



Final Report

Impact of Price Increase on Poor Household and Children Wellbeing

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Executive Summary

A large segment of Bangladesh population is perceived to have been adversely affected by the spiraling price increases of daily essentials during 2007 - 2008. Over the period, the prices of key staples increased by 50% in Bangladesh till price declines started since April 2008. Price hike of this magnitude may have forced many low and/ or fixed income people to rearrange their household expenditures on food items, particularly through changing the food basket, by dropping many essential items with adverse nutritional implications. The poorest are likely to have been affected most by this high food prices since they spend almost three quarters of their income on staple foods. This means the livelihood status of poor households largely depends on how their members adjust to economic shocks, such as the recent price hike, by adapting to changes in their food expenditures as well as by undertaking other expenditure-saving and income-enhancing activities. Thus, it is important to assess the implications of food price hike for the poorest groups in both rural and urban areas of Bangladesh. It is equally important to figure out how these hard-pressed people were coping with the price hike and how the coping strategies adopted were affecting the children of poor households.

This study addresses the above issues focusing mainly on the poor. The latter is assured taking into cognizance of prior knowledge on geographical and occupational concentration of the poor. Thus, the information on households is collected from Ulipur of Kurigram, Shyamnagar of Satkhira, Dharmapasha of Sunamganj, Khagrachhari sadar of Khagrachhari, and several slums in Dhaka and Chittagong metropolitan areas. It is commonly perceived, based on prior information, that there is a large concentration of extreme poor in all these areas. A total of 700 households were surveyed during October - November of 2008 with special emphasis on the most vulnerable groups such as agricultural and nonagricultural day laborers, landless farmers in rural areas; and garment workers, and van/rickshaw pullers in urban areas. To capture the dynamics of household consumption, employment and income in a cross-section study, a 2 year-recall was chosen because there was a remarkable price difference between the year end of 2006 and 2008 and the former is a good reference point to remember as it was the end of political government and emergence of caretaker government.

The results of this study provide a number of important insights regarding the impact of price hike of essentials on poor households and their children.

Changes in the household income and expenditure

The average nominal income of households increased substantially for all regions with wide variation in magnitude. The common expectation of declining real income is found to hold true in 3 of the 6 study areas – the slums in two metro areas and in the Chittagong Hill Tracts. The decrease was 5% for the entire sample while the largest decrease, 13%, is observed for the slums in Dhaka metropolitan area. The second largest decrease is observed for Chittagong metropolitan slums, which is 11%. This means since households in metro cities are not producers of essentials, they do not gain from price hike of essentials.

The largest increase in average real income which is 22% is observed for Kurigram. This increase was mainly driven by the 47% increase of rice price along with the 52% increase of agricultural wage rate. The second largest, a 20% increase in average real income, is observed for Sunamganj which resulted mainly from the 41% increase of both rice production per decimal of land and the price of rice. The unusually high increase in rice production was due to the crop failure in base year (year 2006). It is very likely that comparison of 2008 income with a comparable income in the past would have indicated a decline in real income of Sunamganj. The marginal (2%) increase in the real income of Satkhira was driven mainly by the increase in price of produces and wage rates.

The average number of meals eaten by household members per week decreased from 20.2 in 2006 to 19.5 in 2008. The food intakes of their meals were also considerably diminished and thus the level of consumption of each essential item in the food basket such as rice, fish, egg, meat and milk went down after the price hike, in relation to their levels prior to January 2007. However, the magnitude of fall varied across men, women, and children. When average daily rice consumption per meal is considered, the average daily rice consumption went from 649 and 535 gram in 2006 down to 537 and 469 gram in 2008 for men and women, respectively, whereas the average daily rice consumption dropped from 323 gram in 2006 to 306 gram in 2008 for children. For rice consumption the decrease was lowest for the children whereas the opposite pattern is observed when glasses of milk drunk per month are considered. The decreases were greater for urban and metro households which mean urban and metro households suffered more from price hike than rural households.

The results of the OLS estimation of per capita rice consumption show that per capita rice consumption decreases with its own price, which is expected. The findings clearly indicate that rice is a normal good even for the poorest meaning demand for rice decreases with the decrease in real income. At the same time controlling for everything, larger households suffered more as revealed by our estimates of lower average consumption. The estimates also make it obvious that the metro households consumed significantly less rice compared to their rural counterpart given everything else same.

However, still unaddressed is why there were decreases in consumption of essential food items for the regions like Sunamganj and Kurigram where households experienced a substantial increase in their average real income. It is very likely that comparison of 2008 income with a comparable income in the past would have indicated decline in real income of Sunamganj justifying the consumption decreases there. As many members were out of their households most of the time in a year, their consumption was not included while the income was included in income, which is very common, at least in Kurigram which experienced a substantial increase in seasonal migration for earning. This could be one reason why consumption did not increase along with the increase in income in Kurigram. In addition, a significant part of our households in Kurigram are both producers and consumers, and thus, increases in produce prices may have allured many to sell more produces reducing their own consumption.

However, the total expenditure on food went up significantly in 2008 though food consumption decreased, in general and thus the ratio of food to non-food expenditure went up significantly in 2008.

Change in the food basket

The daily intake of necessary food items such as rice, pulse, fish, meat, and vegetables; though varied in frequencies of consumption, was in position of worse quality in year 2008 compared to 2006. For instance, the proportion of households consuming fine rice dropped from 21 percent in 2006 to 12 percent in 2008. In addition, 61 percent of these households, who consumed fine rice in 2008, reduced their fine rice consumption when only 11 percent increased it compared with the corresponding level in 2006. The contrasting situation is observed for coarse rice consuming households with a sharp increase of their proportion from 76 percent in 2006 to 82 percent in 2008 while 48 of them consuming even more of it in 2008.

A similar pattern is observed for lentil with a fall in the proportion of households consuming lentil and a decrease in the quantity and quality of lentil consumed in 2008. However, the scenario is little different for khesari (low quality lentil) because the proportion of households consuming khesari remained unchanged at 21% despite the possibility that there might be some switching of non-khesari consumers to khesari. Many reported that they replaced lentil with bean or chick-pea as it serves as pulse as well as curry. 93 percent reported reduced consumption of meat in year 2008. Even though 39 percent big fish consuming households reported lower quality of it, there was no significant change in the quality of meat consumed. One reason behind this is poor households in slums and other urban areas shifted to partially rotten fish during the year 2008.

Some reported change in the type of vegetables consumed as they were eating more esculent root and radish because of their low prices. Some of the FGD participants informed that they were more dependent on potato and they were increasing the consumption of potato as it was relatively cheaper than rice in 2008, although some participants objected and said that the price of potato had also gone up in considerable amount and they had reduced the consumption of potato as well. In case of milk, both liquid and powdered, there was a significant drop in their consumption. But the drop was larger for liquid milk.

Effect on child education

The average education cost experienced a sharp increase of 66% in 2008 compared to 2006. For a few regions, average total education cost was more than double of what was in 2006. In metropolitan Dhaka, slums faced greater increment in educational expenses compared with floating group. Sunamganj experienced the lowest 13% increase when slums in Dhaka experienced the highest 128% increase in total educational cost over the two year period.

The enrollment ratio at primary level classes went up from 64% in 2006 to 66% in 2008. Still it is likely that the enrollment ratio remains below the trend. One explanation of this

increase could be that cash for education or tiffin during lunch break induced more poor children into schools. But this might not be the case for children of urban and metro areas since they do not receive such benefits. All participants in FGDs including teachers, guardians, dropout and current students and others agreed unequivocally that parents were more conscious and a positive change has occurred over the last few years. Being conscious means they understood the benefits of education because they could perceive long term gains from education and thus they were better motivated to send their kids to school.

The primary dropout rate escalated from 4.9% in 2005 to 6.5% in 2006 and 6.8% in 2007. Then the question is how these conscious parents let their children be dropped off from schools. Being better motivated, they were more interested then to keep their children in school and wanted to see them self dependent and respected by the society. But some households were forced to send their children to work withdrawing from school due to poor economic conditions exacerbated further by the price hike. Withdrawing children from schools for sending them (children) to work were reported as one of their income enhancing coping strategies by many.

Some parents reported withdrawing their children from school as one of their expenditure saving coping strategies which is likely due to experiencing a large increase in education cost. Some parents also said that they removed their children from school and admitted them into madrasa because they couldn't afford to bear the high cost of educating their children in school and thus shifted them to low cost or free madrasa. In some cases, free food and accommodation from madrasa entices such shifting because poor households cannot provide these to their children when they (children) are in mainstream education or NGO schools.

Many parents agreed that they would send their children to school if they got some assistance from the government or some other organizations. Such assistance might help to reduce dropouts.

Change in the child labor participation

Despite the fact that parents are more conscious about their children's education, a significant adverse effect of price hike on child education may have happened due to the likely increase in child labor participation which is a supply side phenomenon. Conceptually, we use three different forms of child labour; paid labour, unpaid labour in family enterprises or business, and household activities. In a rural setting, children help their parents in farming, fishing, weaving (handloom), rearing livestock and poultry, making bamboo/cane products and so on. In an urban setting, children help their parents in small enterprise (shop), small business (vegetable selling, tea stall etc), begging and so on. These helps are classified as child labour on unpaid jobs in family enterprises. In fact, all except paid labour and unpaid household activities in rural, urban and metro areas are included in this child labour category. The third category i.e., household activities include cooking, washing cloth and dishes, cleaning house, caring children, shopping groceries, feeding animals, teaching children, gardening, helping other members and so on.

Child labor participation rate showed up highest for paid jobs in 2006 for the urban children of Kurigram which was 15% and the lowest, 1.3%, was for rural Sunamganj. Participation rate for urban children except Satkhira is quite high ranging from 5.6% to 15%. The participation rate for urban children experienced an increase over the two year periods with exceptions for Kurigram and Satkhira. A slight decrease in child labour participation rate for paid jobs is also observed for rural areas. Similar mixed scenario is observed for the participation rates of unpaid jobs in family enterprises.

However, participation rates for both paid and unpaid labour increased for Dhaka metro. For the third category change in participation rates are sometimes misleading because working hours are loosely defined. When slums and floating population of Dhaka is considered, increased participation rate was observed for the third category. In a few of the cases where reduction in participation rates was observed there was no decrease in the number of children with work but the increase was smaller than the increase in the total number of children in that age group.

The average child labour hours per month on paid jobs increased substantially with exceptions for urban areas of Kurigram and Sunamganj. One explanation for this dynamics is that the children have to take up more economic activities during economic hardship as adults are already occupied in jobs and household enterprises. This is a very disturbing observation for children in poor households. However, the average child labour hours per month on unpaid jobs decreased with exceptions for urban areas of Kurigram, Sunamganj and Chittagong metro. Interestingly, the decrease in unpaid labour hours per month is often associated with increase in labour hour per month in paid jobs. This indicates a switching of child laborer from unpaid family enterprises to paid jobs.

Other coping strategies

The highest number of households (41%) reported engaging in income enhancing activities (working longer hours, sending nonworking adult members to work, shifting children from school to work, sending non-school going children to work, changing profession, producing more agricultural output and so on) as one their main coping strategies. The second highest 30% households reported expenditure saving (reducing rice or overall food consumption, consuming low cost but less preferred food, withdrawing children from school and so on) as their another important coping strategies. Borrowing from different sources and spending financial and nonfinancial savings were reported as coping strategies by 14% and 7% households, respectively. Borrowing as a coping strategy is supported by the fact that 430 households were found with loans in 2008 of which 61 % of the loans were taken in 2008. Surprisingly, 43 percent of these households reported that they took loan to bear daily expenses.

The number of household members who adopted seasonal migration as a coping strategy went up from 142 in 2006 to 204 in 2008. As a percentage of total adult members, this was an increase from 8% in 2006 to 11% in 2008. There were significant increases in the average number of days and the average maximum number of days household members spent outside household for work purpose. The number of households exploited seasonal migration for livelihood increased substantially for all except farming occupation over that period.

Overall, the households (in slums) of Dhaka and Chittagong metropolitan areas suffered significantly more from the price hike of essentials. Essential producing households in rural areas were hurt less. The children of the poor households in rural, urban and metro areas suffered from price hike through lower consumption of essentials, higher participation in child labour, and more dropouts.

Impact of Price Increase on Poor Households and Children Well being

1. Introduction

A large segment of Bangladesh population is perceived to have been adversely affected by the spiraling price increases of daily essentials during 2007 - 2008. The poorest people are likely to have been affected most by high food prices. A particular reason for concern about the impacts of high food prices on poor households arises from the fact that the poorest people spend almost three quarters of their income on staple foods (Cranfield, Preckel and Hertel 2007). The share of food in total expenditure is 65% for the low income groups in Dhaka city while it is 82% for the same groups in rural areas of Bangladesh (Raihan and Haque, 2007). Thus, the livelihood status of poor households largely depends on how their members adjust to economic shocks, such as the recent price hike, by adapting to changes in their food expenditures as well as by undertaking other expenditure-saving and income-enhancing activities. Over the two year period, the prices of key staples increased by 50% in Bangladesh till price declines started since April 2008. Price hike of this magnitude may have forced many low and/ or fixed income people to rearrange their household expenditures on food items, particularly through changing the food basket, by dropping many essential items with adverse nutritional implications.

Existing analyses show that the impact of higher food prices on poor households are likely to be very diverse, depending on the reasons for the price change and on the structure of the economy (Hertel and Winters 2006; Ravallion and Lokhsin 2005). For instance, when there is an increase in rice price and households continue to consume the same amount of rice, their expenditures on rice increase. For a given or a fixed household income, this forces households to spend less on non-rice foods or non-food items. Consuming less non-rice foods may restrict diversity of their diet. Non-rice foods, particularly animal products, fruits, vegetables and oils, improve the quality of a rice-based diet as they tend to be a more concentrated source of micronutrients, higher quality protein and/or energy. Thus, price hike may risk derailing past gains in reducing malnutrition as compensating for rising food prices, vulnerable households may substitute towards less food; or cheaper, but less nutritious, substitutes for much-needed nourishing food (World Bank, 2008). It is conceivable that they may also trade off non-food items such as education, health etc. for rice and/or non-rice food items. Households which may have had money to pay school fees for their children or to go to clinics when they are sick, will suffer as they cut back in these areas after a substantial price hike (World Bank, 2008). Reduction in children's non-food consumption may increase school dropouts and reduce child health care.

