81
Dhaka city day labourer	22.54	23.32	22.74	22.12	21.12
Rural small farmers		17..23	16.87	16.46	16.04
Rural rickshaw/van pullers		18.42	18.08	17.86	17.48
Rural day labourer		19.35	18.82	18.47	18.18
Rural small traders		17.88	17.56	17.32	16.94
Official Food inflation rate		14.21	12.92	9.82	

Note: Official food inflation rate are taken from the Bangladesh Bureau of Statistics (BBS)

### Basic characteristics of the surveyed households

Table 4 and Annex 1<sup>5</sup> delineate some basic characteristics of the households surveyed under the present study. The average household size is found to be higher in the rural areas (5.58) than that in the urban areas (5.12). It is observed that surveyed households in Doara Bazar *Upazila*, Sunamganj have, on average, slightly over 6 members, which is the highest among the sample areas, while the average household size for Sundorgonj *Upazila*, Gaibandha is 4.58 which is the lowest among the sample areas. Average household size is found to be the lowest among the female headed households in comparison to any other household categories.

<sup>5</sup> Annex 1 provides the detailed information for different types of households, and Table 4 presents the findings for some major categories of households.

**Table 4. Basic characteristics of the surveyed households**

Categories of households	Average HH size	Average years of schooling of head of HH	HH per capita monthly expenditure	Expenses on food as % of total monthly expenditure
Rural	5.58	2.06	891	82.57
Urban	5.12	2.44	1144	78.89
Sundorgonj <i>Upazila</i> , Gaibandha	4.58	2.03	736	92.84
Doara <i>bazar Upazila</i> , Sunamganj	6.25	1.55	840	83.97
Shariatpur <i>sadar Upazila</i> , Shariatpur	5.29	2.45	1164	70.10
Chakaria <i>Upazila</i> , Cox's Bazar	5.78	2.48	894	84.45
Mohakhali and Mirpur slums, Dhaka city	4.91	2.62	1427	72.64

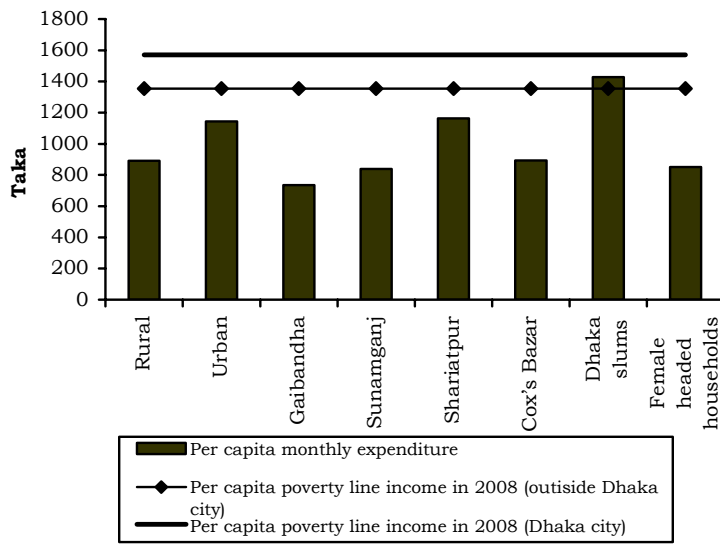
Average years of schooling of the household heads have been found to be very low in all surveyed areas. The figure is a little higher in urban area than in the rural area. It can be seen from Table 4 that the figure is the highest for the sample households in Mohakhali and Mirpur sums in Dhaka city and is the lowest for sample households in Doara Bazar *Upazila*, Sunamganj.

It also appears that the average per capita household expenditure<sup>6</sup> for the sample poor and vulnerable households is BDT 1144 in urban area, while the corresponding figure is BDT 891 in rural area. Per capita expenditure in Dhaka's slum area is well above than any other areas. Per capita expenditure is observed to be lowest in Sundorgonj *Upazila*, Gaibandha. Figure 1 and Annex 2 show the comparison of these per capita monthly expenditures of households with two poverty line income: one is per capita poverty line income for Dhaka city (adjusted for prices in 2008 and the other is the per capita poverty line income for the area outside Dhaka city (adjusted for the prices in 2008).<sup>7</sup> It appears that all the sample households are below the poverty line incomes.

<sup>6</sup> For the analyses of poverty, here 'expenditure' of the households is considered rather than their 'income' as incomes of the households, in general, appear to be underreported in any household survey. Household expenditure includes expenditure on both food and non-food items.

<sup>7</sup> The Alamgir (1974) food poverty basket, as is also used by BBS, has been used to estimate the food poverty line income. Then a 35 per cent of the food poverty income has been added (45 per cent for Dhaka city) as non-food expenses to the food poverty line income to come up with the poverty line income.

**Figure 1. Per capita monthly expenditure and poverty line income**



It also appears from Table 4 and Annex 1 that the expenses on food as per centage of total monthly expenditure are very high among the surveyed households. In rural area it is 82.5 per cent while in urban area it is close to 79 per cent. Among the surveyed *Upazilas*, the households in the Sundorgonj *Upazila*, Gaibandha have the highest share. On the other hand, this share is 86.2 per cent among the female-headed households. The high share of food expenses in total expenditure indicates the fact that because of the food price hike, the households are forced to cut their non-food expenses in order to meet their minimum food requirements.

**Price hike: Impacts on consumption of rice, edible oil and pulses**

Rice

Rice is considered to be the major food item for the poor and vulnerable households in Bangladesh. Table 5 and Annex 3 shows that, on average, there has been more than 50 per cent rise in the price of rice in both the rural and urban areas. However, for some household categories, i.e., Dhaka city tempo/rickshaw/van/bus/helper and Dhaka city hawker/small business/grocery shop, the rise in the price of rice has been more than 60 per cent. The impact of the rise in the price of rice has been found to be relatively higher in the rural areas compared to the urban areas. More than 25 per cent of sample households in the rural areas have been forced to reduce their consumption of rice due to the

recent price hike while the corresponding figure is about 19 per cent in the urban areas. However, the extent of fall in the consumption of rice is relatively higher in the urban areas compared to the rural areas, as for the urban households who experienced fall in consumption, their consumption of rice, on average, decreased by around 22.8 per cent, while the corresponding figure is 21.6 per cent in the rural areas.

**Table 5. Changes in consumption and price of rice (during early 2008)**

Categories of households	Consumption of rice (% of HH)				Ave. % fall in consumption*	Ave. % fall in consumption (for all sample)	Ave. % rise in price
	Fall	Unchanged	Rise	Total			
Rural	25.1	67.7	7.2	100	21.58	3.00	50.65
Urban	18.5	73.8	7.7	100	22.79	2.00	51.85
Sundorgonj Upazila, Gaibandha	41.6	47.2	11.2	100	25.11	6.66	57.09
Doara Bazar Upazila, Sunamganj	25.6	61.6	12.8	100	20.55	1.34	53.78
Shariatpur Sadar Upazila, Shariatpur	20.8	71.2	8.00	100	20.36	2.00	58.06
Chakaria Upazila, Cox's Bazar	11.2	88.0	0.8	100	17.12	2.00	49.13
Mohakhali and Mirpur slums, Dhaka city	10.4	85.2	4.4	100	22.17	1.23	58.22

\* For the households who experienced fall in consumption

The most striking case appears to be found in Sundorgonj Upazila, Gaibandha (which is known as Monga prone area) where more than 40 per cent of the sample households reported to experience fall in their rice consumption. The corresponding figure for the slums in Dhaka is 10.4 per cent which reflects the quick income adjustment due to price hike in urban area. It also appears that day labour and female headed households are relatively more affected compared to other household categories. About 32 per cent of sample households, who are categorized as rural day labour, were forced to reduce their rice consumption due to price hike. The fall in rice consumption is also prominent among the garments workers and female headed households.

