Asia-Pacific Research and Training Network on Trade

Working Paper Series, No. 100, May 2011

Coping with food price hikes: strategies of the poor in Kandy, Sri Lanka

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Abstract

High food prices have consistently forced families to adopt a myriad of coping strategies to meet their food needs. A comprehensive understanding of the nature and diversity of such strategies, the relative effectiveness of different strategies, and the factors that determine the choice of various strategies by different vulnerable groups is of prime importance in designing and implementing appropriate policies and programs on vulnerable groups. The objectives of this study are to assess: (i) the resource profile of the vulnerable households in Kandy district in Sri Lanka, (ii) food consumption pattern of the households, (iii) the coping strategies adopted by the households during the times of food price hikes, (iv) the usefulness and effectiveness of coping strategies adopted by the household, and (v) the factors that influence the decisions made by households to change their food consumption patterns in crisis situations. A primary survey was conducted with randomly selected samples of 160, 148 and 147 poor households in Gangawata-Koralaya, Harispattuwa and Doluwa which represent to urban, rural and estate sectors in Kandy district respectively using a structured questionnaire. Data was analyzed using descriptive statistics and multi-nomial logit analysis where appropriate. The results show that a variety of strategies have been used by the poor households to cope up food price hikes. Cutting down of consumption of non-food items, borrowings from the informal markets and increased dependence on friends and families are the commonly used strategies that were perceived to be useful by the households. Curtailing of food consumption has been observed, in varying degrees in different sectors and for different food items. Reductions in frequency of consumption and portion size were noted particularly in urban and estate sectors for imported food items and substitution to local products, such as jack fruit, bread fruit and yams have been noted. These findings imply that the development practitioners should pay a closer attention to the socio-cultural contexts when dealing with crises situations. The need for well articulated trade policies on imported food items, in particular wheat, sprat, soya, dhal, edible oil and milk, on which the households spends a larger share of expenditure, is highlighted.

Key words: Coping Strategies, Food Price Hikes, Sri Lanka

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1. Background and Justification

High food prices have consistently forced families to adopt a variety of coping strategies to meet their food needs. The existing empirical studies indicate that such strategies include reduction in food consumption, switching to substitutes, adopting various measures to smooth food consumption and engagement in new economic activities. The choice of a coping strategy depends on the resource profile of the household, knowledge and perceptions of the members of household on future consequences of strategies, the nature of the external environment *i.e.,* technical, biophysical, social and political aspects within which the household operates, and the degree of the crises as perceived by the households in terms of changing variables of the external environment. Therefore, it can be argued that the effectiveness of household coping strategies will be determined by the appropriateness of the context specific strategy/strategies chosen by the household (*i.e.* from among a number of alternative strategies available for them). It can also be argued that different strategies have different short term and long term effects on the sustainability of households. Consequently, the policy makers should have a comprehensive understanding of the nature and diversity of strategic responses adopted by various vulnerable groups, the factors that determine the choice of various strategies by different vulnerable groups and the relative effectiveness of varying strategies.

As a response to the recent food price hike in the world market, a number of policies and programs have been implemented by the Sri Lankan government so as to cushion the potential adverse effects to its citizens, especially for vulnerable groups. The government continued with the programs launched at the on-set of the global food crisis, with the aim of achieving food self sufficiency viz., fertilizer subsidy program, home-gardening programs and milk production promotion programs. Cesses on imports were introduced with the aim of generating revenue for developing respective sectors. The government also intervened to regulate food prices and food distribution. Import taxes on a number of essential food items[1] were revised and controls on prices were introduced. Contrary to what was observed in many developing countries, introduction of any safety nets, in addition to what was provided over the recent past, has not been recorded in Sri Lanka.

The purpose of this study is to investigate coping strategies adopted by the vulnerable households in the context of high global food prices at a selected geographical location of Sri Lanka. The specific objectives to assess (i) the resource profile of the vulnerable households in Kandy district in Sri Lanka, (ii) food consumption pattern of the households, (iii) the coping strategies adopted by the households during the times of food price hikes, (iv) the usefulness and effectiveness of coping strategies adopted by the household, and (v) the factors that influence the decisions made by households to change their food consumption patterns in crisis situations.

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[1] Sprats, potato, red onion, B onion, garlic, peas, chick peas, green gram, maisoor dhal, chillie, tinned fish and sugar are the essential items identified in 2007. A special commodity levy was applied on them. Milk powder was added to the above list in 2009. In addition, the Sri Lanka State Trading Corporation has introduced a budget pack in December 2009 containing 5 items (rice, dhal, sugar, canned fish and gram).