One expects that people adversely affected by sudden increase in prices will attempt to maintain consumption at the *pre* price hike level. Attempting to maintain food and non-food consumption close to that level and induced by higher food prices, they might have engaged in income enhancing activities that include several possibilities such as increased production, occupational diversification, off-farm activities, and seasonal and permanent migration etc. Thus, the incomes of farm households - many of whom belong

to the poorest groups in low-income countries - may be increased by higher food prices (Hertel, Ivanic, Preckel and Cranfield 2004). But the benefits of higher food prices to poor farm households may be less than they might at first appear. It may also have a negative impact depending on what they produce and what their net sales of these goods are. Only with a careful examination of outcomes at the household level it is possible to tell whether changes in the prices of specific staple foods will help or hurt poor people. Thus, the impact of higher food prices on low-income households depends largely on the distribution of net buyers and net sellers of food among low-income households (Aksoy and Isik-Dikmelik, 2007) which needs empirical verification in Bangladesh context. The impact of higher food prices also depends on how fast adjustment in factor payments takes place.

The income enhancing activities are likely to demand increased supply of labour from household members. Increased labour supply to support reproductive economy and to save household expenditure might force household members, especially children to increase their labour supply or involve in labour market to cope with price hike. Some households may force their children to work for extra earning. As Edmondsa and Pavcnik (2005) find, higher rice prices may be associated with increases in child labour in households that are net consumers of rice. In fact, most poor households are net consumers of rice and other foods and they usually tend to end up with increased child labour in various forms. This outcome is much more obvious for urban households where farming is much less dominant. Thus, it is important to assess the implications of food price hike for the poorest groups in both rural and urban areas of Bangladesh. It is equally important to figure out how these hard-pressed people are coping with the price hike and how the coping strategies adopted are affecting the children of poor households.

There are two recent studies closely related on the issues addressed in the current exercise and these were conducted by Raihan (2009) and Sulaiman, Parveen, and Das (2009). Raihan focuses on the welfare of children and measures the impact of food price rise on school enrolment and dropout in the poor and vulnerable households using a cross-sectional survey. Sulaiman, Parveen, and Das focuses on the impact of food price hike on the nutritional status of women and children. They collected information on consumptions and expenditures through primary survey and compare them with past findings from other surveys. The current study uses recall method and is based on both household incomes and expenditures.

1a. Assessment of price movement of essentials

Bangladesh experienced a huge price surge over the last two years stimulated by several national and international factors including cyclones (like Sidr) and floods in Bangladesh and Nargis in Myanmar, global crisis in terms of rice and wheat production etc. All these factors played a significant role in increasing the prices of essentials. Table 1 illustrates the change in consumer price index for national, rural and urban areas for the last three fiscal years taking 1995-96 as base year.

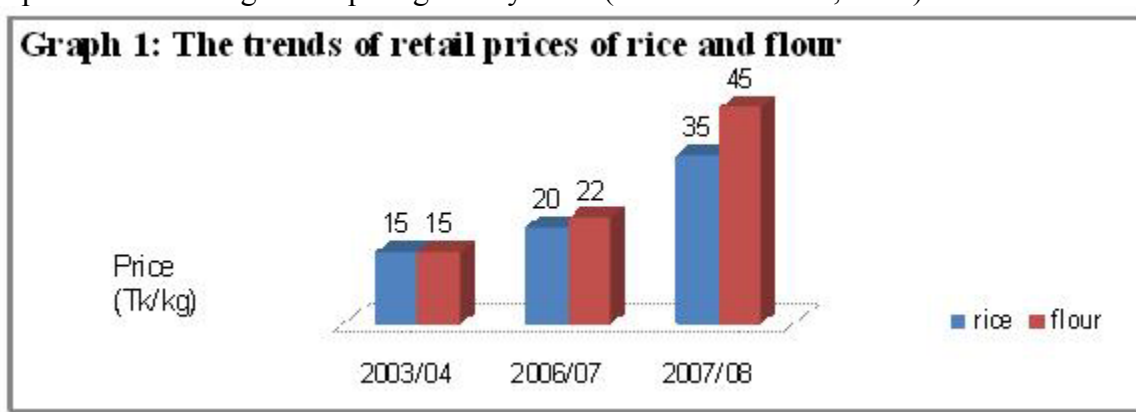
Table 1: Consumer Price Index derived from base 1995-96=100

	Period	General	Food	Nonfood
National	2005-06	100.00	100.00	100.00
	2006-07	107.22	108.12	105.90
	2007-08	117.86	121.40	112.58
Rural	2005-06	100.00	100.00	100.00
	2006-07	107.29	107.95	106.10
	2007-08	118.00	120.83	112.91
Urban	2005-06	100.00	100.00	100.00
	2006-07	107.03	108.54	105.33
	2007-08	117.51	122.71	111.72

Source: Derived from BBS data

Table 1 shows that price index increased 17.86 percentage points over the last two years. A greater increase, 21.40 percentage points, is observed for food which is much higher than the increase in general price index. Besides, for some key essentials the price hike was even greater than what food price index suggested. It is obvious from the trends in monthly wholesale and retail price of coarse rice in Bangladesh since 2000 (Deb and Hossain, 2009). According to them, a small price increase was observed during July 2000 to January 2003, and the retail prices of coarse rice were less than Tk 15 per kg. Between February, 2003 and January, 2007 the prices of coarse rice increased at over 10 percent per year reaching almost Tk 20 per kg (Graph 1). These prices started to increase rapidly since February 2008 and reached Tk 35 per kg within three months. A substantial decline in these prices was observed in beginning from late December 2008 and by late January 2009 the price almost followed the normal trend (Deb and Hossain, 2009).

Since 2000 the wholesale and retail price of atta (flour) followed the same trend as in the case of rice price in Bangladesh. During July 2000 to January 2004, the price of atta increased at a slow pace with retail prices of atta varied between Tk 14 and Tk16 per kg. During February 2004 to October 2006 prices of atta increased at a high rate, from Tk 16 per kg in February 2004 to Tk 22 per kg in October 2006. Since November 2006 prices of atta started to increase at a rapid rate leading to an escalation in the price in late 2007. The retail price reached its pick of Tk 45 per kg in March 2008. It started to decline since April 2008 reaching Tk 39 per kg in July 2008 (Deb and Hossain, 2009).



Constructed from Deb and Hossain, 2009

The increase in nonfood price index, which is 12.58 percentage points, is much lower than the increase in general price index and food price index. Also, the increase in price index was slightly higher in rural areas. The increase in general price index in urban areas was slightly lower than the national level. Interestingly, the increase in food price index was greater in urban areas, although the increases in nonfood price index were very close in rural and urban areas.

However, Raihan and Haque (2007) calculated a higher food inflation rate for a selected occupational groups (small traders, ready-made garment (RMG) workers, rickshaw pullers, day laborer) living in Dhaka city and in rural areas.¹ Average food inflation rate for them was 20 during June 2007 - June 2008. The corresponding figure for the selected occupational groups (small traders, farmers, rickshaw / van pullers, day laborer) was 17.34 for rural areas. For the four big cities (Dhaka, Chittagong, Rajshahi, and Khulna) the average food inflation rate is 21 for the poverty line basket for June 2008 over June 2007.²

1b. Objectives and scope of the study

This study is aimed to unveil all these questions focusing mainly on the poor.

1. To identify the impact of price changes on the consumption pattern of different occupational groups living in various places.
2. To identify how rural and urban people in Bangladesh cope with high prices of essentials;
3. To identify the impact of price rise on migration and its impact on child protection issues.
4. To identify the effect on children well-being (education, food intake, involvement in child labour)

This study intends to find out whether the poor households are cutting their meals, or they are spending more on less nutritious food curtailing their expenditures on nutritious food, or reducing their non-food expenditures such as child education, health etc to deal with the high prices of essentials. For this purpose the study will concentrate on the poor households living in different parts of the country with special emphasis on the most vulnerable households such as day laborers, landless farmers in rural areas and garment workers, rickshaw pullers in urban areas.

The study focuses on the following issues across regions for both rural and urban households:

¹ Raihan and Haque (2007) did it only for Chittagong metro.

²When their food inflation rate is used to construct the overall inflation rate for the poorest groups, the rate is 23.32 for the identical food and nonfood weights as used in the official estimate. This becomes 26.17 when weights are used from the study findings of Raihan and Haque (2007). The corresponding figures for the urban areas are 28.63 and 32.55, respectively. However, in all these recalculation for the poorest group's inflation rate official nonfood price index is applied. Otherwise, the overall inflation is likely to be even greater than these.

- (a) Changes in the household food expenditure across food and non-food;
- (b) Change in the food basket and its implication on food intake, particularly of children;
- (c) Changes in the expenditure on child education;
- (d) Changes in the primary dropouts rate;
- (e) Changes in the child labour participation; and finally
- (f) Impact of price rise on migration.

The outline of this report is as follows. The following chapter discusses conceptual framework underlying the study, reviews the major methodological issues that have been applied in the literature on impact evaluation, and describes the sampling methodology used for this study. Chapter 3 describes the data used for estimation, presents and discusses the findings on impact of price hike on poor households in general. Chapter 4 presents and discusses the findings on impact of price hike on children of poor households. Finally, chapter 5 presents the summary of the results and conclusion.

2. Study Methodology

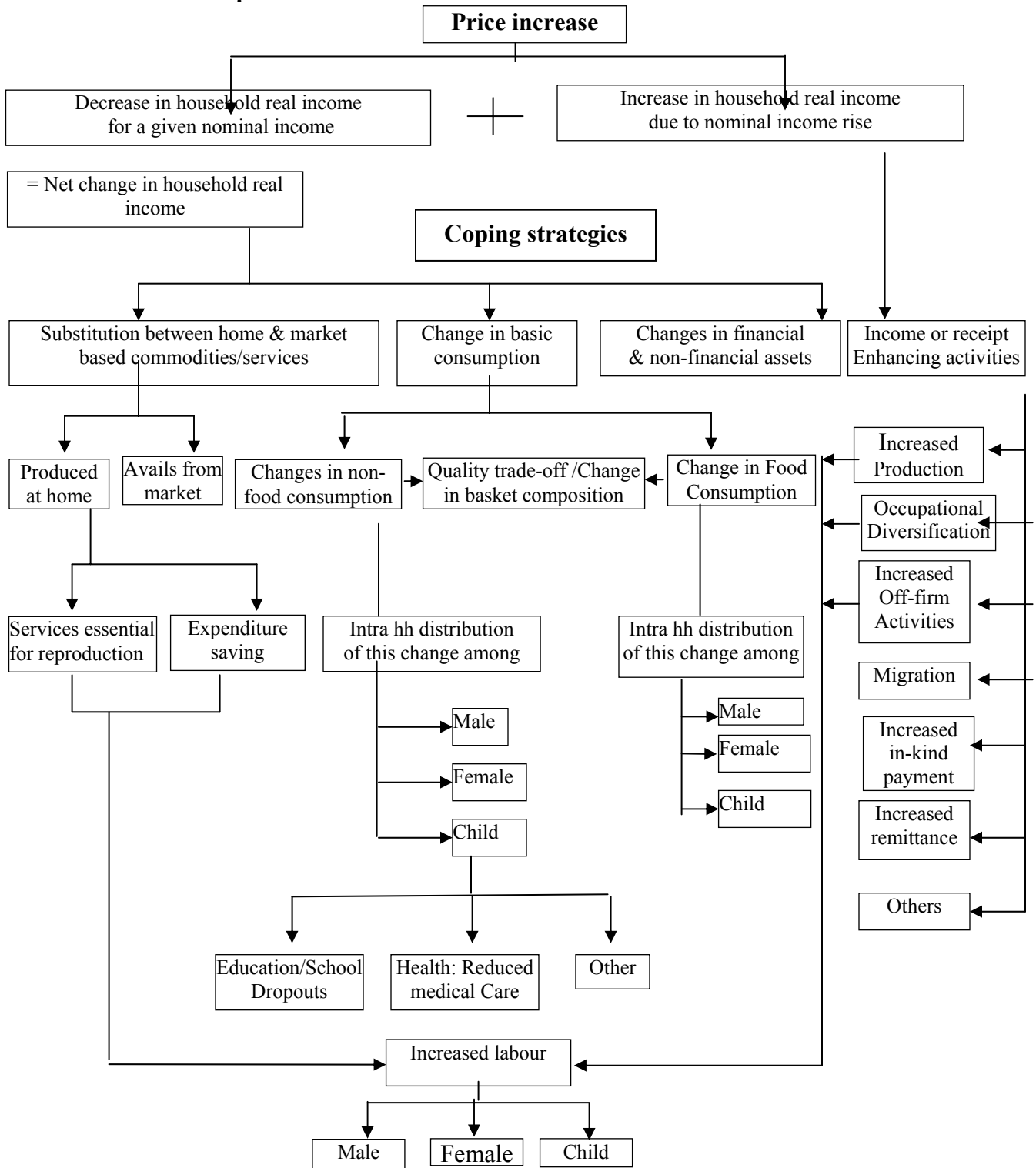
2a. Conceptualization of the study

It is conceivable that price hike will force households to bring certain adjustments in their consumption and income so that they can contain the shock of price hike. These adjustments are likely to come through the optimization behavior of households given the new parameters (i.e., higher prices), which can be depicted with a flow chart as below (Flow chart 1). Price hike of food and other essentials is expected to increase or decrease the household real income depending on whether the household is a net producer or consumer of these essentials. If everything else remains the same, real income might decrease (increase) if a household is net consumer (producer) of an essential, price of which has risen.³ For a fixed nominal income or fixed salaried household, real income decreases. However, presuming everything else unchanged goes against household optimization behavior. A household potentially adjusts household production and changes its labour allocation accordingly to boost up household real income. Besides, households undertake other income-enhancing activities to cope with the price changes. Thus, a price increase may lead to two contrasting changes: (i) decrease in household real income for a given nominal income, and (ii) increase in household real income through income enhancing activities.

Depending on the net change in household real income, a household determines its coping strategies on consumption and savings. Price increase changes the relative prices of different goods and services, leading households to substitute between homemade and market based commodities and services and change basic consumption. Substitution might take place among different homemade goods and services as well. Services produced at home are aimed for reproduction of essential services and savings of household expenditures. Households with reduced real income may be forced to dispose

³ This can be extended for a number of commodities, even when the household is a net producer of some and a net consumer of the rest, leaving the conclusions unchanged.

Chart 1: Household optimization behavior in flow chart



some of their financial and non-financial assets. Change in consumption may arise from change in the absolute and relative consumption of food and non-food, as well as due to the tradeoff between high and low quality goods and services.