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It also appears that for a large percentage of households the level of consumption of rice did not change. This is because of the very inelastic nature of the demand for rice among the poor and vulnerable households in Bangladesh. On the other hand, despite the rise in price, some households increased their consumption of rice. This could be because of the fact that due to the increase in the relative prices of non-rice food items (i.e., vegetables, pulses, wheat) with respect to the price of rice some households cut their consumption of these non-rice food items and increased the consumption of rice.<sup>8</sup>

### Edible Oil

The price edible oil, on average, found to be increased by 94 per cent and 82 per cent, for the rural and urban sample households respectively (Table 6 and Annex 4). However, for some household categories (i.e., households in Sundorgonj *Upazila* of Gaibandha, Doara Bazar *Upazila* of Sunagonj, Rural tempo/rickshaw/van puller) the price rise has been more than 100 per cent. Consumption of edible oil of the sample households was affected severely because of such a high rise in price. About 44 per cent of the rural sample households were forced to cut their edible oil consumption, while the corresponding figure for the urban households is around 38 per cent. However, the extent of fall in the consumption of edible oil is found to be relatively higher in urban area compared to rural area. In Shariatpur, 60 per cent of sample households had to reduce their oil consumption – which is observed to be the highest among the surveyed areas. However, the extent of fall in oil consumption appears to be the highest in Gaibandha where sample households reduced their oil consumption by 47 per cent. Urban day labour and female headed households reduced their oil consumption by about 40 per cent.

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<sup>8</sup> It appears that the prices of rice, vegetables, wheat, pulses increased ignorantly during the period under consideration. However, the relative price of rice with respect to other non-rice food items remained low as the prices of those non-rice food items increased more than that of rice.



**Table 6. Changes in consumption and price of edible oil  
(during early 2008)**

Categories of households	Consumption of Oil (% of HH)				Ave. % fall in consumption*	Ave. % fall in consumption (for all sample)	Ave. % rise in price
	Fall	Unch- anged	Rise	Total			
Rural	44.0	54.8	1.2	100	36.61	13.41	94.95
Urban	37.8	60.2	2.0	100	37.82	12.69	82.04
Sundorgonj <i>Upazila</i> , Gaibandha	33.2	64.4	2.4	100	46.96	12.26	108.06
Doara Bazar <i>Upazila</i> , Sunamganj	46.8	51.2	2.0	100	36.34	11.31	108.07
Shariatpur Sadar <i>Upazila</i> , Shariatpur	59.6	38.8	1.6	100	34.51	20.05	75.28
Chakaria <i>Upazila</i> , Cox's Bazar	37.2	62.8	0.0	100	32.52	12.01	89.49
Mohakhali and Mirpur slums, Dhaka city	28.4	69.6	2.0	100	38.58	9.61	75.53

\* For the households who experienced fall in consumption

### Pulses

The price of pulses increased by 90 per cent and 89 per cent respectively in the urban and rural areas. Because of the price rise, almost half of the rural households and more than one third of the urban households reduced their consumption of pulses (Table 7 and Annex 5). However, the extent of reduction in consumption of pulses is relatively higher in urban area (43.6 per cent) compared to the rural area (42 per cent). About 64 per cent of sample households from Shariatpur reported to have reduced their consumption of pulses. The fall in consumption is relatively less in the slums in Dhaka city where 19 per cent of sample households reduced consumption of pulses. About one third of the female headed households reduced their consumption of pulses by more than 50 per cent. The extent of fall in the consumption of pulses is the highest among the sample households in Sundorgonj *Upazila*, Gaibandha.

**Table 7. Changes in consumption and price of pulses  
(during early 2008)**

Categories of households	Consumption of pulses (% of HH)				Ave. % fall in consumption*	Ave. % fall in consumption (for all sample)	Ave. % rise in price
	Fall	Unch-anged	Rise	Total			
Rural	48.8	48.3	2.8	100	41.91	15.48	88.82
Urban	34.7	62.6	2.7	100	43.59	10.37	89.64
Sundorgonj <i>Upazila</i> , Gaibandha	43.9	50.5	5.7	100	51.01	10.82	131.76
Doara Bazar <i>Upazila</i> , Sunamganj	52.1	41.4	6.5	100	39.92	10.33	78.71
Shariatpur Sadar <i>Upazila</i> , Shariatpur	63.9	34.8	1.2	100	38.43	23.34	68.01
Chakaria <i>Upazila</i> , Cox's Bazar	30.8	69.2	0.0	100	40.66	12.41	103.51
Mohakhali and Mirpur slums, Dhaka city	18.9	80.1	1.0	100	50.06	7.05	73.88

\* For the households who experienced fall in consumption

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## IMPACT OF FOOD PRICE HIKE ON EDUCATION: QUANTITATIVE SURVEY REPORTS

### Food price rise and education

Table 8 and Annex 6 show that about 93 per cent of the rural households answered affirmatively in response to the question 'whether there was any impact on child education because of recent rise in food price'. The corresponding Figure is 87 per cent for the sample urban households. Among the *Upazilas* the worst affected area appear to be Doara Bazar, Sunamgonj, where children's education, in more than 94 per cent of sample households, was affected. The worst affected case appears to be for the female headed households where 95 per cent of the sample households answered affirmatively.

**Table 8. Households' responses to the question "whether there has been any impact on child education because of food price rise" (% of HH)**

Categories of households	Yes (%)	No (%)
Rural	93.1	6.9
Urban	87.3	12.7
Sundorgonj <i>Upazila</i> , Gaibandha	91.6	8.4
Doara Bazar <i>Upazila</i> , Sunamganj	94.4	5.6
Shariatpur Sadar <i>Upazila</i> , Shariatpur	89.2	10.8
Chakaria <i>Upazila</i> , Cox's Bazar	86.4	13.6
Mohakhali and Mirpur slums, Dhaka city	90.0	10.0

According to Table 9 and Annex 7 about 94 per cent of the rural households responded that their children were facing health related problems due to lack of nutritious or quality food while the corresponding figure is 86 per cent for urban area.<sup>9</sup> The health related problem is reported to be higher in Chakaria *Upazila*, Cox's Bazar compared to other *Upazilas*. The second severe impact of under consumption of food is the high dropout rate of the school children as reported by the respondents. The per centage of households experiencing dropout of their children is found to be higher in the rural area compared to the urban area. This per centage turned out to be quite high in the sample households in Chakaria *Upazila*, Cox's Bazar compared to any other *Upazilas*. Almost 88 per cent of female headed households

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<sup>9</sup> The health related problems of the children included becoming weak, reduction in body resistance power thus resulting in being vulnerable to any disease.

responded that their children had to quit school because of recent food price rise, as compared to 57 per cent of male headed households. About 20 per cent of rural households responded that they lost their capabilities to meet children's educational expenses because of the fall in their real incomes.

**Table 9. Types of impact on child education because of food price rise (% of HH who responded 'yes' in Table 8)**

Categories of households	% of HH experiencing lack of nutritious food and health hazard causing interruption in education of their children	% of HH unable to meet education expenses	% of HH experiencing dropout of their children	% of HH involved their child in other works to earn money	Other
Rural	93.9	20.4	58.2	21.2	1.3
Urban	86.0	12.8	55.6	15.5	1.9
Sundorgonj <i>Upazila</i> , Gaibandha	94.3	8.8	42.1	19.7	0.9
Doara Bazar <i>Upazila</i> , Sunamganj	91.0	23.1	43.6	19.2	0.0
Shariatpur Sadar <i>Upazila</i> , Shariatpur	93.3	21.1	68.2	21.1	4.5
Chakaria <i>Upazila</i> , Cox's Bazar	89.8	26.4	76.9	18.5	2.8
Mohakhali and Mirpur slums, Dhaka city	84.4	5.3	56.1	14.2	0.0

Table 10 and Annex 8 suggest that consistently (except in Chakaria *Upazila*, Cox's Bazar) among the households who are experiencing dropout the per centage are much higher for the school aged girls than their male counterparts.