Besides, the change in food and non-food consumption is likely to be different for women and children than men making the former more likely to be vulnerable to price hike. Thus, a crucial change in intra-household distribution (among men, women and children) is worth researching to better understand price impact.

On the other hand, income enhancing activities include several possibilities, such as increased production, occupational diversification, off-farm activities, migration, remittance and in-kind payment and so on. These income enhancing activities are likely to demand increased labour supply from men, women and children.

Thus, the derived indicators from the flow chart are real income, total expenditure (food vs. non-food), composition of a consumption basket, school dropouts, health care, child labour (paid, reproductive, and consumption substitution work), and migration (permanent vs. seasonal). To evaluate impact of price hike on poor households and their children, it is necessary to measure changes in these indicators across *pre* and *post* price hike period while controlling other changes.

2b. Methods of analysis

To measure price hike effects one first needs to know what a household would do and what outcome the household would have realized had there been no price hike. Then this counterfactual outcome is compared with what he has realized after price hike and the difference of the two is attributed to the price hike effect. However, in reality, both the outcomes are not observable at the same time for the same household because the household do not operate under *pre* and *post* price hike era at the same time. To overcome this missing data problem, following impact evaluation methods (Heckman and Robb, 1985, 1986; Heckman, Smith and Clements, 1997; Heckman and Vytlačil, 2001; and Heckman, 2001), we can use the mean outcome of a control group (i.e., a group of similar households without experiencing price hike) as the counterfactual for the mean outcome of the treatment group (i.e., a group of households operating under the price hike). Despite these methods' failure to provide price effect at individual household level, derived mean price effect for a selected group of households is convincing.

Since the price increase is ubiquitous in Bangladesh, we cannot estimate the mean outcome that would have occurred to a similar group of households without price hike over that period due to nonexistence of such a similar group. Thus, we have to rely on the same set of households (who experienced price hike) to obtain their counterfactual mean outcome. In this case, we have to use the *pre* price hike mean outcome of the same set of households as their missing counterfactual for the *post* price hike period. This works when no time-variant effects influence household outcomes from one period to the other.⁴

⁴Because conditioning on time or variables that change monotonically as time changes is troublesome because the periods before and after the treatment era are not comparable in terms of time and those monotonic variables.

When the price hike takes place gradually over time and the effect diffuses slowly, then it is difficult to separate the price hike effect from the time effect due to other factors vary over the same period. This means for the price effect we need to rationalize that there has not been much change except price over the target period for the households chosen.

This requires excluding severely affected Sidr-battered, monga prone and rat infested areas from the sample. We need to exclude these areas for two reasons. First, the income of the households in these areas might have been seriously affected by the calamities just stated. Thus, substantial changes in both price and income at the same time might produce misleading conclusions regarding price hike impact on the poor households. Second, even if they receive considerable in-kind payments offsetting income drops, price hike effect may be misleading because of their (in-kind payments') minimal sensitivity to a price change. But still numerous time variant controls are likely to remain and vary with price. Thus, this requires running regressions to difference out changes in control over time across households. Section 3c has explained one such regression on per capita rice consumption of household members.

2c. Sample design

To accomplish the objectives of the study, it is necessary to capture the dynamics of household consumption, employment and income, which may only be captured by recall methods in a cross-section study. One of the most appropriate ways of applying recall methods is asking questions on household aspects like how much a household is spending now and how much it spent two years ago. The 2 year-recall has been chosen because there was a remarkable price difference between the year end of 2006 and 2008 and the former is a good reference point to remember as it was the end of political government and emergence of caretaker government. While in a rural setting, most households are both consumers and producers, urban population is mostly consumers. Thus, the behavioral pattern of households from each of these groups might significantly vary across rural and urban areas. This means the implications of price increase will be different for the two groups, requiring separate representation of rural and urban areas. Also, an urban area represented by upazila towns and district headquarters is significantly different from a metropolitan urban area. Thus, some aspects of the urban responses to the price increase are captured by covering municipalities/upazila towns and separate surveys are completed for Dhaka and Chittagong metropolitan areas.

Besides Dhaka and Chittagong metropolitan areas, the information on households is collected from north-west, haor, coastal, and Chittagong Hill Tracts (CHT) regions where, it is commonly perceived based on prior information from BBS study, there is a large concentration of extreme poor. For each of the four regions the universe is defined initially by a selected set of upazilas. To avoid misleading conclusions driven by considerable external assistance to certain areas, the set is selected dropping rat infested districts in the CHT⁵, Sidr-affected upazilas in the coastal areas (Annex B.1), and Monga-

⁵ People in remote areas of Rangamati and Bandarban in Chittagong Hill Tracts (CHT) faced a severe food crisis following the recent invasion of rats on their jhum crop fields. Indigenous people in Chhotomerung, Ramghar, Dighinala, Panchhari, Guimara Laxmichhari of Khagrachhari, Thanchi, Alikadam, Lama, Ruma

affected upazilas receiving substantial assistance from external sources/ or NGOs in the north-west.

After the identification of the initial universe for each of the four regions, one upazila is purposively selected from each universe for the study purpose. The selected upazilas are Ulipur of Kurigram, Shyamnagar of Satkhira, Dharmapasha of Sunamganj, and Khagrachhari sadar of Khagrachhari (Table 2a and Annex B.7).

Table 2a: List of sample areas

Name of Upazila	District
Ulipur	Kurigram
Shyamnagar	Satkhira
Dharmapasha	Sunamganj
Khagrachhari sadar	Khagrachhari
Dhaka metropolitan city	Dhaka
Chittagong metropolitan city	Chittagong

In north-west region, Kurigram is one of the most severely monga-affected district and it is a remote area and receives less assistance from government and external sources, even many NGOs do not operate in this area due to this reason. That's why Kurigram has been selected to take samples. All the Kurigram upazilas are almost equally poor when considered with respect to percentage of households below poverty line income (Annex B.2). Thus, considering remoteness and lesser external help than other upazilas, Ulipur upazila is chosen to conduct the survey.

Satkhira is one of least affected Sidr districts in coastal region (Annex B.1), and thus receives negligible relief and other assistance. Shyamnagar is one of poorest upazila in Satkhira district, and thus it has been selected to represent the poor households in coastal region (Annex B.3). Sunamgonj district has been selected as it gives the best picture of haor areas (Annex B.4). Dharmapasha, one of the poorest upazila in this district, is chosen to represent the poor households of haor area (Annex B.5).

In Hill tracts region, rat infestation limits us selecting most of the Rangamati or Bandarban upazilas. In addition, security concern restricts the study team selecting many upazila from Khagrachhari and thus Khagrachhari sadar is selected to represent the poor households in CHT.

and Nikhiyangchhari in Bandarban were highly affected and had been passing days practically half-fed and many of them living on jungle potato. Rats invaded fields of turmeric, ginger and other jhum crops in Hubbang, Majhirpara, Thalchhara, Bhudorijipara, Kukichhara, Jarolchhari, Ranalpara and Kusumchhari in Barkal upazila, Noapara in Longudu upazila, Ruilui, Konglak, Oldlankar in Baghaichhari upazila, Rayingkhiyang Borthalipara in Bilaichhari upazila, and Dumdumiya in Jurachhari upazila of Rangamati forcing the locals into food crisis. This prompted immediate external help in the affected areas, and thus these two districts are excluded.

Upzaila centers (towns) from the four selected upazilas are thus included in the survey. For selection of a rural sample, 3 villages are randomly chosen from the list of all villages in that upazila with an exception for Khagrachhari where only 2 villages are chosen. This exception is made for Khagrachhari sadar to account for a large fraction of urban population there.

For each of the villages selected in a upazila, 20 households were selected with representation of vulnerable occupational groups such as day laborers, landless farmers, and marginal farmers in rural areas. From each of these vulnerable occupational groups, based on wealth information from key informants (such as UP member, primary teacher etc.) households at lower income layer were chosen.

For each of the two metropolitan cities and the four upazila towns, the total population is perceived in terms of clusters of residence, and only a subset of these clusters known to have higher concentration of poor people are identified. From this subset, 2 clusters for each of the four upazila towns and Chittagong metropolitan city and 3 clusters for Dhaka metropolitan city are randomly selected afterward. The final stage of sampling drew 50 households from each of the clusters in metropolitan cities and 30 households from each of the clusters in upazila town by random sampling technique. In addition, 50 households, representing the floating population, are surveyed from two key spots (Kamalapur railway station and Highcourt mazar) in Dhaka metropolitan city. Representation of vulnerable occupational groups such as rickshaw pullers and garment-workers are ensured in these areas.⁶ As a result, the total sample size for this study is 700 households.

From the collected data set, 36 observations were discarded for the purposes of estimation because an analysis of outliers in the data revealed that 36 households had distinct outliers (one or more of the variables for a household were more than 2.5 standard deviations away from the mean), thus challenging the reliability of these observations. Thus, of the 664 households used in this analysis, 99 are from Kurigram, 95 are from Satkhira, 92 are from Sunamganj, 96 are from Khagrachhari, 187 are from Dhaka, and the rest 95 are from Chittagong metropolitan areas (Table 2b). Background information on the households selected is provided in Annex B.6.

It might at first appear that garment-workers are under-represented as one of the poorest groups. But the total number of household members who reported work in garment factory as their occupation is 142, in rural, urban and metro altogether. The corresponding figures are 103, 130 and 180 for farmer, agricultural labor and nonagricultural labor respectively. Most of the garment-worker members' households are headed by a non- garment worker.

⁶ According to BBS study occupational groups such as agricultural and non-agricultural laborers, landless and marginal farmers in rural areas and rickshaw /van pullers, garments workers, and street hawkers in urban and metropolitan areas are the poorest. Thus, the selected sample represents the poorest living in these regions.

Area	# of households	%	Farmer	Rickshaw	Agri-labor	Non-agri labor	Garments worker	Other
Kurigram	99	15	18	11	33	4	0	33
Satkhira	95	14	22	9	23	6	0	35
Sunamgonj	92	14	19	3	19	8	0	43
Khagrachhari	96	15	17	8	4	14	0	53
Chittagong	95	14	0	17	1	22	4	51
Dhaka	187	28	0	49	1	26	11	100
Total	664	100	76	97	81	80	15	315

Source: ERG Survey data (2008)

However, a structured questionnaire may fail to capture certain aspects of household responses, particularly those related to intra-household resource and burden allocations. Also, certain community level characteristics may not be captured in a household survey. Thus, in addition to the structured questionnaire survey, qualitative information on different aspects of households and local communities is obtained through Focus Group Discussions (FGDs). The participants of an FGD are drawn from children, teachers, doctors, businessmen and other occupational groups such as rickshaw pullers, day laborers, and landless and marginal farmers.

3. Study Findings: General Impact on Poor Households

According to the flow chart, the households are expected to experience changes in their real incomes due to the price hike, and consequently, they would act on their income and expenditure making proper adjustments. This aspect is explored in this chapter. We might have two set of households, one with their real income decreased or unchanged, and the other with their real income increased. Thus, first we need to delve into the changes in income sources and accordingly the changes in real income and then find their consequences for the households.

3a. Changes in household nominal and real income

Table 3a presents income generated from different income sources in year 2006 and 2008 for all sampled households across regions.

The profits (gross imputed revenue minus (purchased) input cost) generated from cropping increased from Tk 2417 in 2006 to Tk 4459 in 2008 which is a significant change between the two years.⁷ This increase was driven by a huge increment in income from cropping in Sunamganj, an increase from Tk 4030 in 2006 to Tk 11855 in 2008. Rice producers of Sunamganj experienced an increase of 41% on both rice production per decimal and rice price per maund, although the total land for rice cultivation fall by 1% (from decimal 157 in 2006 to 155 in 2008) over that period. Thus, these accounts for more than 80% increase in revenue from rice production there. The increase in revenue

⁷ Here imputed revenue means revenue which is obtained through multiplying total production with market price.

	Profit from			Self	Wage		salary	other	Transfer				Total Income
	crop	livestock	fishery	employed	agri	Nonagri			cash	rice	wheat	food	
2006													
All	2417	830	569	19211	2815	8344	9139	782	92	115	29	202	44545
Kurigram	4454	719	155	5758	5356	2174	1162	327	9	71	0	9	20194
Satkhira	4314	897	1999	16453	6072	8302	3913	341	106	190	0	19	42606
Sunamganj	4030	2532	1837	19837	4493	4152	2438	914	77	166	120	199	40796
Khagrachhari	3971	1558	20	15680	2871	9357	5501	2635	54	213	3	59	41922
Dhaka				28792	273	8941	17484	470	73	65	0	387	56485
Chittagong				18627	482	16957	15779	291	251	49	79	301	52815
2008													
All	4459	835	523	21285	3972	9887	11587	1132	218	447	79	351	54775
Kurigram	6622	834	313	7367	9294	3090	2366	666	112	173	0	128	30966
Satkhira	7192	427	946	16455	8017	11395	5635	896	101	1416	51	56	52588
Sunamganj	11855	2676	2448	22539	6473	5844	4216	1388	528	586	143	274	58971
Khagrachhari	5801	1824	-76	15583	3910	10357	6830	2401	90	709	120	235	47784
Dhaka				31512	117	9762	21983	1088	138	127	0	768	65495
Chittagong				23523		19556	17744	351	428	49	250	165	62066

Note: the figures in this table are averages over all households

Source: Estimated from ERG survey (2008)

is 97% (from Tk 18815 in 2006 to Tk 37067 in 2008). However, the 194% increase (from Tk 8379 in 2006 to Tk 24670 in 2008) in rice profit was partly driven by the relatively smaller increase in total cost of rice production which was only 19% (from Tk 10436 in 2006 to Tk 12397 in 2008) over that period. Thus, an abrupt crop failure in 2006, bumper Boro production and rapid price increase in 2008 drove the huge profit increase from cropping in Sunamganj. This does not imply that the households of Sunamganj are mostly net sellers of rice because that increment is meant for imputed income from cropping.