**Table 10. School attendance and dropout: boys and girls**

Household categories	Boys				Girls			
	Total no of school aged boys	% attending school	% dropped out	% never attended school	Total no of school aged girls	% attending school	% dropped out	% never attended school
Rural	626	38.82	55.27	5.91	636	40.64	58.81	0.56
Urban	485	41.65	52.78	5.57	549	43.29	56.10	0.61
Sundorgonj <i>Upazila,</i> Gaibandha	193	55.96	39.90	4.15	172	57.06	42.44	0.50
Doara Bazar <i>Upazila,</i> Shunamganj	223	54.26	41.26	4.48	230	55.53	43.91	0.56
Shariatpur Sadar <i>Upazila,</i> Shariatpur	232	28.45	64.66	6.90	255	30.44	69.02	0.54
Chakaria <i>Upazila,</i> Cox's Bazar	299	19.40	72.91	7.69	286	25.17	71.68	3.15
Mohakhali and Mirpur slums, Dhaka city	164	40.85	53.05	6.10	242	42.78	56.61	0.61

**Opportunity cost of going to school**

Table 11 and Annex 9 demonstrate the opportunity cost of schooling per child per month for the poor and vulnerable households in Bangladesh. Opportunity costs for these households are calculated in two ways: i) firstly, the savings in households expenses per month by not sending a child to the school, and ii) secondly, increase in household income per month by withdrawing a child from school and engaging him/her into work.

**Table 11. Opportunity cost of schooling (for the HHs who experienced dropout of children)**

	Save in HH expenses per month for each child by not sending him/her to the school (Taka)	Save in HH expenses by not sending children to the school as % of HH total monthly expenses*	Increase in HH income per month for each child by engaging him/her into work (Taka)	Increase in HH income (by not sending children to the school and putting them into work) as % of HH total monthly expenses*
Rural	331	9.84	553.19	9.88
Urban	250	6.68	438.12	10.40
Sundorgonj <i>Upazila</i> , Gaibandha	206	9.08	582.14	20.20
Doara Bazar <i>Upazila</i> , Sunamganj	279	7.12	488.25	15.45
Shariatpur Sadar <i>Upazila</i> , Shariatpur	338	7.47	502.78	7.51
Chakaria <i>Upazila</i> , Cox's Bazar	415	12.09	549.14	12.18
Mohakhali and Mirpur slums, Dhaka city	240	4.52	432.50	8.22

Note: \* Here estimates are provided not per child but for all children in the HH who have stopped going to school.

The opportunity cost of schooling, both in terms of savings of expenditure and rise in income, is found to be relatively higher in rural area compared to urban area. Distance of schools in rural area and availability of NGO driven schools in urban slum area might cause the higher expenditure savings in rural area, while the availability of instant supplementary work in rural area might cause the higher opportunity cost in terms of rise in income in rural area than that of in urban area. The opportunity cost of children's schooling is found to be the highest in Chakaria *Upazila*, Cox's Bazar. In Sundorgonj *Upazila*, Gaibandha, children's involvement in work other than going to school contributed to raise 20 per cent of family income (Table 11). Because of dropout, female headed households' expenditure was reduced by 10 per cent while their family income increased by 20 per cent. The corresponding figures for the male-headed households are 7.7 per cent and 11.2 per cent respectively.

There were also a number of 56 households in the total sample who had 'net gain' from the saving by not sending their children to the schools and earning income by putting them into work. Table 12 shows that in the rural areas the average net gain from such action would be 1241

Taka which was 26 per cent of the average monthly expenditure of the rural households. In the urban area the net gain is 1146 Taka which is 21 per cent of the monthly expenditure of the urban households. On average, the rural and urban households could gain 25 per cent of their monthly expenditure from such an action.

**Table 12. Net opportunity cost of schooling**

Households	Average net gain (Taka)	Number of households	Gain as a % of total monthly expenses
Rural	1241	35	26
Urban	1146	21	21
Both rural and urban	1206	56	25

**Factors influencing dropout of children**

It is important to note here that there are likely to be a number of factors which could influence these poor and vulnerable household's decision to take their children out of school. In order to identify these factors a sophisticated econometric technique is required. On the basis of the database of 1250 surveyed households, a logit regression model of the following type is used:

$$Dropout = \beta_0 + \beta_1 hhs\text{ize} + \beta_2 \text{exp} + \beta_3 \text{rice} + \beta_4 \text{area} + \beta_5 \text{head} + \varepsilon$$

Table 13 provides the description of the variables used in the aforementioned regression equation and Table 14 reports the results of the logit regression model.

**Table 13. Description of the variables**

Variables	Description
Dropout	Dummy variable for dropout: 1 = Household experiencing dropout of their children 0 = Household experiencing no dropout of their children
HH size	Size of household
Exp	Per capita monthly expenditure of the households
Rice	Dummy variable for consumption of rice: 1 = Household experiencing fall in rice consumption 0 = Otherwise
Area	Dummy variable for area: 1 = Rural 0 = Urban
Head	Sex of the head of households 1 = Female headed households 0 = Otherwise

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**Table 14. Results of the logit regression model**

	Log odds (standard error)
Constant	-0.59 (0.31)*
Household size	0.08 (0.03)**
HH per capita monthly expenditure	-0.01 (0.001)*
Dummy for rice	0.08 (0.02)*
Rural-urban dummy	0.22 (0.05)*
Dummy for female headed HH	0.91 (0.08)***

Note: \*\*\*, \*\* and \* indicate statistical significance at the 1, 5 and 10 per cent levels respectively.

The regression results in Table 14 suggest that household size, per capita expenditure, rural-urban dummy and the dummy for female headed household are statistically significant while the dummy variable for rice consumption is not. It appears that for one unit increase in household size, the log odds of households to experience dropout of their children from school (vs. not experiencing dropout) increases by 0.08. In the same way, in case of dummy variable for female-headed households, a change from male headed to female headed household leads the log odds of households to experience dropout (vs. not experiencing dropout) increase by 0.91. Per capita monthly expenditure has a very little but negative impact on the dropout of children, suggesting that for one unit increase in the household per capita expenditure (income) the log odds of households to experience dropout (vs. not experiencing dropout) decreases by 0.01. The dummy variable for consumption of rice has a positive and significant effect on the dropout. It appears that one unit fall in household consumption of rice increases the log odds of households to experience dropout. With respect to the rural-urban dummy variable it appears that a change in area from urban to rural increases the log odds of households to experience dropout (vs. not experiencing dropout) by 0.218.

The estimated coefficients of the logit model do not have a direct economic interpretation. Measures that are familiar to economists are marginal effects. By inspecting the marginal effects reported in Table 15, it is found that the variables household size, per capita expenditure, rural-urban dummy and the dummy for the female-headed households are statistically significant. From the result below, we can explain that a one unit change in household size leads to a 1.9 per cent increase in the probability for households to experience dropout, holding all other things constant. Per capita expenditure has a little impact on dropout from school. To be precise, a one unit change in per capita monthly expenditure leads to a 0.006 per cent decrease in the probability for households to experience dropout, holding other things constant. The dummy variable of rice suggests that the probability of household experiencing dropout of their children from school because of fall in



household consumption of rice (in contrast to household experiencing no fall in consumption of rice) is increased by 2.3 per cent. From the dummy variable of area we can obtain that the probability of households to experience dropout increases by 5.4 per cent as a result of change in area from urban to rural, holding all other variables at some fixed values. Finally, a change from male headed to female headed household increases the probability of households to experience dropout by 22 per cent.

**Table 15. Marginal effects of the regression in the logit model**

Variable	Marginal effects
Household size	0.0191828**
HH per capita monthly expenditure	-0.0000628**
Dummy for rice	-0.0320612*
Rural-urban dummy	0.0545013**
Dummy for female headed HH	0.2192846**

In sum, the logit regression exercise suggests that among the poor and vulnerable households, those with higher average number of household members tend to have higher probability of experiencing dropout of their children. However, the higher the per capita income (expenditure) of the households the lesser the probability of the households to experience dropout of their children from school. Also the households, who experienced fall in consumption of rice, appears to have higher probability of drop out. The rural households tend to have higher probability of dropout compared to the urban households. Finally, the female-headed households likely to experience higher dropout of their children compared to the male-headed households.