There was a slight (less than 1%) increase in income generated from fishery and 8% decrease in income generated from livestock in 2008. Decrease in income from livestock was mainly driven by the losses of livestock due to Sidr attack in coastal area. Income from fishery and livestock in Satkhira dropped to Tk 946 and Tk 427 in 2008 from Tk 1999 and Tk 897, respectively, in 2006. At the same time, income from cropping increased to Tk 7192 from Tk 4314. An 11% increase in income generated from self

employment outside agriculture is worth mentioning.⁸ Increase in income from salary was 27% for the entire sample.⁹

Likewise, there were significant increases in income from both agricultural and nonagricultural wage payments. This happened mainly due to the increase in daily wage rates. Agricultural wage increased by 35% (an increase from Tk. 69 in 2006 to Tk. 94 in 2008) which is substantially greater than the overall inflation rate. The increase in nonagricultural wage was smaller than the agricultural one. Nonagricultural wage increased by 20%. However, there was no significant change in the days per year that an average agricultural laborer worked. The average number of days that an agricultural laborer worked increased from 122 days in 2006 to 123 days in 2008 showing an increase by 1%. In fact, there was a 4% decrease in the average number of days worked by a nonagricultural laborer. However, transfers received both in cash and in kind in all forms increased significantly raising its share in total income substantially. For example, a 250% increase in transfers raised its share in total income from 1% in 2006 to 2% in 2008 for the entire sample whereas despite a 462% increase in transfers in Kurigram, its share in total income rose from less than 0.5% in 2006 to 1% in 2008. Satkhira experienced the largest increase in transfers as a share of nominal income through the increase of this share from 0.7% in 2006 to 3.1% in 2008. The increase in transfers was 516% for Satkhira which is also the largest among all the regions.

The total nominal income increased in all regions (last column, Table 3a). The share of cropping, self employment, wage and salary in total nominal income were 8%, 39%, 25%, and 21%, respectively. Since all these sources experienced substantial growth over that period, the significant growth in average household income is expected. The increase was highest for Kurigram which was 53%, an increase from Tk 20194 in 2006 to Tk 30966 in 2008. The share of cropping in total nominal income was 21% for Kurigram. The increase in rice price was 47% for Kurigram when the increase in production per decimal land experienced an increase of 4%. These together explain a substantial part of the growth of the household income of Kurigram. The share of agricultural wage in total nominal income was 30% whereas the increase in agricultural wage was 52% for Kurigram explaining 15.6 (=0.30*52) percentage points of the total income growth of Kurigram. The non-agricultural wage increased by 25% when its share in total nominal income was 10%. Altogether, the large increase in total nominal income of Kurigram was expected. Still that income was roughly half of the average income in each of the other regions. That was the case in 2006 too.

The increase was second highest for Sunamganj which was 45%, an increase from Tk 40796 in 2006 to Tk 58971 in 2008. The share of cropping in total nominal income was 10%, and thus the 194% increase in rice profit alone explains 19.4 (=0.10*1.94) percentage points increase of total nominal income of Sunamganj households. This

⁸These self employments include rickshaw/van puller, weaver/handloom, small enterprise (shop), hawker/ferry, small business, tailor, bamboo/canework, carpenter, mason, boatman, fisherman, potter, goldsmith, blacksmith, broker, cobbler, katha sewer, food processor, transport helper, tannery worker, plastic factory, painting, shrimp fry collector, stone collector, woodcutter, crab/ snail/ turtle collector, honey collector, animal trader, village doctor (Polli chikitsok) and so on.

⁹ Salaried occupations are garments worker, driver, security guard, servant, teacher, imam, muajjin, and so on.

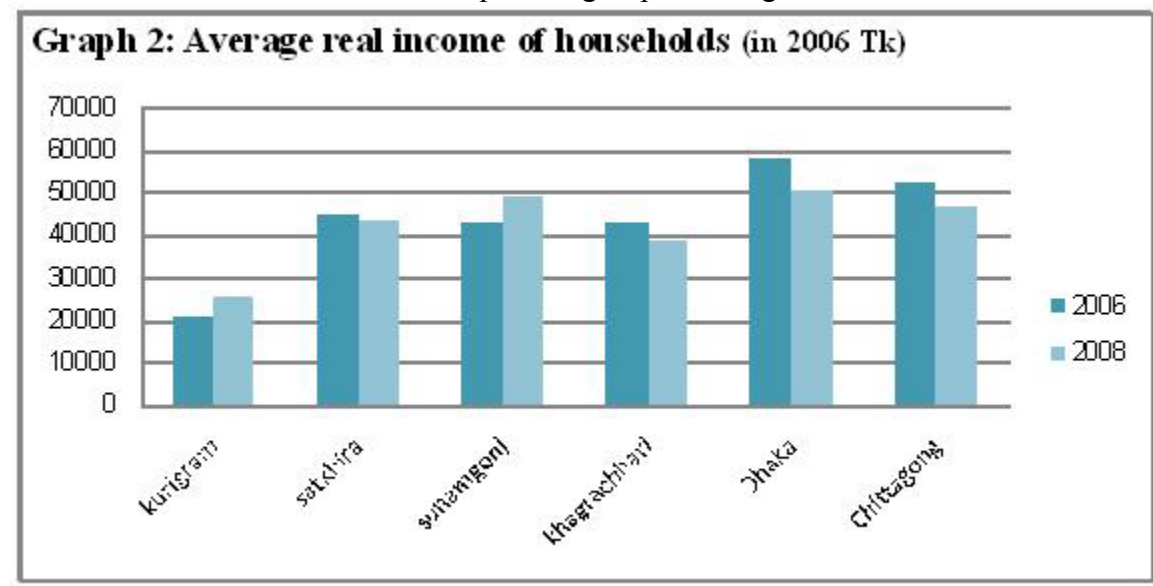
happened because cropping means mostly rice in haor areas. The rest is explained by the increases in wage, salary, self employed earnings and so on.

However, the 14% increase for Khagrachhari sadar was the lowest when 16% and 18% for Dhaka and Chittagong metropolitan cities, respectively places them around the lower end as expected. Since households in metro cities are net consumers of essentials, they are not expected to gain from price hike of essentials.

Year	All	kurigran	satkhira	sunamgonj	khagrachhar	Dhaka	Chittagong
2006	44545	20194	42606	40796	41922	56485	52815
2008							
Based on BBS	47545	27482	46291	52518	41961	56490	52926
With poor specific adjustment in BBS food index	43423	25681	43294	49102	39244	50445	46940
Based on BBS	7%	36%	9%	29%	0%	0%	0%
With poor specific adjustment	-3%	27%	2%	20%	-6%	-11%	-11%

Source: Estimated from ERG survey (2008)

Thus, so far we have discussed the nominal income of households without an inflation adjustment. With adjusting income by consumer price index we obtain average real incomes of households residing in different regions. Household real income increased for Kurigram, Satkhira, and Sunamganj and decreased for Khagrachhari, Chittagong and Dhaka metropolitan areas. However, an inflation adjustment for poorest groups with consumer price index at the national level may not bring proper adjustment as intended. Even applying different consumer price index for rural and urban will not capture the socio-economic characteristic of the poorest groups in Bangladesh.



Source: Estimated from ERG survey (2008)

If nominal household income is adjusted with the inflation rate constructed for the poorest groups using the food price index and food share of poorest groups in both rural and urban areas in Bangladesh estimated by Raihan and Haque (2007) then the real income will fall for all except Kurigram and Sunamganj (Table 3b and Graph 2).¹⁰ Average real income of households decreased 5% for the entire sample while the largest decrease, 13%, is observed for the slums in Dhaka metropolitan area. The second largest decrease is observed for Chittagong metropolitan slums, which is 11%. The largest increase in average real income of households is observed for Kurigram, which is 22%. What this implies is that the urban households of Dhaka and Chittagong metropolitan areas suffer significantly more from the price hike of essentials.

3b. Consumption of essential food items

Change in consumption came from change in food or non-food or both consumption and from the tradeoff between high and low quality goods and services, i.e., from the change in the composition of consumption basket altogether. The dynamics of food consumption is captured based on the quantity and quality of most essential food items consumed. The consumption records include items purchased, home-produced, and received as transfers and payments in kind. Items that had not been purchased are valued at local market prices. As a recall method was used to collect information on income and expenditure for 2006 and 2008, data quality consideration restricted us from including information on all items. Thus, although most of the items consumed are valued, a single monetary measure of household consumption, i.e., household consumption expenditure, could not be calculated. Likewise, construction of total food expenditure was also impossible. Thus, the dynamics of food consumption is explained using the quantity and quality of most essential food items that the households consumed.

Table 4a: Changes in consumption of essential food items by members

Region	# of meals/week		# rice(gm/day)		# of eggs/week		# fish(pieces/meal)*		# meat (pieces/meal)*		# milk(glasses/month)	
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
All	20.2	19.5	475	418	1.8	0.6	1.2	0.8	1.8	0.9	2.7	0.8
Rural	20.1	19.8	529	461	1.5	0.5	1.0	0.8	1.5	0.9	2.4	0.6
Urban	20.2	19.4	449	397	1.9	0.6	1.3	0.8	2.0	0.8	2.9	0.9
Metro	19.0	19.2	405	381	2.0	0.6	1.0	0.8	1.8	0.8	2.7	1.0
Kurigram	19.6	19.2	512	421	1.7	0.6	1.1	0.7	1.7	0.7	2.5	1.2
Sathkhira	20.6	20.6	581	506	1.7	0.5	1.5	1.1	2.4	1.2	3.9	0.7
Sunamgon	20.4	19.5	546	482	1.6	0.6	0.2	0.1	0.5	0.3	2.9	0.4
Khagrachh	20.3	19.8	479	439	1.1	0.6	2.5	1.1	2.5	1.6	0.5	0.4
Dhaka	20.0	19.3	427	385	2.3	0.5	1.1	0.8	1.8	0.8	3.4	1.1
Chittagong	20.4	19.2	364	313	1.7	0.5	1.1	0.8	2.2	0.7	2.3	0.5

Source: Estimated from ERG survey (2008)

Though household members managed to get almost three meals in 2008, the food intake of the meals are considerably diminished. This is because the quantity of essentials such as rice, fish, egg, meat and milk steadily became scarce in their diet. The level of each

¹⁰ Differences in increases in BBS general food price index and those estimated for poor in rural areas and metro slums were averaged to obtain the adjustment factor. The later was constructed by Raihan and Haque (2007).

essential element in the food basket went down after the price hike, in relation to their levels prior to January 2007. On average the quantity of food consumed is less in 2008 than what they consumed in 2006 (Table 4a).

The consumption baskets of the households indicate that the number of meals household members ate per week decreased from 20.2 in 2006 to 19.5 in 2008 while per capita daily rice consumption decreased from 475 gram to 418 gram (Table 4a). Similar decrease is observed for the number of eggs eaten; glasses of milk drunk, and pieces of fish per meal with fish and pieces of meat per meal with meat consumed. The decreases are greater for urban and metro households in general. This means urban and metro households suffered more from price hike than rural households.

However, one question still remained unaddressed. Why were there decreases in consumption of essential food items for the regions like Sunamganj and Kurigram where households experienced a substantial increase in their average real income? It is obvious that 2006 was an abnormal year for Sunamganj and thus the income of 2006 was not a good comparable for 2008. It is very likely that comparison of 2008 income with a comparable income in the past would have indicated decline in real income of Sunamganj. The 52% increase in agricultural wage rate for agricultural worker in Kurigram implies a substantial seasonal migration for earning. The number of household members in Kurigram who migrated seasonally for work increased from 33 in 2006 to 57 in 2008. Also the number of days they spent outside increased substantially from 108 days in 2006 to 142 in 2008. As they were out of the household most of time in a year, their consumption was not included while the income was included in income, which is very common, at least in Kurigram. This could be one reason why consumption did not increase along with the increase in income.

Overall, the food intakes of meals were considerably diminished and thus the level of consumption of each essential element in the food basket such as rice, fish, egg, meat and milk went down after the price hike, in relation to their levels prior to January 2007. The decreases are greater for urban and metro households, which mean urban and metro households suffered more from price hike than rural households.

3c. Multivariate analysis of per capita rice consumption

As described in chapter 1, the price change took place gradually over time and diffused slowly. Thus, it is difficult to completely separate the price effect from the time effect due to other factors that varied over the same period despite the exclusion of Sidr-battered, Monga prone and rat infested areas from the sample. This requires to differencing out the disparity in the growth of the controls across households by running regressions. This section presents and discusses the regression of per capita rice consumption of household members on the control variables. Rice is chosen due to its highest importance as one of the daily essentials.

The following variables are defined for the multivariate analysis of per capita rice consumption.

Household Characteristics

rice = rice consumption per capita (in kg.)

income = income per capita (in taka)

hhsiz = household size

Price Variables

riceprice = price of rice/kg. (in taka)

pulseprice = price of pulse/kg. (in taka)

potatoprice = price of potato/kg. (in taka)

Household level prices are only available for year 2008 and thus the prices of year 2006 are imputed at the regional level. This means household prices are replaced by the mean price of the corresponding region. Obviously, these prices are not going to pick up the household level variations, but they will control regional and yearly differences of prices.

Regional Characteristics

northwest = regional indicator for North-west (1 if Ulipur, Kurigram; 0 otherwise)

coastal = regional indicator for Coastal (1 for Shyamnagar of Satkhira; 0 otherwise)

haor = regional indicator for Haor (1 for Darampasha of Sunamganj; 0 otherwise)

CHT = regional indicator for CHT (1 for Khagrachari sadar of Khagrachari; 0 otherwise)

chittagong = regional indicator for Chittagong (1 for Chittagong metro; 0 otherwise), and

dhaka = regional indicator for Dhaka (1 for Dhaka metro; 0 otherwise).

The independent variables are chosen to capture the household level characteristics, differences in prices, and regional characteristics. Table 4b gives the results of the OLS estimation of per capita rice consumption on the selected independent variables.

The results show that per capita rice consumption decreases with its own price, which is expected. The pulse price elasticity of rice consumption is statistically insignificant despite sign consistency. Per capita rice consumption decreases with the price of pulse, which means pulse complements to rice. The effect of the price of potato is also negative but not significant. Potato can substitute rice or complement it as a curry. It appears that the latter links with the data better. The positive and highly significant coefficient on per capita income implies that rice is a normal good even for the poorest groups in rural and urban areas of Bangladesh. The negative and highly significant coefficient on household size implies that larger households suffer more from price hike through lower amount of consumption of rice.

The positive and significant coefficient on regional dummies coastal and haor means compared to benchmark monga, households in these areas consume more rice. This happens for haor because even the poor households with no operational holdings get involved with rice harvesting there and thus receives rice as in kind payment for labour. This saves them partially from adverse effect of rice price hike. In coastal areas households are switching off from fishing to cropping making them less vulnerable to the

price hike of rice.¹¹ The very small negative coefficient on CHT is insignificant and thus inconsequential. However, the large negative and highly significant coefficient on the dummies for Dhaka and Chittagong metropolitan areas make it obvious that the urban households consume significantly less rice compared to their rural counterpart.

Variable^a	Coefficient	Standard deviation	t-ratio	p-value
ln(riceprice)	-0.334	0.308	-1.09	0.278
ln(pulseprice)	-0.019	0.033	-0.57	0.568
ln(potatoprice)	-0.005	0.020	-0.25	0.801
ln(income)	0.190	0.014	6.41	0.001
ln(hhsiz)	-0.281	0.024	-11.83	0.001
Coastal	0.134	0.033	4.05	0.001
Haor	0.108	0.040	2.68	0.008
CHT	-0.048	0.032	-1.51	0.132
Chittagong	-0.374	0.033	-11.51	0.001
Dhaka	-0.169	0.039	-4.39	0.001
Constant	5.688	0.997	5.70	0.001

a: The p-values give the smallest significance level at which the hypothesis of a zero coefficient is rejected. The dependent variable is the log of per capita rice consumption per year (in kg). The results are produced with 1319 observations obtaining an adjusted *R*-squared of 0.3616 and an *F* statistic of 63.2, corresponding to a p-value less than 0.0001.

Source: Estimated from ERG survey (2008)

Now the question is what more we learn from multivariate analysis of price effect compared with its univariate counterpart? A 23% increase in nominal income over the two year period is estimated as presented in last column of Table 3b. This would bring a 4.37% (= 0.19*23%) increase in per capita rice consumption over that period given everything else same. As presented in Graph 1, the prices of coarse rice increased from Tk 20 per kg in January, 2007 to Tk 35 per kg in May, 2008. However, if the yearly average price of rice is considered then this will suggest an approximately 50% surge in rice price expected to bring a 16.7% (= -0.334*50%) decrease in per capita rice consumption given everything else same. The net effect from price and income change is a 12.33% decrease in the per capita rice consumption. As a result, per capita rice consumption of 489 gram in 2006 was expected to come down to 429 gram in 2008 given everything else same. The observed per capita consumption is 454 gram in 2008. This means the price effect is even greater than what univariate analysis suggests. Other time varying positive effects conceal part of the price effect of rice.

¹¹ These are not fishermen households. These are households with culture fishing that is those who cultivate fish.

What comes from this regression is that time varying control variables change rice consumption significantly, and even after they are controlled, rice consumption is substantially decreased due to price hike and part (not entire) of the reduction is offset by increase in income. Therefore, the qualitative direction of price hike effect on rice consumption derived through univariate analysis remains valid and the same is likely to hold for other indicators applied in this study.

3d. Trend in household expenditure across food and non-food

It is implied (not estimated) that the total food expenditure went up significantly in 2008 though food consumption decreased, in general. Despite the fact that the total food expenditure is not available, income share spent on rice implied significant increase in food expenditure. The mean share of rice expenditure in relation to household income went up from 58% in 2006 to 88% in 2008. This signaled a serious economic hardship for poor households by the price hike of essentials.

The share of income spent on non-food consumption went up from 45% in 2006 to 62% in 2008. Obviously, the share of non-food plus rice expenditure exceeds 100% of income indicating total expenditure greater than income both in 2006 and 2008. This is also supported by their coping strategies of borrowing more, selling assets¹² and so on. For instance, 430 households were found with loans in 2008 of which 61 % of the loans were taken in 2008 whereas 19 and 17 % were taken in 2007 and 2006, respectively. The average amount that they owed in 2008 was Tk 10789. Surprisingly, 43 percent of these households reported that they took loan to bear daily expenses.

The share of non-food plus rice expenditure was 103% in 2006 which was 150% in 2008. This implies that the total expenditure exceeded income relatively more in 2008 than in 2006. This also implies that the ratio of food to non-food expenditure went up significantly in 2008. The ratio of rice to non-food expenditure went from 162% in 2006 to 196% in 2008. This happened because the increase in the share of rice expenditure was 52% when the increase in the share of non-food expenditure was 38% over the two year period. If the ratio of non-rice foods to non-food expenditure had not gone down significantly in 2008, the ratio of food to non-food expenditure was expected to be high in 2008.

3e. Food basket composition /quality trade-off

The quantities of essentials consumed were lessened in 2008 as described above but the change in their quality is not explored yet. Another point that is unexplored is the switching of many households to cheaper low cost alternatives. The daily intake of necessary food items such as rice, pulse, vegetables, fish and meat; though varied in frequencies of consumption, was in position of better quality and quantity in year 2006 compared to that in year 2008. As presented in the Table 5 below, the proportion of total

¹² The type of assets that they possessed were land, livestock, furniture, ornaments, utensils, plates, fishing nets, trees, and so on.

households consuming fine rice dropped from 20 % in 2006 to 12 % in 2008. In addition, 61 percent of the households who consumed fine rice in 2008 reduced their fine rice consumption when only 10 percent of them increased it compared with 2006. The proportion of households consuming medium rice dropped from 46% in 2006 to 35% in 2008. However, 56% of the medium rice consuming households reduced their consumption of it in 2008 with only 19% of them had it increased. The contrasting situation is observed for coarse rice consuming households with a sharp increase of their proportion from 76% in 2006 to 82% in 2008. Another striking feature is that 43% of the fine rice, 35% of the medium rice and 34% of the coarse rice consuming households are consuming even worse quality rice in their respective categories in 2008

These claims were also supported by the grocers who were present in the FGDs. Grocers also reported that they have faced a decline in the sale of fine rice and a surge in the demand of coarse rice. However, some participants in the consuming households said that they had not changed the quality rather they had reduced the quantity consumed as price of rice climbed up.

Table 5: Percentage of hhs reporting change in the consumption basket

Item Name	Consumed in		Change in quantity*		Change in quality*	
	2006	2008	Less	More	Worse	Better
<i>fine rice</i>	20	12	61	11	43	12
<i>medium rice</i>	46	35	56	19	35	5
<i>coarse rice</i>	76	82	27	48	34	10
<i>atta</i>	29	23	76	10	19	16
<i>lentil</i>	81	68	74	9	37	11
<i>khesari</i>	21	21	54	29	12	9
<i>big fish</i>	79	63	90	2	39	11
<i>small fish</i>	98	98	45	36	27	12
<i>dried fish</i>	75	74	59	16	32	13
<i>liquid milk</i>	66	43	84	5	10	11
<i>powder milk</i>	7	2	53	41	29	18
<i>mango</i>	99	97	84	3	35	12
<i>jackfruit</i>	99	98	81	4	26	13
<i>banana</i>	98	96	76	5	34	10
<i>egg</i>	94	85	86	3	4	11
<i>chicken</i>	89	73	89	3	11	14
<i>meat</i>	72	44	93	2	15	12
<i>mutton</i>	11	5	84	6	56	13
<i>vegetables</i>	98	98	42	26	27	11

*In case of changes in quantity and quality, columns (less and more or worse or better) do not add up to 100 percent because those reported unchanged are not presented in this table.

Source: Estimated from ERG survey (2008)

The proportion of households consuming atta (flour) dropped from 29% in 2006 to 23% in 2008. Of the households consuming atta in 2008, 76 percent consumed relatively less of it with increased consumption for only 10 percent. Of the atta consuming households, 19 % is consuming worse and 16% is consuming better quality atta in 2008. A similar

pattern is observed for lentil with a fall in the proportion of households consuming lentil and a decrease in the quantity and quality of lentil consumed in 2008. However, the scenario is little different for khesari because the proportion of households consuming khesari remained unchanged at 21 % despite the possibility that there might be some switching of non-khesari consumers to khesari. Among them 54% consumed a smaller quantity while 29% consumed a larger quantity. But not many experienced change in khesari quality in 2008. Many FGD participants reported that they replaced lentil with bean to chick-pea as it serves as pulse as well as curry.

In case of expensive and 'luxury' items for poor households, like big fish, milk and meat, the change is even more visible. Consumption of big fish and meat decreased a lot. Big fish, which used to be consumed by 79% households in 2006, was consumed by 63% households in 2008. Almost all of the FGD participants said that they could not afford to buy large fish in 2008 because of rapid price increase of rice. Some of them purchased medium size fish such as Tilapia and some purchased small fishes and a few captured small fishes from nearby marsh or pond while many of them never had the chance to eat fish.

Likewise, meat consumption dropped by 93 percent reporting reduced consumption in year 2008. In case of meat, FGD participants said that they could seldom buy beef or mutton and most of their consumption came from gift or donation at some special occasions such as Eid-ul-Azha or marriage ceremony. Even though 39% household who consume big fish report lower quality of it, there is no significant change in the quality of meat consumed. One reason behind this is poor households in slums and other urban areas shifted to partially rotten fish during the year 2008. People seemed not to change their consumption habit of small and dried fish, seasonal fruits like mango, jackfruit and banana, and vegetables. All of these items were being consumed similarly as they were in 2006. Nevertheless, the amount of fruits is recorded as lower in approximately 80% of the cases.

However, FGD participants reported change in the type of vegetables eaten as they were consuming more esculent root and radish because of their low prices. Some of the FGD participants informed that they were more dependent on potato and they were increasing the consumption of potato as it was relatively cheaper than rice in 2008, although some participants objected and said that the price of potato had also gone up in considerable amount and they had reduced the consumption of potato as well. They said, for cooking in rural areas, they were using more loose palm oil than soybeans in 2008.

In case of milk, both liquid and powdered, there was a drop in their consumption. But the fall is larger for liquid milk. Interestingly, the proportion of consuming "more" is the highest, 41% for powdered milk, even after a fall in 2008 consumption. For poor people protein egg had a fall in consumption in a proportion of 0.86. However, it is worth mentioning that avian flu effect is not considered in this context. Part of the fall could be due to this flu.

Overall, the daily intake of essential food items such as rice, pulse, vegetables, fish and meat was in position of worse quality in year 2008 compared to 2006. 93 percent reported reduced consumption of meat in year 2008. Even though 39 percent big fish consuming household reported lower quality of it, there was no significant change in the quality of meat consumed. One reason behind this is poor households in slums and other urban areas shifted to partially rotten fish during the year 2008.

3f. Other coping strategies adopted by households

One of the objectives of this study is to better understand the coping strategies adopted or intended to be adopted by poor households to alleviate the impact of price hike of essentials on them. For this purpose, the respondents were asked in the questionnaire whether they were cutting their food consumption, consuming cheaper, lower quality food, reducing their non-food expenditures on items such as child education and health, spending from savings, selling livestock, agricultural land and other assets, borrowing from various sources, working more, sending non-working members or children to work, removing children from schools etc. to deal with the high prices of essentials.

The respondents were asked to reveal four of their coping strategies in order from 1st to 4th priority and their responses are summarized in Table 6. Column 2 of this table presents the percentage of households who reported the corresponding strategy as one of their coping strategies irrespective of their priority ranking. Column sum is 400 as these are constructed over all four priorities. Here each of the four priorities is given 100 percent weight. However, Chart 3 presents the coping strategies in terms of their weights adjusted to 100 percent.

Of the 664 households surveyed, 73% reported of adopting or intended to adopt 'working more' as one of their main coping strategies. Here working more means working longer hours. In fact, this goes with the findings of increased labor from household members in general. However, the increase in labour (hours/day and days/month) is well pronounced for children which is discussed in detail in section 4b. In a rural setting, more work might be either inside or outside village. To capture this migration outside for work purpose respondents were asked questions like how many days in a year a household member spent outside the household area for earning purposes. These questions were asked both on the total number of days in a year and the maximum number of days in a row.

There were significant differences in the total number of days and the maximum number of days spent on average outside household for work purpose. The maximum number of days spent outside household on average went up from 73 in 2006 to 91 in 2008 and the difference is statistically significant at the 10% level. The average number of days spent outside household went up from 138 in 2006 to 154 in 2008 even though the difference is not statistically significant (Table 7). The number of household members experiencing such a seasonal migration went up from 142 in 2006 to 204 in 2008. The percentage of adult members who migrated increased from 8% in 2006 to 11% in 2008. This showed a tremendous increase in seasonal migration from 2006 to 2008.

Table 6: Coping strategies reported by the households

Strategy	Proportion of hhs who reported the strategies
Working more	73.0
Borrowing from various sources	55.6
Lowering consumption of all foods	46.4
Consuming cheaper, lower quality food	32.5
Sending nonworking members to work	27.3
Changing occupation	27.0
Increasing agricultural production	17.3
Eating less rice	17.3
Less health care	16.0
Sending children to work from school	11.1
Selling livestock	10.1
Sending children under age 14 to work	9.3
Selling assets/agricultural lands	9.2
Removing children from school	8.4
Spending savings	7.7
Others	18.8
No strategy Reported	13.0

Column sum is 400 as these are constructed over all four priorities. Here each of the four priorities is given 100 percent weight. Source: Constructed from ERG survey (2008)

Increased child labour is also reported by (11.1+9.3) or 20.5% households as one of their coping strategies. Some (11.1%) of the households removed their children from school to send them to work for extra earning.