**Households' responses on coping strategies**

The households were asked to respond on their coping strategies to combat the price hike of essential food items. The survey results suggested nine major responses from the households and they are as follows:

- Crisis cannot be solved,
- Reduced savings,
- Selling assets,
- Mortgage of assets/land,
- Take loans,
- Reduce non-food expenditure,
- Reducing food intake,
- Early marriage of daughter, and
- Other

Table 16 and Annex 10 report the responses from the households. It appears that ‘taking loans’ was the most used technique by the households to fight against the price hike. In Shariatpur Sadar *Upazila*, Shariatpur, as high as 85 per cent of the households took loan to cope with the adverse situation. Alarmingly, large percentage of households for almost all categories of households considered that the crisis could not be solved. Almost 9 per cent and 6 per cent of the households in the rural and urban areas reported that they had to cut their consumption of food. Furthermore, 14 per cent and 8 per cent of the rural and urban households respectively sold their assets (whatever these poor and vulnerable households had). A few households were forced to arrange early marriage of their daughter.

**Table 16. Households’ coping strategies**

Household categories	Coping strategies								
	Crisis cannot be solved	Reduced savings	Selling assets	Mortgage of assets/land	Take loans	Reduce non-food expenditure	Reduce food intake	Early marriage of daughter	Other
Rural	25.2	14.8	14	0.6	62.8	17.5	8.9	0.2	9.5
Urban	34.3	14.2	8.3	0.3	46.3	27.2	5.9	0.2	23.7
Sundorgonj <i>Upazila</i> , Gaibandha	38.4	7.6	2.8	0	49.2	17.6	6.8	0	2.4
Doara Bazar <i>Upazila</i> , Sunamganj	5.2	5.6	28.8	1.2	62.8	6.8	18.8	0.4	10.4
Shariatpur Sadar <i>Upazila</i> , Shariatpur	29.2	6.4	20	0.4	84.8	20.4	8.4	0	31.6
Chakaria <i>Upazila</i> , Cox’s Bazar	33.2	33.2	4.8	0.4	50.4	26	1.2	0.4	1.2
Mohakhali and Mirpur Slums, Dhaka City	42	19.6	0	0.4	27.2	40	1.6	0	35.6
Female headed households	33.6	15	6.2	0	52.8	18.6	10.6	0	24.8

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## IMPACT ON EDUCATION: QUALITATIVE SURVEY REPORTS

With a view to investigate whether the soaring of recent food prices have any impact on school enrolment, attendance and dropout, a number of Focus Group Discussions (FGDs) were conducted in the surveyed areas. In total, fifteen FGDs were accomplished in five districts – (i) Chakaria *Upazila*, Cox’s Bazar (South-Eastern region), (ii) Shariatpur Sadar *Upazila*, Shariatpur (South-Western region), (iii) Doara Bazar *Upazila*, Sunamgonj (North-Eastern region), (iv) Sundorgonj *Upazila*, Gaibandha (North-Western region) and (v) two urban slums, Mohakhali and Mirpur of Dhaka city. Three FGDs were conducted in each of these places with the participation by poor parents, school teachers, school management committee (SMC) members, and in some cases students. In few cases, informal discussions also took place with the school teachers and poor parents. We present the findings from FGDs into two segments – the rural areas outside Dhaka city (Cox’s Bazar, Shariatput, Sunamgonj, Gaibandha) and urban slums in Dhaka city (two slums in Dhaka city).

### Rural areas

Recent rise in food price have severely affected the food security of poor in rural areas. To cope with this crisis, they fundamentally changed the food menu by significantly curtailing the protein and fat enriched items (pulse, fish, and edible oil). Currently the most common menu is rice with leafy vegetables. This clearly demonstrates that students from poor families are now consuming less nutritious foods. Undoubtedly, this is restricting their physical as well as psychological growth, and also is substantially reducing their learning capabilities. In the short term, though its impact on dropout may not be very large, but in the long term it will be one of the major factors for failing in exams and thereby dropout.

In terms of profession, the severely affected groups are agricultural and other day labourers, artisans, landless farmers, micro entrepreneurs, rickshaw pullers and fishermen. However, the FGDs reveal that number of children in the family is one of the most critical factors in determining how badly the family has been affected by food price rise. For instance, income of landless farmers is usually higher than day labourers but if a landless farmer has more children than a day labourer it can be certainly said that per capita food consumption is lower for that landless farmer. Discussions reveal that poor families with more than two children are the most food insecure and subject to dropout from schools.

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To cope with this high food price, every member of a poor family is trying to reach out for extra income. The father is now providing more labour and the mother is either helping his husband or has started working as day labourer or household assistant. Students who still go to school collect leafy or other vegetables from road side while returning from the school. However, for poor families with more than 3 children, this effort for extra income is not producing enough money to feed everyone. The outcome usually depends on children's age. Students studying in primary education may continue their education but with increasing irregular presence and eventually get dropped out from schools. On the other hand, high school students being dropped out from school get employed in household assistance, tending cattle and as workers in various businesses. Some high school students intermittently engaged in jobs during acute family crisis but still continuing the education. The motive is simple: primary education is less costly to bear and employing them will not ensure enough income, while the case is different for high school students.

Women headed families have been affected at a larger magnitude than their male counterparts because there are very little opportunities for them to increase household income. Therefore, almost all of them have stopped their children attending the school and employed them in various professions.

As a result of the extra hard work by the children, most parents now do not emphasize on school work and performance. The families also significantly cut back their expenses on educational materials, especially for high-school students. Another interesting finding revealed in the FGDs is the use of kerosene. Majority of the poor and vulnerable households do not have access to electricity and therefore use kerosene lamp at night. However, the rise in food prices compelled them to curtail the use of kerosene. This has almost halved the evening study period of students as they were forced to go bed early.

Alarmed by the increased dropout and absent rate, teachers and SMC members already contacted the relevant parents but could not make any difference as they are unable to provide any financial support to these needy families. In Gaibandha, one of the poorest areas of the country, the dropout rate at primary stage is found to be low as most schools are run by NGOs and provide free 75 gram biscuit. However, dropout rate for high school students are similar to those of other regions. Another interesting finding from Sunamgonj is that some poor parents have started sending their primary school going students to *madrassa* as it is less costly.

Both parents and school teachers opined that providing mid-day meal and raising the allowance can be an effective solution to reduce dropout

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at primary level. However, they also expressed that similar approach will not produce desired result at high school level. In addition to that, poor parents strongly asserted that the government should provide technical education after primary level to their children.

### **Urban slums**

Like the rural poor, food security has been significantly deteriorated for the slum residents in Dhaka city. They also trimmed protein and fat enriched items (pulse, fish, and edible oil) from the food menu and mostly consumed rice with various vegetables. Though their food menu is marginally better than their rural counterparts, this reduction in nutrition intake is surely damaging their children's physical and psychological growth and learning capability. Given the socioeconomic condition in Bangladesh, it also appears that the girls in these poor and vulnerable households are likely to suffer more than the boys.

In terms of profession, the extremely affected groups are low salaried (fixed) workers, garment workers, shop assistants, and rickshaw pullers. Since they have almost similar levels of incomes, number of children has turned out to be the principal factor behind how badly these family have been affected because of food price rise.

The affected families are trying to make extra money to cope with this high food price. However, it is not possible for the low salaried (fixed) workers, garment workers and shop assistant to engage in jobs after office hours. Only rickshaw pullers can make some more money by paddling more time in the street. Women have either been employed in more houses as house-maid or standing in the lines of fair price outlets to save some money. In some cases, they have even started begging.

Majority of the families with more than two children have stopped their children from going to school. The little ones, who earlier used to go to primary schools, are employed in tea stalls and hotels. When they do not find any job, they just start begging. The high school going children, on the other hand, are increasingly getting employed as garage helpers, transport helpers, garment workers, office helpers, and in some cases as rickshaw pullers. The rate of dropout in slums seems to be much higher than rural counterpart. Dropout can be found in every family at slums.

Women headed families are more common in slums and they are disproportionately affected for food price rise. The adverse situation enforced almost all of them to stop their children from attending school and to employ them in work. Another finding in this regard is that quarrel between husband and wife has augmented considerably because of the food insecurity. This has increased the domestic violence and divorce rate in slums.

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Since the parents shy for not being able to provide sufficient food to their children, they rarely put stress on school work and performance. Most families reduced their spending on educational materials substantially. They have also been forced to curtail their consumption of kerosene.

Parents and students asserted that providing mid-day meal and free education materials can be effective in reducing dropout at primary level (since these are NGO run school, the student do not receive any allowance from government). In case of high-school level, it will be very tough to get them back to school since many of them now earn incomes which contribute significantly to their household income.

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## QUANTITATIVE FINDINGS FROM SCHOOL INFORMATION SHEET

### Data collection

In each of the four rural FGD areas, i.e., Chakaria *Upazila* (Cox's Bazar), Shariatpur *Upazila* (Shariatpur), Doara Bazar *Upazila* (Sunamganj) and Sundorgonj *Upazila* (Gaibandha), information about students was collected from one primary school and one secondary school to have a brief look on whether any significant change occurred recently because of the substantial rise in food prices. Data were collected on enrolment, attendance and performance of students for the last three years - 2006, 2007, 2008. For the urban slum part, only one primary school was found based on which findings are presented.

### Findings from the rural areas

#### Fall in enrolment

This measures the difference between enrolments in two consecutive years of a same batch/age group. According to Table 17, at the primary level, 15.7 per cent less children enrolled in 2007 compared to the figure in 2006. In 2008, this number increased to 18.2 per cent. Looking at the male and female students figure individually it clearly appears that the fall in enrolment rate was substantially higher for female students than male students in 2008 compared to the corresponding figures in 2007.

**Table 17. Fall in enrolment (in per cent)**

	Primary level			Secondary level		
	Male	Female	Total	Male	Female	Total
2007	17.3	14.3	15.7	7.1	6.6	6.9
2008	18.7	17.7	18.2	12.7	17.3	14.9
Difference	1.4	3.4	2.4	5.6	10.7	8.1

At the secondary level, the fall in enrolment in 2008 is far more substantial: 8.1 per centage point (more than three times than primary level). Here also the fall in enrolment of female students is much higher than their male counterparts. Table 16 shows that female and male enrolment rates fell by 10.7 and 5.6 per centage points respectively in 2008 while compared to the corresponding figures in 2007.

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### Dropout at first term (January to April)

This indicator measures the increase in dropout rate in the first term of 2008 compared to the dropout rate in the first term of 2007. This indicator was calculated in terms of students' appearances in all exams in the first term. Table 18 shows that dropout rate during the first term in 2008, compared to the same term in 2007, increased substantially, by about 4.9 per centage points at the primary level and 6.1 per centage points at the secondary level.

**Table 18. Difference in dropout in first term between 2008 and 2007 (in per cent)**

	Primary Level			Secondary Level		
	Male	Female	Total	Male	Female	Total
Sunamganj	2.6	6.0	4.3	3.2	2.3	2.6
Cox's Bazar	10.5	10.4	10.5	12.4	12.0	12.2
Shariatpur	1.6	0.7	1.1	3.8	4.1	4.0
Gaibandha	0.6	5.6	3.1	11.0	6.5	8.0
Total	3.6	6.0	4.9	7.2	5.7	6.1

Increase of dropout rate in the first term is found to be higher for female students than their male counterparts at the primary level. However, at the secondary level, the scenario is just the opposite. This data reinforces the finding from the qualitative study (the FGDS) that more and more male students at the secondary level are getting employed to earn money with a view to ensuring food security in their households. The increase in male student dropout rate is substantially higher in Cox's Bazar and Gaibandha at the secondary level.

### Ratio of students from poor families

This indicator shows the ratio of the number of students who come from poor families to the total number of students in the school. According to Table 19, this ratio dropped to 55.9 per cent in 2008 from 62.9 per cent in 2006. Largest fall in students coming from the poor families appears to be found in Cox's Bazar and Gaibandha.

**Table 19. Ratio of students from poor families at the primary and secondary levels (in per cent)**

	2008	2007	2006
Sunamganj	67.3	63.3	60.2
Cox's Bazar	50.5	62.0	64.6
Shariatpur	43.3	48.5	53.2
Gaibandha	59.6	66.6	71.4
Total	55.9	61.1	62.9



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### Attendance of students from poor families

According to Table 20 the attendance of students from poor families in the class (in the first term) also declined substantially in the four areas. This indicates to the fact that students from poor families are attending less in the class. The declining trend in attendance is the highest in Sunamganj and Gaibandha. It is for the natural topography of these two areas (Sunamganj is Haor area and Gaibandha in Char area) which increase the transportation cost of child because of high distance and remoteness of poor families from the school compound. The other reason is to assist his/her father in the farm. Both of these areas are home of large number of landless farmers.

**Table 20. Attendance of students from poor families in first term (in per cent)**

	2008	2007	2006
Sunamganj	65.7	69.6	74.9
Cox's Bazar	60.5	62.0	60.7
Shariatpur	88.1	90.7	92.0
Gaibandha	67.7	71.2	74.4

### **Findings from urban slum<sup>10</sup>**

#### Fall in enrolment

In the slum area, the fall in enrolment rate at the primary level, increased steeply from 27.6 per cent in 2007 to 38.8 per cent in 2008 – an increase by 11.2 per centage point in just one year. The fall in enrolment rate appears to be higher among the female students than their male counterparts. However, the male students experienced higher fall in enrolment in 2008 than their female counterparts while comparing the corresponding figures in 2007.

**Table 21. Dropout at enrolment (in per cent)**

	Primary level		
	Male	Female	Total
2007	23.1	31.4	27.6
2008	34.3	42.0	38.8
Difference	11.2	10.6	11.2

### **Attendance of students from poor families**

The students of slum primary school are all from poor families. Data shows that aggregate attendance level in these schools dropped from 96.8 in 2006 to 94.2 in 2007 and further to 91.5 per cent in 2008.

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<sup>10</sup> These results should be considered with some cautions as they are based on one sample school in the urban slum.

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## CONCLUSION

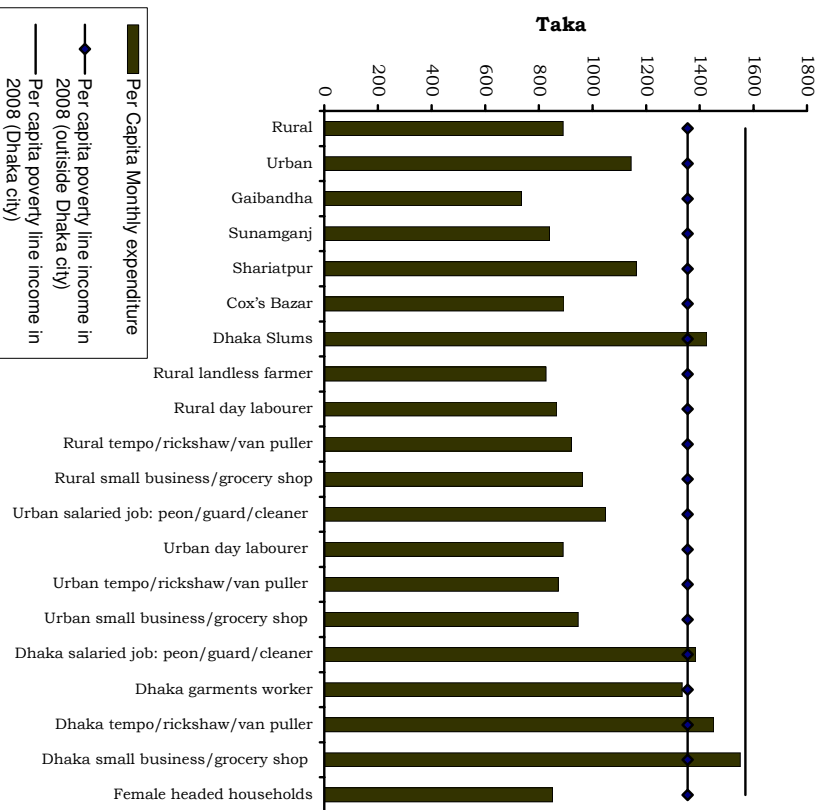
This study has explored the impact of the rise in food prices on the education of children in the poor and vulnerable households in Bangladesh. It appears that during early 2008 the prices of rice, pulses and edible oil increased tremendously which threatened the status of food security of these poor and vulnerable households in Bangladesh. As a result of the price hike, significant per cent of households were forced to cut their consumption of rice, pulses and edible oil. The households who could maintain the level of consumption of rice unaffected, they could do so at the cost of reduced consumption of other non-rice food items or/and by reducing the non-food expenditure, i.e., expenses on their children education. High per centage of households experiencing dropout of their children were observed because of the price hike of food items as most of the households could not continue to bear the expenses on their children's education. A significant proportion of these dropped out children were engaged in different jobs with the aim of contributing to their household income. In this sense, the opportunity cost of sending children from these poor and vulnerable households appeared to be high. In all cases, the female headed households turned out to be affected more than their male counterparts. The poor and vulnerable households under consideration employed several coping strategies to combat the adverse effects of food price hike, and 'becoming more indebted by taking loans' turned out to be the most widely used coping strategy.