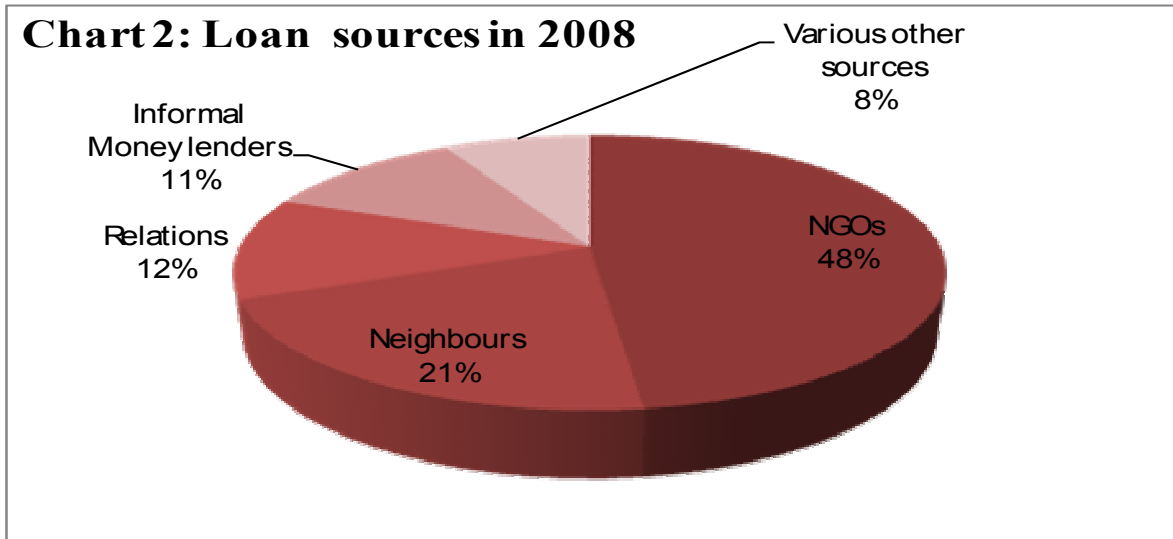
Table 7: Seasonal migration of household members

Variable	2006		2008		t-ratio	p-value
	Mean	Standard deviation	Mean	Standard deviation		
Total # of days spent outside hh	137.95	93.95	154.19	103.85	1.49	0.138
Maximum # of days spent outside hh	72.92	72.72	90.82	94.46	-1.97	0.050
Number of members migrated	142		204			
As a percentage of total adult member	8%		11%			

Source: Estimated from ERG survey (2008)

Among the households, 56% reported borrowing in different forms (money, food, rice etc.) from various sources as one of their coping strategies. This is fairly consistent with

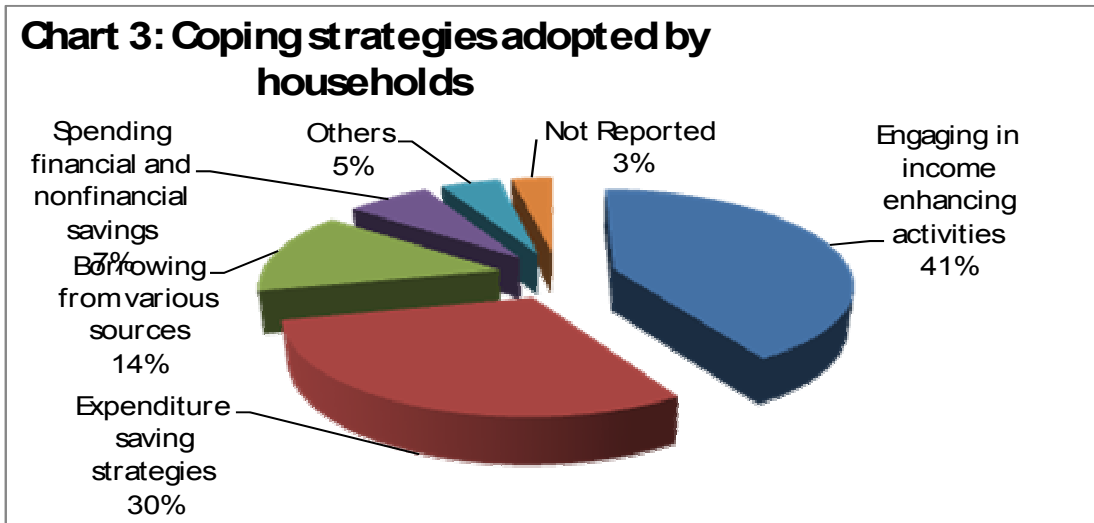
the story revealed from the credit side which has not been discussed in detail up until now. The households reported all the loans that they took irrespective of whether these were paid off or not. As spelled earlier, the average amount that they owed in 2008 was Tk 10789. Of the 430 households who took loans, 28 of them had two loans. 61% of the loans were taken in 2008 whereas 19 and 17% were taken in 2007 and 2006, respectively. 48% of the loans were disbursed from NGOs whereas 21% were from neighbours, 12% from relatives, 11% from informal money lenders and the rest were from various other sources. Surprisingly, 43% of these households reported that they took loan to bear daily expenses.



Source: Constructed from ERG survey (2008)

Lowering food consumption and switching to non-preferred, cheaper and lower quality food prevailed as the third and fourth important coping strategies as they were reported by 46% and 33 % of the households, respectively. Lowering consumption of all foods are found and discussed in section 3b.

In addition, 27% of the households reported ‘sending nonworking adult members to work’ and this is reflected in labor participation rates in 2006 and 2008. This issue is discussed in detail in section 4b. The increase in labour participation rate was well pronounced for children confirming another coping strategy of sending children to work. Other crucial coping strategies include selling assets, agricultural lands, livestock, and spending savings. In fact, 38% households reported selling assets over the last two year period and 31% of them reported selling assets due to economic hardship exacerbated by price hike. The average value of the forgone assets was Tk. 10898. However, it is reasonable that only a small number of households reported these strategies because most of the poor households have small assets and little savings to dispense for coping purposes. With respect to occupational diversity, no crucial difference in coping strategies is found. It is not surprising because poor households across occupations are tied with similar trade-offs and constraints and thus in the same adversity they reacted almost identically.



In contrast to Table 6, Chart 3 presents the coping strategies in terms of their weights adjusted to 100 percent.

Source: Estimated from ERG survey (2008)

However, Chart 3 is supportive to better understand coping strategies in line with 4 broad categories such as engaging in income enhancing activities, expenditure saving strategies, borrowing from different sources, and spending financial and nonfinancial savings. The highest number of households (41%) reported engaging in income enhancing activities (working longer hours, sending nonworking adult members to work, shifting children from school to work, sending non-school going children to work, changing profession, producing more agricultural output and so on) as one their main coping strategies. The second highest 30% households reported expenditure saving (reducing rice or overall food consumption, consuming low cost but less preferred food, withdrawing children from school and so on) as their another important coping strategies. Borrowing from different sources and spending financial and nonfinancial savings are reported as coping strategies by 14% and 7% households, respectively.

4. Study Findings: Impact on Children of Poor Households

As argued before, the change in food and non-food consumption is likely to be different for children than men and women. Thus, a complete, separate investigation into the children's aspect is required and this is what is explored in this chapter. Section 4a looks into children food intake status, section 4b looks into child labour status, and finally Section 4c looks into children education status and school dropouts at primary level classes.

4a. Children food intake status

The relative consumption pattern for men, women and children remained the same across the years despite the change in the intra-household dynamics of consumptions. In terms of the relative quantity of food consumed by men, women, and children, the general perception of women eating less than men and children eating less than women is observed here.

Table 8: Change in food consumption of men, women, and children

Variable	2006			2008		
	Men	Women	Children	Men	Women	Children
meals/week	19.72	20.15	20.50	19.12	19.36	19.93
rice(gm)/day	648.60	535.28	322.62	537.02	469.42	306.31
egg(no.)/week	1.82	1.61	1.84	0.58	0.47	0.58
fish(times)/week	9.58	9.44	8.99	7.08	7.18	6.69
fish(no.)/week	1.32	1.18	1.12	0.84	0.76	0.71
meat(times)/month	2.69	2.64	2.50	1.12	1.08	1.06
meat(pieces)/month	2.02	1.78	1.75	0.95	0.86	0.81
milk(glasses)/month	2.25	1.96	3.54	0.07	0.58	0.94

Source: Estimated from ERG survey (2008)

Table 8 shows that the average number of meals consumed per week was smaller in 2008 than 2006 for all members. However, the magnitude of fall varied across men, women, and children. When average daily rice consumption per meal is considered, the average daily rice consumption jumped from 649 and 535 gram in 2006 down to 537 and 469 gram in 2008 for men and women, respectively, whereas the average daily rice consumption dropped from 323 gram in 2006 to 306 gram in 2008 for children. The opposite pattern is observed when glasses of milk drunk per month are considered.

4b. Child labour status

The concept of child labour does not necessarily refer to simply any work done by a child, rather it means works that limits the child's development or puts the child at risk. However, maintaining this fine distinction in data is difficult, and thus before proceeding further it is useful to define different forms of child labour to be discussed below. Child labour is defined as the total hours spent working in economic activities and chores, i.e., substituting adult labour in the reproductive economy. Economic activities for children consist predominately of working for an extra earning, working in family enterprises or business, and farming. We include chores as well as economic activities because the concept of child labour typically (e.g., in the ILO standard) encompasses both, although we distinguish between them to explain differences in our results. We also differentiate between unpaid work in family enterprises and household activities. Thus, the focus is on the three forms of child labour; paid labour, and unpaid labour in family enterprises or business, and household activities. However, unpaid labour outside family enterprises are included as paid labour. This happens when a child laborer works as an apprentice on paid jobs.

To understand the change in the child labour status, it is necessary to know what happened to child labour participation rates across years. Child labor participation rate is the ratio of the number of children between 6 to 16 years old who work and the total number children of that age group. The participation rate for paid jobs in 2006, presented in Table 9, showed up highest for the urban children of Kurigram which was 15% and the

lowest, 1.3%, was for rural Sunamganj. Participation rate for urban children except Satkhira is quite high ranging from 5.6% to 15%. Shyamnagar of Satkhira is not a proper urban in the sense that it is not a municipality and there is not much difference in terms of employment and other facilities and amenities between urban and rural areas of Shyamnagar. Rather some remote rural areas with brick fields in employed many children as part time and full time worker. The participation rate for urban children experienced an increase over the two year periods with exceptions for Kurigram and Satkhira. A slight decrease in child labour participation rate is also observed for rural areas.

Table 9. Child labour participation rates across regions (%)

		Participation rate for paid job		Participation rate for family enterprise		Participation rate for household work		Participation rate for any of the first		Participation rate in any of the three categories	
Region		2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Kurigram	Rural	8.9	7.6	7.6	6.3	32.9	25.3	13.9	12.7	39.2	31.6
	Urban	15.1	11.3	5.7	1.9	39.6	26.4	17.0	11.3	43.4	32.1
Satkhira	Rural	11.2	9.7		1.1	14.6	11.8	11.2	10.8	23.6	21.5
	Urban	3.8	2.0	1.9		3.8	2.0	5.7	2.0	7.5	4.1
Sunamgon	Rural	1.3	1.1	5.1	6.4	38.5	35.1	5.1	6.4	39.7	36.2
	Urban	10.4	14.0	8.3	7.0	37.5	34.9	14.6	18.6	52.1	53.5
Khagrachl	Rural		2.4			9.5	4.8	2.4	2.4	9.5	7.1
	Urban		1.3	1.4	1.3	23.6	15.0	1.4	2.5	25.0	15.0
Dhaka me	Sums	10.3	13.2	4.3	6.4	25.4	21.9	14.6	19.2	35.7	35.6
	floating	12.8	13.7	6.4	17.6	21.3	19.6	19.1	31.4	29.8	37.3
Chittagong	Sums	5.6	5.7	3.4	2.6	19.1	14.5	9.0	8.3	25.3	19.2

Source: Constructed from ERG survey (2008)

Similar mixed scenario is observed for the participation rates of unpaid jobs in family enterprises. These enterprises are entities of any type owned by households that enhance income of the households. In a rural setting, children help their parents in farming, fishing (both capture and culture fishing), weaving (handloom), rearing livestock and poultry, making bamboo/cane products, begging and so on. In an urban setting, children help their parents in small enterprise (shop), small business (vegetable selling, tea stall), begging and so on. These helps are classified as child labour on unpaid jobs in family enterprises. In fact, all except paid labour and unpaid household activities in rural, urban and metros are included in this child labour category.

However, the participation rates for household work decreased for all the regions. A fraction of the sampled households are mostly subsistence farmers who rely on agriculture and some animal farming activities; agricultural participation of children (classified as unpaid labour in family enterprises) is not uncommon and overall child labour, including household activity, is a commonplace. The rest of the households are from the poor section of upazila towns and slums in metro cities where child labour in household activity is also a common feature. These household activities include cooking, washing cloth and dishes, cleaning house, caring children, shopping groceries, feeding

animals, teaching children, gardening, helping other members and so on. In this category change in participation rates are sometimes misleading because working hours are loosely defined. When slums and floating population of Dhaka is considered, the participation rates are increased.

In many of these cases where reduction in participation rates observed there was no decrease in the number of children with work but the increase was smaller than the increase in the total number of children in that age group. The increase in the number of children with work depends largely on the demand for labour by the existing and potential employers. This supply side story is not covered in detail in this study.

However, child laborers worked on average more in 2008 than 2006 through more days per month or more hours per day or both (Table 10). For instance, child laborers of rural Kurigram work on average 21.73 days per month and 7.8 hours per day for paid jobs in 2008 in contrast to 14.8 days per month and 7.9 hours per day in 2006. More than 50 percent of them were involved as agricultural and non-agricultural laborers while a few reported to working as domestic help and garment-workers. However, Table 11

Region		Paid job outside household				Unpaid job in family enterprises				Household work	
		days/month		hours/day		days/month		hours/day		hours/day	
		2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Kurigram	Rural	14.8	21.3	7.9	7.8	5.2	4.8	3.8	2.4	3.1	3.2
	Urban	11.3	11.6	8.4	8.6	6.0	4.0	2.7	3.0	2.2	2.4
Satkhira	Rural	21.0	20.1	8.5	9.1	.	20.0	.	1.5	2.9	2.6
	Urban	24.0	24.0	8.5	9.0	28.0	.	6.0	.	1.5	2.0
Sunamganj	Rural	24.0	22.0	7.0	10.0	15.2	19.3	8.3	8.7	2.1	2.2
	Urban	19.4	16.3	8.0	9.8	17.8	18.0	7.8	8.0	2.0	2.4
Khagrachhari	Rural	.	20.0	.	10.0	.	.	.	.	1.0	2.0
	Urban	.	15.0	.	10.0	15.0	17.0	12.0	1.0	2.0	2.0
Dhaka	Slums	24.5	25.4	10.5	11.3		21.3	8.3	6.4	2.3	2.7
	Floating	26.8	26.4	7.7	7.9	20.4	18.9	6.0	3.9	2.4	2.2
Chittagong	Slums	23.2	25.8	9.7	9.9	18.0	21.3	4.2	4.2	2.7	2.6

Source: Constructed from ERG survey (2008)

which describes child labour hour per month provides better picture of the trend. The average child labour hours per month on paid jobs increased substantially with exceptions for urban areas of Kurigram and Sunamganj (Table 11). However, the average child labour hours per month on unpaid jobs decreased with exceptions for urban areas of Kurigram, sunamganj and Chittagong metro. Interestingly, the decrease in unpaid labour hours per month is often associated with increase in labour hour per month in paid jobs. This indicates a switching of child laborer from unpaid family enterprises to paid jobs.

When child labours of all the six regions in 2006 are considered, 28% were found in garment worker, 24% were found as nonagricultural laborers, 9% as employees, 6% as

		Hours/month					
Region		Paid			Unpaid		
		2006	2008	%change	2006	2008	%change
Kurigram	Rural	119	166	38.7	33	21	-36.9
	Urban	99	94	-5.0	11	12	12.5
Satkhira	Rural	178	180	1.5	.	30	.
	Urban	204	216	5.9	168	.	.
Sunamga	Rural	168	220	31.0	184	179	-2.5
	Urban	168	167	-0.5	160	164	2.5
Khagrach	Rural	.	200	.	.	.	.
	Urban	.	150	.	180	17	-90.6
Dhaka	Slums	271	294	8.3	180	136	-24.7
	Floating	208	208	0.0	132	83	-37.3

Source: Constructed from ERG survey (2008)

agricultural workers, and the rest one third is found in different other occupations such as domestic help, mason, mechanic, tailor etc. To the contrary, 31% of the child labours were engaged as nonagricultural labour, 23% as garment-workers, 12% as employee, 4% as domestic help and the rest as tailors, carpenters, fishermen, hawkers, jewellers, transportation help, labours in food processing, leather and chemical factory etc.

Some of the jobs are very risky for the children such a working in brick field, factories, transport and driving help. Shyamnagar of Satkhira has many brickfields where a large number of children are employed. Most of them are under 10 and they work there to help the adult workers. Some of them work during school breaks. These child laborers were not substantially covered in the collected sample due to the fact that they are concentrated nearby brickfield villages none of which was covered in our sample.

4c. Children education status

4c.1 Expenditure on child education

Table 12 presents the average total educational expenses and average of their components (fee, private tutor, book, and tiffin) borne by households in 2006 and 2008. These figures are presented for the entire sample and for different regions separately. Obviously, the average education cost for the entire sample experienced a sharp increase of 66% in 2008 compared with 2006, as shown in the last column of Table 12. For a few regions, average total education cost was more than double of what was in 2006. In metropolitan Dhaka, slums faced greater increment in educational expenses compared with floating group. Sunamganj experienced the lowest 13% increase when slums in Dhaka experienced the highest 128% increase in total educational cost over the two year period. The lowest education cost is observed for floating households in Dhaka which went from Tk.163 in 2006 to Tk. 258 in 2008.

Table 12: Mean Educational Expenses

	fee		private		book		tiffin		educost		%
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	Increase
Total	238	247	250	512	231	401	181	339	902	1499	66
kurigram	66	98	39	80	159	253	74	115	341	548	61
satkhira	189	358	638	902	518	768	304	544	1650	2573	56
sunamgonj	913	185	331	726	272	505	417	762	1934	2179	13
khagrachhari	91	336	193	510	300	506	121	202	705	1556	121
dhaka	132	226	120	359	99	219	119	267	471	1072	128
chittagong	169	299	318	664	171	337	123	238	783	1539	97
rural	411	154	178	305	270	462	187	366	1048	1288	23
urban	151	333	410	783	336	515	261	399	1160	2032	75
metro	148	265	198	497	122	264	118	272	588	1300	121
slum_Dhaka	170	284	145	456	114	262	139	326	569	1330	134
floating_Dhaka	14	44	40	53	52	80	56	79	163	258	58

Source: Estimated from ERG survey (2008)

However, if we look into the item-wise costs the highest 105% increase is observed for private tutoring while the lowest 4% is observed for fees. The second highest increase is observed for tiffin which is 87%. Tiffin is more directly linked with price hike and thus its big increase is not surprising.

Table 13: Total education cost as a share of non-food expenditure

Year\region	Kurigram	Satkhira	Sunamganj	Khagrachhari	Dhaka	Chittagong
2006	0.09	0.13	0.08	0.05	0.03	0.03
2008	0.08	0.12	0.09	0.09	0.04	0.04

Source: Estimated from ERG survey (2008)

Another interesting observation is that the share of education cost as a percentage of total non-food expenditure decreased significantly for Kurigram and Satkhira when a slight increase is observed for the others (Table 13). Obviously, a relatively smaller increase in education costs left a greater scope for other non-food consumption by households in these regions.

4c.2 Primary dropout rate

In almost all developing countries, primary school dropout or low completion rates have been a subject of interest to academics, researchers, and policy makers for a long time. Bangladesh is no exception to such a concern. In this section, we discuss the findings of this study pertaining to drop out rates.

Table 14: Dropout rates at primary level classes

Year	2005	2006	2007	2008
Dropout Rates	4.90	6.50	6.80	
Enrollment Ratio		64.00		66.00

Source: Estimated from ERG survey (2008)

The primary dropout rate escalated from 4.9% in 2005 to 6.5% in 2006 and 6.8% in 2007 (Table 14).¹³ The enrollment ratio at primary level classes went up from 64% in 2006 to 66% in 2008. Still it is likely that the enrollment ratio remains below the trend. One explanation of this increase could be that much of the shock occurred in first gust of price hike in 2006 and 2007. Thus, in 2008 enrollment occurred more because the households absorbed much of the shock from price hike and thus did not stop their children from going to school. It was expected to observe lower enrollment ratio in 2008 had they not absorbed much of the shock. Another possibility is that direct financial benefit from going to school or tiffin during lunch break induced poor children into schools. Here financial benefit means cash for education. But this might not be the case for children of urban and metro areas since they do not receive such benefits. All participants in FGDs including teachers, guardians, dropout and current students and others agreed unequivocally that parents were more conscious and a positive change has occurred over the last few years. Being conscious means they understood the benefits of education because they could perceive long term gains from education and thus they were better motivated to send their kids to school.

Then the question is how these conscious parents let their children be dropped off from schools. Being better motivated, they were more interested then to keep their children in school and wanted to see them self dependent and respected by the society. But some households were forced to send their children to work withdrawing from school due to poor economic conditions exacerbated further by the price hike. Some parents reported withdrawing their children from school as one of their expenditure saving coping strategies. Some parents also said that they removed their children from school and admitted them into madrasa because they couldn't afford to bear the high cost of educating their children in school and thus shifted them to low cost or free madrasa. In some cases, free food and accommodation from madrasa entices such shifting because poor households cannot provide these to their children when they (children) are in mainstream education or NGO schools.

Many parents and students claimed that the cost of education at school has increased significantly and the worst scenario is that sometimes teachers forced their students directly or indirectly to take private tuitions from them that parents can't afford. This is the case mainly for urban and metro. In fact, this happens in rural setting too. During the preparation of primary scholarship examination; teachers mainly in towns, make coaching mandatory for students, and thus parents get forced directly by teachers on

¹³ However, it was not possible to obtain data on dropouts in 2008 due to the fact that the survey was administered in October and November of 2008, making it impossible to collect complete information on 2008 dropouts. Dropout rate in 2005 is calculated based on the history of the children's education which is included in the questionnaire.

private tuition. Most of the times, they receive only part of the assistance in hand because teachers keep part of it for tutoring. This happens mostly in rural setting.

On the other hand, some reported withdrawing their children from schools for sending them (children) to work as one of their income enhancing coping strategies. Dropout due to this fueled by the increased demand for child labour in some risky places such as brickfield and transportation. Many households in Kurigram said that the main challenge was to manage three meals per day and they didn't need to educate their children, they wanted to see all the members in the family alive.

All parents agreed that they would send their children to school if they got some assistance from the govt. or other organizations. Here assistance means cash for education or stipend. Not that all poor households receive these assistance in a rural setting. There are some conditions and limitations. For instance, only one member of a household can receive it. It depends on economic conditions. Managing committee decides on them and in many cases real poor people do not receive them.

5. Summary of Findings and Conclusions

The results of this study provide a number of important insights regarding the impact of price hike of essentials on poor households and their children. The main empirical findings of this research can be summarized as follows.

- The average real income of households decreased for all regions except Kurigram and Sunamganj. Average real income of households decreased 5% for the entire sample while the largest decrease, 13%, is observed for the slums in Dhaka metropolitan area. The second largest decrease is observed for Chittagong metropolitan slums, which is 11%. This means since households in metro cities are net consumers of essentials, they do not gain from price hike of essentials. The largest increase in average real income of households is observed for Kurigram, which is 22%. This increase was mainly driven by the 47% increase of rice price and the 52% increase of agricultural wage rate. A 20% increase in average real income is observed for Sunamganj which resulted mainly from the 41% increase of both rice production per decimal and the price of rice. It is obvious that 2006 was an abnormal year for Sunamganj and thus the income of 2006 was not a good comparable for 2008.
- The consumption baskets of the poor households indicate that the average number of meals household members ate per week decreased from 20.2 in 2006 to 19.5 in 2008. The food intakes of their meals were also considerably diminished and thus the level of consumption of each essential element in the food basket such as rice, fish, egg, meat and milk went down after the price hike, in relation to their levels prior to January 2007. The decreases are greater for urban and metro households which mean urban and metro households suffered more from price hike than rural households.

- However, still unaddressed is why there were decreases in consumption of essential food items for the regions like Sunamganj and Kurigram where households experienced a substantial increase in their average real income. It is very likely that comparison of 2008 income with a comparable income in the past would have indicated decline in real income of Sunamganj justifying the consumption decreases there. As many members were out of their households most of time in a year, their consumption was not included while the income was included in income, which is very common, at least in Kurigram which experienced a substantial increase in seasonal migration for earning. This could be one reason why consumption did not increase along with the increase in income in Kurigram. In addition, a significant part of our households in Kurigram are both producers and consumers, and thus, increases in produce prices may have allured many to sell more produces reducing their own consumption.
- The daily intake of necessary food items such as rice, pulse, vegetables, fish and meat; though varied in frequencies of consumption, was in position of worse quality in year 2008 compared to 2006. For instance, the proportion of total households consuming fine rice dropped from 21 percent in 2006 to 12 percent in 2008. In addition, 61 percent of the households consuming fine rice in 2008 reduced their fine rice consumption when only 11 percent increased it compared with the corresponding quantities in 2006. The contrasting situation is observed for coarse rice consuming households with a sharp increase of their proportion from 76 percent in 2006 to 82 percent in 2008 while 48 of them consuming even more of it in 2008.
- The number of household members who adopted seasonal migration as a coping strategy went up from 142 in 2006 to 204 in 2008 which showed a 44 percent increase in seasonal migration. The percentage of adult members who migrated increased from 8% in 2006 to 11% in 2008. There were significant differences in the average total number of days and the average maximum number of days household members spent outside household for work purpose. The average total number of days spent outside household went up from 137.95 in 2006 to 154.19 in 2008 when the average maximum number of days spent outside household on went up from 72.92 in 2006 to 90.82 in 2008. This showed a tremendous increase in seasonal migration from 2006 to 2008.
- Child labor participation rate, the ratio of the number of children between 6 to 16 years who work and the total number of children of that age group, showed up highest for paid jobs in 2006 for the urban children of Kurigram which was 15% and the lowest, 1.3%, was for rural Sunamganj. Participation rate for urban children except Satkhira is quite high ranging from 5.6% to 15%. The participation rate for urban children experienced an increase over the two year periods with exceptions for Kurigram and Satkhira. A slight decrease in child labour participation rate is also observed for rural areas.

- Similar mixed scenario is observed for the participation rates of unpaid jobs in family enterprises. In a rural setting, children help their parents in farming, fishing, weaving (handloom), rearing livestock and poultry, making bamboo/cane products and so on. In an urban setting, children help their parents in small enterprise (shop), small business (vegetable selling, tea stall etc), begging and so on. These helps are classified as child labour on unpaid jobs in family enterprises. In fact, all except paid labour and unpaid household activities in rural, urban and metros are included in this child labour category.
- The average child labour hours per month on paid jobs increased substantially with exceptions for urban areas of Kurigram and Sunamganj. One explanation for this dynamics is that the children have to take up more economic activities during economic hardship as adults are already occupied in jobs and household enterprises. This is a very disturbing observation for children in poor households. However, the average child labour hours per month on unpaid jobs decreased with exceptions for urban areas of Kurigram, Sunamganj and Chittagong metro. Interestingly, the decrease in unpaid labour hours per month is often associated with increase in labour hour per month in paid jobs. This indicates a switching of child laborer from unpaid family enterprises to paid jobs.
- The average education cost experienced a sharp increase of 66% in 2008 compared to 2006. For a few regions, average total education cost was more than double of what was in 2006. In metropolitan Dhaka, slums faced greater increment in educational expenses compared with floating group. Sunamganj experienced the lowest 13% increase when slums in Dhaka experienced the highest 128% increase in total educational cost over the two year period.
- The primary dropout rate escalated from 4.9% in 2005 to 6.5% in 2006 and 6.8% in 2007. Some households sent their children to work withdrawing them from school due to poor economic conditions exacerbated further by the price hike. Some parents reported withdrawing their children from school as one of their expenditure saving coping strategies. Some parents also said that they removed their children from school and admitted them into madrasha because they couldn't afford to bear the high cost of educating their children in school and thus shifted them to low cost or free madrasha. In some cases, free food and accommodation from madrasha entices such shifting because poor households cannot provide these to their children when they (children) are in mainstream education or NGO schools.
- Some reported withdrawing their children from schools for sending them (children) to work as one of their income enhancing coping strategies. Dropout due to this reason increased further by the increased demand for child labour in some risky places such as brickfield and transportation. Many parents agreed that they would send their children to school if they got some assistance from the government or some other organizations. Such assistance might help to reduce dropouts.

- The primary enrollment ratio went up from 64% in 2006 to 66% in 2008. It could be that most of the adversity occurred in first gust of price hike and the households absorbed part of the shock from price hike in 2008 and thus did not stop many of their children from going to school. Also, it is plausible that direct financial benefit for going to school or free tiffin in school during lunch break induced more poor children into schools.
- The highest number of households (41%) reported engaging in income enhancing activities (working longer hours, sending nonworking adult members to work, shifting children from school to work, sending non-school going children to work, changing profession, producing more agricultural output and so on) as one their main coping strategies. The second highest 30% households reported expenditure saving (reducing rice or overall food consumption, consuming low cost but less preferred food, withdrawing children from school and so on) as their another important coping strategies. Borrowing from different sources and spending financial and nonfinancial savings are reported as coping strategies by 14% and 7% households, respectively.

Despite the price hike, real income increased in regions (Kurigram, Satkhira and sunamganj) involved in producing the essentials because of the upward adjustments of prices and wages. But households (in slums) of Dhaka and Chittagong areas experienced decreases in their real income because they are mostly consumers of essentials. Khagrachhari sadar experienced a smaller decrease due to its limited involvement in production of essentials. Accordingly, decreases in the consumption of essentials were observed for all the regions. The food intakes of their meals were also considerably diminished and thus the level of consumption of each essential item in the food basket such as rice, fish, egg, meat and milk went down after the price hike, in relation to their levels prior to January 2007. However, the magnitude of fall varied across men, women, and children. Since a significant part of our households are both producers and consumers and thus increases in produce prices may have allured many to sell more produces reducing their own consumption.