## ANNEXURE

### Annex 1. Basic characteristics of the surveyed households

Categories of households	Average HH size	Average years of schooling of head of HH	HH per capita monthly expenditure	Expenses on food as % of total monthly expenditure
Rural	5.58	2.06	891	82.57
Urban	5.12	2.44	1144	78.89
Sundorgonj <i>Upazila</i> , Gaibandha	4.58	2.03	736	92.84
Doara Bazar <i>Upazila</i> , Sunamganj	6.25	1.55	840	83.97
Shariatpur Sadar <i>Upazila</i> , Shariatpur	5.29	2.45	1164	70.10
Chakaria <i>Upazila</i> , Cox's Bazar	5.78	2.48	894	84.45
Mohakhali and Mirpur slums, Dhaka city	4.91	2.62	1427	72.64
Rural landless farmer	5.91	1.84	827	84.97
Rural day labourer (other than agricultural labour)	5.33	1.92	867	80.70
Rural tempo/rickshaw/van puller	5.35	2.01	922	84.73
Rural small business/grocery shop	5.54	2.29	963	80.63
Urban salaried job: peon/guard/cleaner	5.13	3.52	1049	76.42
Urban day labourer	5.32	1.86	890	76.91
Urban tempo/rickshaw/van puller	5.39	1.89	872	85.40
Urban small business/grocery shop	5.51	2.35	947	91.69
Dhaka city salaried job: peon/guard/cleaner	4.93	2.66	1385	68.61
Dhaka city garments worker	4.47	2.67	1335	75.64
Dhaka city tempo/rickshaw/van/bus helper	4.88	2.29	1452	68.76
Dhaka city hawker/small business/grocery shop	5.37	2.87	1551	77.06
Day labour: rural & urban (ex. Dhaka slums)	5.33	1.89	877	79.06
Tempo/rickshaw/van/bus helper: rural & urban (ex. Dhaka slums)	5.37	1.95	900	85.03
Hawker/small business/grocery shop: rural & urban (ex. Dhaka slums)	5.53	2.32	956	85.22
Female headed households	4.14	1.88	851	86.24

**Annex 2. Per capita monthly expenditure and poverty line income**



### Annex 3. Changes in consumption and price of rice (during early 2008)

Categories of households	Consumption of rice (% of HH)				Ave. % fall in consumption*	Ave. % fall in consumption (for all sample)	Ave. % rise in price
	Fall	Unchanged	Rise	Total			
Rural	25.1	67.7	7.2	100	21.58	-3.00	50.65
Urban	18.5	73.8	7.7	100	22.79	-2.00	51.85
Sundorgonj <i>Upazila</i> , Gaibandha	41.6	47.2	11.2	100	25.11	-6.66	57.09
Doara Bazar <i>Upazila</i> , Sunamganj	25.6	61.6	12.8	100	20.55	-1.34	53.78
Shariatpur Sadar <i>Upazila</i> , Shariatpur	20.8	71.2	8.00	100	20.36	-2.00	58.06
Chakaria <i>Upazila</i> , Cox's Bazar	11.2	88.0	0.8	100	17.12	-2.00	49.13
Mohakhali and Mirpur Slums, Dhaka City	10.4	85.2	4.4	100	22.17	-1.23	58.22
Rural landless farmer	27.4	64.5	8.1	100	21.49	-3.34	51.51
Rural day labourer (other than agricultural labour)	31.9	63.8	4.3	100	22.84	-5.43	53.66
Rural tempo/rickshaw/van puller	22.9	62.6	14.5	100	20.81	0.00	50.66
Rural small business/grocery shop	20.0	75.2	4.8	100	22.34	-3.24	46.21
Urban salaried job: peon/guard/cleaner	18.9	72.2	8.9	100	22.31	-0.94	55.01
Urban day labourer	26.7	62.9	10.5	100	22.41	-3.00	46.12
Urban tempo/rickshaw/van puller	27.5	66.7	5.9	100	22.13	-4.35	51.11
Urban small business/grocery shop	20.4	69.9	9.7	100	22.45	-2.24	47.54
Dhaka city salaried job: peon/guard/cleaner	11.5	82.0	6.6	100	22.75	-1.09	47.46
Dhaka city garments worker	8.6	88.6	2.9	100	25.69	-1.20	58.61
Dhaka city tempo/rickshaw/van/bus helper	6.8	86.4	6.8	100	25.12	-0.28	62.17
Dhaka city hawkers/small business/grocery shop	15.0	83.3	1.7	100	18.21	-2.53	64.57
Day labour: rural & urban (ex. Dhaka slums)	29.6	63.4	7.0	100	22.67	-4.34	50.73
Tempo/rickshaw/van/bus helper: rural & urban (ex. Dhaka slums)	24.9	64.4	10.7	100	21.44	-2.00	50.84
Hawker/small business/grocery shop: rural & urban (ex. Dhaka slums)	20.2	73.0	6.9	100	22.39	-2.80	46.75
Female headed households	29.2	65.5	5.3	100	25.67	-5.37	47.67

\* For the households who experienced fall in consumption

#### Annex 4. Changes in consumption and price of edible oil (during early 2008)

Categories of households	Consumption of oil (% of HH)				Ave. % fall in consumption*	Ave. % fall in consumption (for all sample)	Ave. % rise in price
	Fall	Unchanged	Rise	Total			
Rural	44.0	54.8	1.2	100	36.61	-13.41	94.95
Urban	37.8	60.2	2.0	100	37.82	-12.69	82.04
Sundorgonj <i>Upazila</i> , Gaibandha	33.2	64.4	2.4	100	46.96	-12.26	108.06
Doara Bazar <i>Upazila</i> , Sunamganj	46.8	51.2	2.0	100	36.34	-11.31	108.07
Shariatpur Sadar <i>Upazila</i> , Shariatpur	59.6	38.8	1.6	100	34.51	-20.05	75.28
Chakaria <i>Upazila</i> , Cox's Bazar	37.2	62.8	0.0	100	32.52	-12	89.49
Mohakhali and Mirpur slums, Dhaka city	28.4	69.6	2.0	100	38.58	-9.6	75.53
Rural landless farmer	44.1	53.8	2.2	100	36.23	-11.13	94.87
Rural day labourer (other than agricultural labour)	40.6	58.0	1.4	100	38.45	-10.53	96.07
Rural tempo/rickshaw/van puller	55.0	44.3	0.8	100	38.04	-20.15	100.43
Rural small business/grocery shop	43.4	55.9	0.7	100	35.19	-14.92	88.72
Urban salaried job: peon/guard/cleaner	44.4	53.3	2.2	100	28.94	-11.75	84.93
Urban day labourer	40.0	59.0	1.0	100	40.58	-15.76	88.19
Urban tempo/rickshaw/van puller	41.2	57.8	1.0	100	38.92	-12.83	93.55
Urban small business/grocery shop	43.7	53.4	2.9	100	38.48	-15.4	91.21
Dhaka city salaried job: peon/guard/cleaner	36.1	59.0	4.9	100	39.71	-10.71	79.22
Dhaka city garments worker	27.1	71.4	1.4	100	37.97	-9.95	77.44
Dhaka city tempo/rickshaw/van/bus helper	27.1	72.9	0.0	100	39.53	-10.72	88.8
Dhaka city hawker/small business/grocery shop	23.3	75.0	1.7	100	36.59	-6.87	79.12
Day labour: rural & urban (ex. Dhaka slums)	40.3	58.4	1.2	100	39.36	-12.79	92.7
Tempo/rickshaw/van/bus helper: rural & urban (ex. Dhaka slums)	48.9	50.2	0.9	100	38.36	16.96	97.9
Hawker/small business/grocery shop: rural & urban (ex. Dhaka slums)	43.5	54.8	1.6	100	36.57	-15.12	89.77
Female headed households	30.1	67.3	2.7	100	40.13	-5.66	84.63

\* For the households who experienced fall in consumption

### Annex 5. Changes in consumption and price of pulses (during early 2008)

Categories of households	Consumption of pulses (% of HH)				Ave. % fall in consumption*	Ave. % fall in consumption (for all sample)	Ave. % rise in price
	Fall	Unch- anged	Rise	Total			
Rural	48.8	48.3	2.8	100	41.91	15.48	88.82
Urban	34.7	62.6	2.7	100	43.59	10.37	89.64
Sundorgonj <i>Upazila</i> , Gaibandha	43.9	50.5	5.7	100	51.01	10.82	131.76
Doara Bazar <i>Upazila</i> , Sunamganj	52.1	41.4	6.5	100	39.92	10.33	78.71
Shariatpur Sadar <i>Upazila</i> , Shariatpur	63.9	34.8	1.2	100	38.43	23.34	68.01
Chakaria <i>Upazila</i> , Cox's Bazar	30.8	69.2	0.0	100	40.66	12.41	103.51
Mohakhali and Mirpur slums, Dhaka city	18.9	80.1	1.0	100	50.06	7.05	73.88
Rural landless farmer	44.7	50.6	4.7	100	40.26	12.70	94.07
Rural day labourer (other than agricultural labour)	50.8	46.7	2.5	100	43.56	18.88	86.86
Rural tempo/rickshaw /van puller	58.7	38.9	2.4	100	42.48	12.65	91.65
Rural small business/grocery shop	53.7	44.1	2.2	100	43.43	22.15	79.91
Urban salaried job: peon/guard/cleaner	36.0	57.3	6.7	100	34.51	4.17	91.55
Urban day labourer	39.8	57.1	3.1	100	41.74	9.66	105.17
Urban tempo/rickshaw/ van puller	43.3	54.6	2.1	100	48.79	15.44	99.25
Urban small business/ grocery shop	50.0	49.0	1.0	100	37.92	17.06	83.9
Dhaka city salaried job: peon/guard/cleaner	15.4	82.7	1.9	100	43.15	-1.05	79.34
Dhaka city garments worker	16.9	83.1	0.0	100	52.02	8.82	81.07
Dhaka city tempo/rickshaw/ van/bus helper	18.6	81.4	0.0	100	51.04	9.50	72.08
Dhaka city hawker/small business/grocery shop	25.0	73.1	1.9	100	52.21	11.13	66.09
Day labour: rural & urban (ex. Dhaka slums)	45.4	51.9	2.8	100	42.88	14.79	93.77
Tempo/rickshaw/van/bus helper: rural & urban (ex. Dhaka slums)	51.8	45.9	2.3	100	44.69	13.84	94.32
Hawker/small business/ grocery shop: rural & urban (ex. Dhaka slums)	52.0	46.2	1.8	100	41.36	20.14	81.41
Female headed households	32.6	64.1	3.3	100	50.71	7.84	105.29

\* For the households who experienced fall in consumption

**Annex 6. Households' responses to the question "whether there has been any impact on child education because of food price rise" (% of HH)**

Categories of households	Yes (%)	No (%)
Rural	93.1	6.9
Urban	87.3	12.7
Sundorgonj <i>Upazila</i> , Gaibandha	91.6	8.4
Doara Bazar <i>Upazila</i> , Sunamganj	94.4	5.6
Shariatpur Sadar <i>Upazila</i> , Shariatpur	89.2	10.8
Chakaria <i>Upazila</i> , Cox's Bazar	86.4	13.6
Mohakhali and Mirpur slums, Dhaka city	90.0	10.0
Rural landless farmer	95.1	4.9
Rural day labourer (other than agricultural labour)	93.5	6.5
Rural tempo/rickshaw/van puller	96.2	3.8
Rural small business/grocery shop	90.3	9.7
Urban salaried job: peon/guard/cleaner	76.70	23.30
Urban day labourer	88.60	11.40
Urban tempo/rickshaw/van puller	89.10	10.90
Urban small business/grocery shop	85.40	14.60
Dhaka city salaried job: peon/guard/cleaner	93.40	6.60
Dhaka city garments worker	84.30	15.70
Dhaka city tempo/rickshaw/van/bus helper	91.50	8.50
Dhaka city hawker/small business/grocery shop	91.70	8.30
Day labour: rural & urban (ex. Dhaka slums)	91.40	8.60
Tempo/rickshaw/van/bus helper: rural & urban (ex. Dhaka slums)	93.10	6.90
Hawker/small business/grocery shop: rural & urban (ex. Dhaka slums)	88.30	11.70
Female headed households	95.60	4.40



**Annex 7. Types of impact on child education because of food price rise (% of HH who responded 'yes' in Table 8)**

Categories of households	% of HH experiencing lack of nutritious food and health hazard causing interruption in education of their children	% of HH unable to meet education expenses	% of HH experiencing dropout of their children	% of HH involved their Child in other works to earn money	Other
Rural	93.9	20.4	58.2	21.2	1.3
Urban	86.0	12.8	55.6	15.5	1.9
Sundorgonj <i>Upazila</i> , Gaibandha	94.3	8.8	42.1	19.7	0.9
Doara Bazar <i>Upazila</i> , Sunamganj	91.0	23.1	43.6	19.2	0.0
Shariatpur Sadar <i>Upazila</i> , Shariatpur	93.3	21.1	68.2	21.1	4.5
Chakaria <i>Upazila</i> , Cox's Bazar	89.8	26.4	76.9	18.5	2.8
Mohakhali and Mirpur slums, Dhaka city	84.4	5.3	56.1	14.2	0.0
Rural landless farmer	94.3	23.3	55.7	22.2	0.6
Rural day labourer (other than agricultural labour)	93.8	24.8	55.1	17.1	1.6
Rural tempo/rickshaw/van puller	91.3	17.5	64.3	21.4	1.6
Rural small business/grocery shop	95.4	16.9	58.5	23.8	0.8
Urban salaried job: peon/guard/cleaner	89.9	24.6	52.2	14.5	0.0
Urban day labourer	92.5	17.2	50.5	20.4	6.5
Urban tempo/rickshaw/van puller	90.0	18.9	57.8	18.9	4.4
Urban small business/grocery shop	85.2	12.5	62.5	13.6	2.3
Dhaka city salaried job: peon/guard/cleaner	87.7	5.3	49.1	17.5	0.0
Dhaka city garments worker	64.4	8.5	45.8	8.5	0.0
Dhaka city tempo/rickshaw/van/bus helper	96.3	1.9	64.8	14.8	0.0
Dhaka city hawker/small business/grocery shop	90.9	5.5	65.5	16.4	0.0
Day labour: rural & urban (ex. Dhaka slums)	93.2	21.6	53.2	18.5	3.6
Tempo/rickshaw/van/bus helper: rural and urban (ex. Dhaka slums)	90.7	18.1	61.6	20.4	2.8
Hawker/small business/grocery shop: rural & urban (ex. Dhaka slums)	91.3	15.1	60.1	19.7	1.4
Female headed households	92.6	16.7	87.9	9.3	0.0