The total expenditure on food went up significantly in 2008 though food consumption decreased, in general and thus the ratio of food to non-food expenditure went up significantly in 2008. The substitution between food and non-food expenditure and income enhancing activities as coping strategies left an adverse effect on children through higher participation in child labour and an increase in the primary level dropouts. Overall, the households (in slums) of Dhaka and Chittagong metropolitan areas suffer significantly more from the price hike of essentials. Essential producing households in rural areas were hurt less.

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Annex A: Terms of Reference

Scope of Work

Impact of Price Increase on Poor Households and Children Well being

Introduction

There had been a 50% increase in the prices of the key staples in Bangladesh between 2007 and 2008. Inflation rates had again reached double digit recently after a brief recess and continues to be a major concern. Middle, lower-middle, and low income people of Bangladesh have been hit most by the spiraling prices of essentials. It is almost impossible for the low-income group to bear daily expenses and thus it is important to figure out how these hard-pressed people cope up with the price hike of essentials.

The increasing prices might have forced many low or fixed income people to rearrange their household expenditure, particularly the food basket, by simply dropping many items or drastically cutting back their consumption of (expenditure on) many others to cope up with the family budget. They might have traded off non-food expenditures such as expenditures on education, health etc. for food. Some of them might have forced children to work for extra earning.

Since current livelihood status of these households depend on how they adjust to price increases by adopting changes in their expenditure behavior as well as in undertaking income-earning and expenditure-saving strategies, it is important to know the changes in their consumption patterns and more importantly what the coping strategies are and how these strategies are affecting child education, health, and (consumption-based) nutritional status. How these strategies are affecting migration and child labor participation. This study is aimed to unveil all these questions focusing on the poor mainly.

Objectives and Scope of the Study:

5. To identify the impact of price changes on consumption expenditure and pattern of different occupation group by place of residence.
6. To identify how rural and urban people in Bangladesh cope with high prices of essentials;
7. To identify the impact of price rise on migration and its impact on child protection issues.
8. To identify the effect on children well-being (education, food intake, involvement in child labor)

An in-depth study of the poor, vulnerable households will help in better understanding the coping strategies adopted by poor households to alleviate the impact of price hike of

essentials on them. This study intend to find out whether the poor households are cutting their meals, or they are spending more on less nutritious food cutting back in their expenditures on nutritious and nourishing food, or reducing their non-food expenditures on items such as child education, health etc. to deal with the high prices of essentials.

For this purpose the study will concentrate on the poor households characterized by occupational groups living in different part of the country with special attention toward the most vulnerable households such as **day laborers, landless farmers** in rural areas and **garment workers, rickshaw pullers** in urban areas.

The study will focus on the following issues across regions for both **rural and urban** households:

- (g) **Reviewing** the price changes using available secondary data;
- (h) Changes in the household **expenditure across food and non-food**;
- (i) **Change in the food basket** and its implication for food intake, particularly of children;
- (j) Change in the **expenditure on child education**;
- (k) Change in the **primary dropouts rate**;
- (l) Change in the **child labor participation**; and finally
- (m) Impact of price rise on **migration**.

Methodology

In order to accomplish the study, we need to capture the dynamics of household consumption, employment and income which may only be done by recall methods in a cross-section study. One of the most prevalent ways is asking questions like how much a household is spending now and how much she spent; say, two years ago.

A survey of the rural and urban poor households will be undertaken to address the study objectives. While in a rural setting, most households are both consumers and producers, urban population is mostly consumers. Thus, the behavioral pattern of households from each of these groups might significantly vary across rural and urban areas. Which means the implications of price increases will be different for the two groups, and thus separate representation of rural and urban is necessary. The information on households will be collected from North/North-west, Haor, Coastal, and Chittagong Hill Tracts regions, where, it is commonly perceived, there are large concentrations of extreme poor. Also, an urban area represented by upazila towns and district headquarters is significantly different from an urban area represented by metropolitan cities. Thus, while some aspects of the urban responses to price increases will be captured by covering municipalities/upazila towns in the aforementioned four regions, separate surveys will be undertaken in Dhaka and Chittagong metropolitan areas.

In addition to a structured questionnaire survey, qualitative information on different aspects of households and local communities will be obtained through Focused Group Discussion (FGD). There are at least three rationale for FGD: (i) Structured questionnaire

may fail to capture certain aspects of household responses, particularly those related to intra-household resource and burden allocations; (ii) Certain community level characteristics may not be captured in household survey; and (iii) In the absence of appropriate sampling frame, sample households will have to be chosen through cluster sampling, and the selected clusters may not always capture adequate number of households from specific occupational groups (perceived, a priori, as poor); thus, calling for FGDs on such groups. Likely participants of FGD will be drawn from children, teachers, doctors, businessmen and other occupational group such as rickshaw pullers, day laborers, and landless and marginal farmers.

Selection of Sample Households:

For each of the four regions identified earlier the universe will be defined initially by a selected set of upazilas. For example, to avoid misleading conclusions driven by considerable external help to certain areas (such as, rat infested upazilas in the CHT; Sidr-affected coastal upazilas; and Monga-affected areas receiving substantial external assistance), some upazilas will be dropped from the initial universe. Once the initial universe for each of the four regions is identified, one upazila will be randomly selected for the study purpose. All upzaila centers (towns) from the four selected upazilas will thus be included in the survey. For selection of rural sample, two villages will be randomly chosen from the list of all villages in that upazila.

For each of the two metropolitan cities and the four upazila towns, the total population will be perceived in terms of clusters of residence, and only a subset of these clusters known to have higher concentration of poor people will be identified. Subsequently, 2 clusters from this subset will be randomly selected for each of the two metropolitan cities and four upazila towns. The final stage of sampling will draw 50 households from each of the clusters in metropolitan cities and 30 households from each of the clusters in upazila town by random sampling technique. In addition, 50 families/ households, representing the floating population, will be surveyed from several key spots in each of the two metropolitan cities.

For each of the two villages selected in an upazila, wealth ranking will be undertaken for all households through key informant approach. Subsequently, 20 households, from each village, will be selected randomly with appropriate probability weights. Representation of vulnerable occupational groups such as day laborers, landless farmers, and marginal farmers will be ensured in rural areas. As a result, the total sample size for this study will be $700 = 300 (= 3 \times 50 \times 2) + 240 (= 2 \times 30 \times 4) + 160 (= 2 \times 20 \times 4)$ households.

Activities:

The study will start from the first week of October, 2008 and end by the last week of January, 2009. The detail plan of this study is shown below in the activities chart.

Activities	Activities/Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. The Desk Research	■	■	■													
2. Gathering basic info and data	■	■	■													
3. Designing the questionnaire	■	■	■													
4. Development of other checklists for field survey	■	■	■													
5. In-house presentation of concept note and sample design	■	■	■													
6. Hiring of the enumerators	■	■	■													
7. Pre-testing of field instruments under the Supervision of Experts				■												
8. Mobilization and training of the assistants for FGD				■												
9. Training of the enumerators including training on child protection				■	■											
10. Field work – household survey				■	■	■	■	■	■	■						
11. Other field works-FGD				■	■	■	■	■	■	■						
12. Data entry, Data Cleaning											■	■	■	■	■	■
13. Quantitative Data analysis											■	■	■	■	■	■
15. Drafting of the Report																
16. Submission of the draft report																
17. Comment on draft report																
18. Submission of final report																

Note: Week 1 represents 1st week of October, 2008.

Key Dates

- December 31 -Submission of draft report
- January 15 -Comments from SCUK
- January 31 -Submission of Final report

This time table depends on:

- The agreement is held in due time
- SCUK providing feedback on the draft report as soon as possible.
- No further analysis being required

Reporting Structure:

The responsible researcher of the contract firm will work closely with the Livelihoods Advisor, Save the Children UK for day to day work or as required. The consultant will report to Suman Sengupta, Country Director, Save the Children UK (SCUK). The principal investigator of the research firm may be called upon anytime during the research to respond to reasonable requests made by SCUK.

Logistical Support:

The personnel including field staff will be given an orientation on SCUK Child Protection Policy (CPP) before commencing the assignment and field data collection.

Deliverables:

1. A written report;
2. Data collection tools, design, and methodology;
3. A complete data set along with coding manual

Annex B:

Annex B.1: Sidr affected coastal areas (excluding Chittagong & Cox's bazar)

District	Severely affected	Moderately affected	Less affected	Not affected at all
Barguna	Barguna-s Betagi Bamna Patharghat Amtoli			
Patuakhali	Patuakhali-s Mirjaganj Bauphal Golachipa Kolapara	Dashmina		
Jhalokathi	Rajapur Kathalia	Jhalokathi-s Nalchiti		
Bhola	Bhola-s Daulatkhan Borhanuddin Charfashon	Tojumoddin Lalmohan	Monpura	
Bagerhat	Monglaport Morelganj Swarankhola	Chitalmari Bagerhat-s Kochua Rampal	Mollahat Fakirhat	
Satkhira	Tala Shyamnagar	Satkhira-s Ashashuni	Kolaroa Kaliganj	Debhata
Khulna	Koyra Dakop Paikgacha	Terokhada Rupsa Batiaghata	Dumuria	Khulna-s Phultala Digholia
Pirojpur	Bhandaria Morthbaria	Najirpur Kawkhali Pirojpur-s		Nesarabad
Barishal		Agailzhara Hijla Ujirpur Barishal-s Mehendiganj Bakerganj Gauranadi	Muladi Banaripara Babuganj	
Lakshipur				Lakshipur-s Ramganj Ramgati Raipur
Noakhali				Noakhali-s

	Chatkhil Senbag Begumganj Sudharam Companyganj Hatia
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Annex B.2: % households below poverty line income in Kurigram upazilas

Upazila	Total Population (in thousand)	Population Below Poverty Level Income (in thousand)	%Below Poverty Line Income
	1976	1290	65.28
Bhurungamari	221	144	65.16
Nageshwari	362	236	65.19
Phulbari	154	101	65.58
Kurigram	290	189	65.17
Rajarhat	181	118	65.19
Ulipur	395	258	65.32
Chilmari	124	81	65.32
Raumari	182	119	65.38
Rajibpur	67	44	65.67

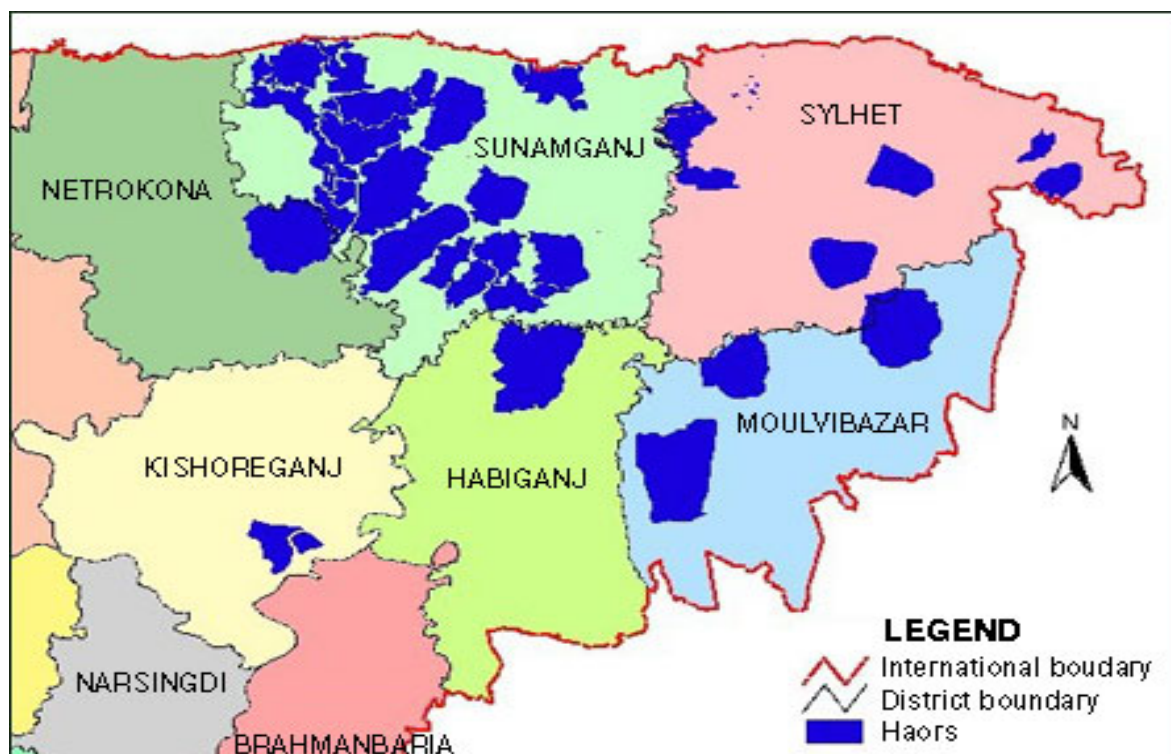
Source: Constructed from BBS Census data (2001)

Annex B.3: % households below poverty line income in Satkhira upazilas

District	Upazila	Total Population (in thousand)	Population Below Poverty Level Income (in thousand)	%Below Poverty Line Income
Satkhira		2069	931	45.02
	Kolaroa	249	112	44.98
	Sathkira	440	198	45.00
	Tala	327	147	44.95
	debhata	135	61	45.19
	Ashashuni	274	123	44.89
	Kaliganj	290	131	45.17
	Shyamnagar	354	159	44.92

Source: Constructed from BBS Census data (2001)

Annex B.4: Depiction of Haor areas



Source: Water Development Board

Annex B.5: % households below poverty line income in Sunamgonj upazilas

District	Upazila	Total Population (in thousand)	Population Below Poverty Level Income (in thousand)	%Below Poverty Line Income
Sunamganj		2231	1112	49.80
	Dharmapasha	205	102	49.76
	Tahirpur	170	85	50.00
	Jamalganj	156	78	50.00
	Dirai	227	113	49.78
	Sulla	100	50	50.00
	Jagannathpur	253	126	49.80
	Chatak	369	184	49.86
	Dwarabazar	198	99	50.00
	Sunamganj	412	205	49.76
	Bishwambarpur	141	70	49.65

Source: Constructed from BBS Census data (2001)

Annex B.6: Background of households

hhhead education (yrs)	3.0
hhsized	5.3
Children (under 16)	2.4
Land holding (in decimal)	
Total (home and yard included)	42.8
Agricultural land	26.6
Number of rooms in house	1.5
Outstanding loan (Tk)	15368
Proportion of households received loan from NGOs in the last 3 years	37%

Annex B.7: Selected areas in the map of Upazillas of Bangladesh

Upazillas of Bangladesh