## Annex 8. School attendance and dropout: boys and girls

Household categories	Boys				Girls			
	Total no of school aged boys	% attending school	% dropped out	% never attended school	Total no of school aged Girls	% attending school	% dropped out	% never attended school
Rural	626	38.82	55.27	5.91	636	40.64	58.81	0.56
Urban	485	41.65	52.78	5.57	549	43.29	56.10	0.61
Sundorgonj <i>Upazila</i> , Gaibandha	193	55.96	39.90	4.15	172	57.06	42.44	0.50
Doara Bazar <i>Upazila</i> , Sunamganj	223	54.26	41.26	4.48	230	55.53	43.91	0.56
Shariatpur Sadar <i>Upazila</i> , Shariatpur	232	28.45	64.66	6.90	255	30.44	69.02	0.54
Chakaria <i>Upazila</i> , Cox's Bazar	299	19.40	72.91	7.69	286	25.17	71.68	3.15
Mohakhali and Mirpur slums, Dhaka city	164	40.85	53.05	6.10	242	42.78	56.61	0.61
Rural landless farmer	184	41.30	52.72	5.98	197	43.19	56.35	0.47
Rural day labourer (other than agricultural labour)	129	41.86	52.71	5.43	135	43.80	55.56	0.65
Rural tempo/rickshaw/van puller	123	32.52	60.98	6.50	116	34.41	64.66	0.93
Rural small business/grocery shop	137	38.69	55.47	5.84	123	40.33	59.35	0.32
Urban salaried job: peon/guard/cleaner	74	44.59	50.00	5.41	86	46.76	52.33	0.92
Urban day labourer	96	46.88	47.92	5.21	102	48.49	50.98	0.53
Urban tempo/rickshaw/van puller	102	39.22	54.90	5.88	90	41.04	58.89	0.07
Urban small business/grocery shop	102	34.31	59.80	5.88	94	36.25	62.77	0.98
Dhaka city salaried job: peon/guard/cleaner	47	48.94	46.81	4.26	52	49.92	50.00	0.08
Dhaka city garments worker	38	52.63	44.74	2.63	64	51.56	46.88	1.56
Dhaka city tempo/rickshaw/van/bus helper	35	31.43	62.86	5.71	58	33.90	65.52	0.58
Dhaka city hawker/small business/grocery shop	44	31.82	61.36	6.82	68	33.19	66.18	0.63
Day labour: rural & urban (ex. Dhaka slums)	225	44.00	50.67	5.33	237	45.74	53.59	0.68
Tempo/rickshaw/van/bus helper: rural & urban (ex. Dhaka slums)	225	35.11	58.67	6.22	206	37.17	62.14	0.70
Hawker/small business/grocery shop: rural & urban (ex. Dhaka slums)	239	36.82	56.90	6.28	217	38.70	60.83	0.47
Female headed households	82	7.32	82.93	9.76	97	10.34	88.66	1.00

**Annex 9. Opportunity cost of schooling (for the HHs who experienced dropout of children)**

	Save in HH expenses per month for each child by not sending him/her to the school (Taka)	Save in HH expenses by not sending children to the school as % of HH total monthly expenses*	Increase in HH income per month for each child by engaging him/her into work (Taka)	Increase in HH income (by not sending children to the school and putting them into work) as % of HH total monthly expenses*
Rural	331	9.84	553.19	9.88
Urban	250	6.68	438.12	10.40
Sundorgonj <i>Upazila</i> , Gaibandha	206	9.08	582.14	20.20
Doara Bazar <i>Upazila</i> , Sunamganj	279	7.12	488.25	15.45
Shariatpur Sadar <i>Upazila</i> , Shariatpur	338	7.47	502.78	7.51
Chakaria <i>Upazila</i> , Cox's Bazar	415	12.09	549.14	12.18
Mohakhali and Mirpur slums, Dhaka city	240	4.52	432.50	8.22
Rural landless farmer	279	10.16	660.33	11.12
Rural day labourer (other than agricultural labour)	336	9.86	758.33	10.75
Rural tempo/rickshaw/van puller	246	7.12	460.22	8.69
Rural small business/grocery shop	293	8.11	510.23	8.69
Urban salaried job: peon/guard/cleaner	255	8.42	540.32	13.13
Urban day labourer	394	8.81	413.64	11.50
Urban tempo/rickshaw/van puller	450	9.77	396.67	10.15
Urban small business/grocery shop	445	9.68	474.11	8.91
Dhaka city salaried job: peon/guard/cleaner	267	4.95	346.67	7.07
Dhaka city garments worker	209	4.90	606.21	10.84
Dhaka city tempo/rickshaw/van/bus helper	266	4.25	362.50	8.56
Dhaka city hawker/small business/grocery shop	209	3.98	352.24	5.83
Day labour: rural & urban (ex. Dhaka slums)	355	9.31	600.35	11.02
Tempo/rickshaw/van/bus helper: rural & urban (ex. Dhaka slums)	323	8.68	448.12	9.13
Hawker/small business/grocery shop: rural & urban (ex. Dhaka slums)	337	8.81	498.91	8.79
<b>Female headed households</b>	<b>273</b>	<b>10.28</b>	<b>685.67</b>	<b>19.90</b>

Note: \* Here estimates are provided not per child but for all children in the HH who have stopped going to school

## Annex 10. Households' coping strategies

Household categories	Coping strategies								
	crisis cannot be solved	reduced savings	selling assets	mortgage of assets/land	take loans	reduce non-food expenditure	reduce food intake	early marriage of daughter	Other
Rural	25.2	14.8	14	0.6	62.8	17.5	8.9	0.2	9.5
Urban	34.3	14.2	8.3	0.3	46.3	27.2	5.9	0.2	23.7
Sundorgonj Upazila, Gaibandha	38.4	7.6	2.8	0	49.2	17.6	6.8	0	2.4
Doara Bazar Upazila, Sunamganj	5.2	5.6	28.8	1.2	62.8	6.8	18.8	0.4	10.4
Shariatpur Sadar Upazila, Shariatpur	29.2	6.4	20	0.4	84.8	20.4	8.4	0	31.6
Chakaria Upazila, Cox's Bazar	33.2	33.2	4.8	0.4	50.4	26	1.2	0.4	1.2
Mohakhali and Mirpur slums, Dhaka city	42	19.6	0	0.4	27.2	40	1.6	0	35.6
Rural landless farmer	19.9	11.8	20.4	0.5	65.1	19.9	12.3	0	10.8
Rural day labourer (other than agricultural labour)	29.7	11.6	11.5	0.7	53.6	13.8	14.5	0.7	10.1
Rural tempo/rickshaw/van puller	22.9	16	13.8	0.8	70.2	14.5	6.1	0	10.7
Rural small business/grocery shop	20.7	14.5	13.2	0.7	66.2	17.2	3.4	0	8.9
Urban salaried job: peon/guard/cleaner	38.9	17.8	13.4	0	52.2	20	7.8	0	11.1
Urban day labourer	30.5	7.6	19	1	65.7	21.9	5.7	0	10.5
Urban tempo/rickshaw/van puller	31.4	12.7	5.8	0	55.9	18.6	11.8	1	18.6
Urban small business/grocery shop	27.2	14.6	11.6	0	60.2	16.5	6.8	0	12.6
Dhaka city salaried job: peon/guard/cleaner	34.4	24.6	0	0	27.9	47.5	3.3	0	34.4
Dhaka city garments worker	32.9	20	0	0	27.1	35.7	1.4	0	21.5
Dhaka city tempo/rickshaw/van/bus helper	49.2	16.9	0	1.7	22.1	32.2	0	0	25.8
Dhaka city hawker/small business/grocery shop	53.3	16.7	0	0	31.6	45	1.7	0	20
Day labour: rural & urban (ex. Dhaka slums)	30	9.9	14.9	0.8	58.9	17.3	10.7	0.4	10.3
Tempo/rickshaw/van/bus helper: rural & urban (ex. Dhaka slums)	26.6	14.6	10.3	0.4	63.9	16.3	8.6	0.4	14.2
Hawker/small business/grocery shop: rural & urban (ex. Dhaka slums)	23.4	14.5	12.5	0.4	63.7	16.9	4.8	0	10.5
Female headed households	33.6	15	6.2	0	52.8	18.6	10.6	0	24.8