2. Conceptual Framework

The purpose of this section is to develop a framework to conceptualize the strategies that could be adopted by the households in order to cope up with conditions created by crisis situation subject to resource constrains faced by them. The conceptual framework developed consists of three key components, i.e., (i) the household and its resource profile, (ii) the external environment, and (iii) wellbeing of the household. Figure 01 shows how different components are linked together with the household. The forthcoming discussion attempt to conceptualize, through reviewing of relevant literature especially in relation to low income households, the components and perceived linkages among them.
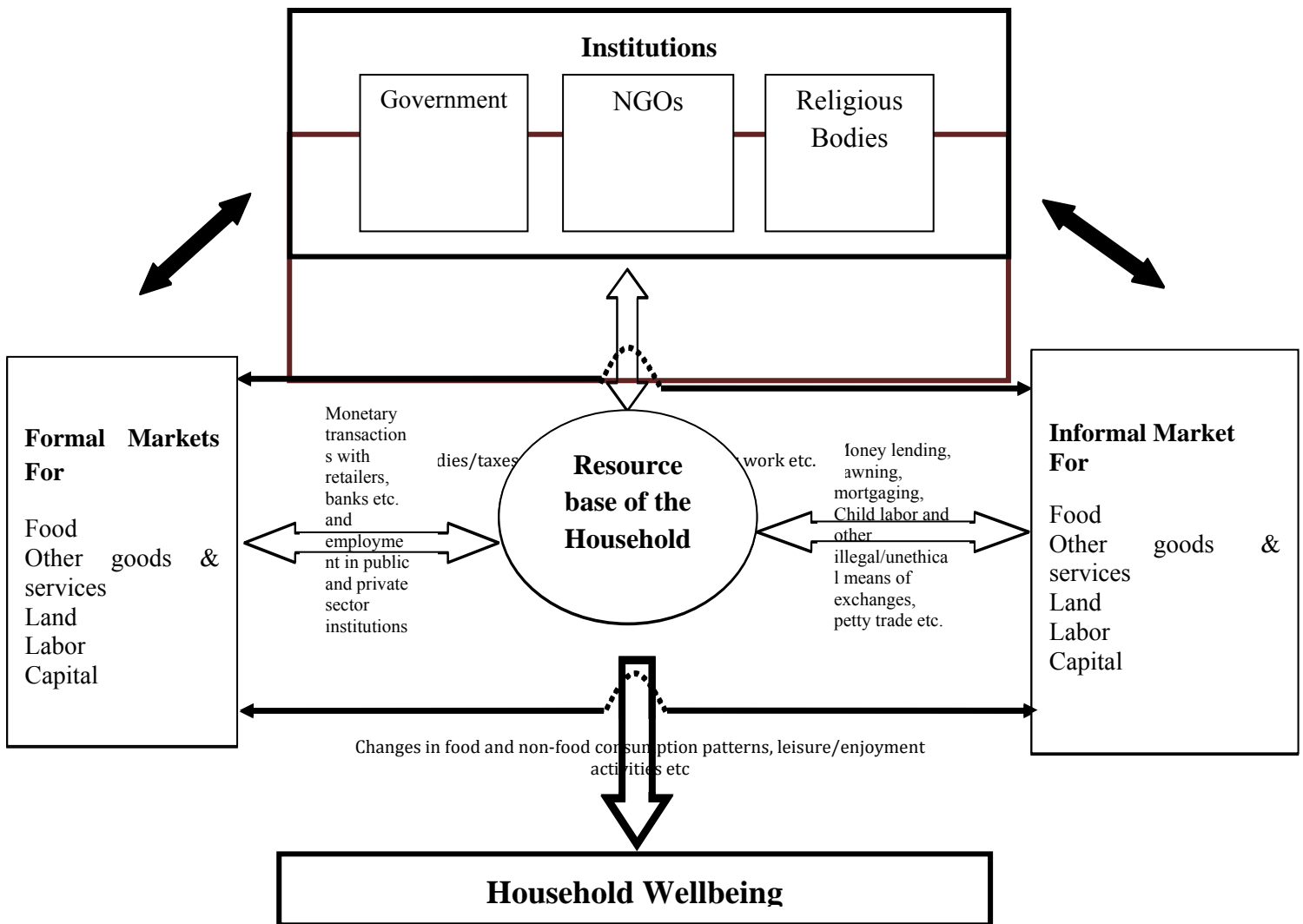
Figure 01: Conceptual Framework

2.1 Household and its Resource Profile

A household is a basic residential unit in which economic production, consumption and shelter are organized and carried out. The resource profile of the household can be broadly categorized in to (a) human (skilled and unskilled labor), (b) physical (movable and immovable assets), (c) natural (land) and (d) social (relationships with extended families, friends and social networks).

The members of household possess human resources with different skill levels and the activities they engage are dependent upon the level of skills possessed by them. Some are engaged in production activities outside of the household (by supplying labor) while the others are engaged in production activities within the household (child rearing, looking after of elderly, home production of food and other household chores) and some other members do not engage in any economic activity as they may fall into the category of dependents. The objective of the household members is to maximize satisfaction *(i.e.* household wellbeing) that they derive through consumption of various goods and services (food and non-food) and their engagement in leisure/enjoyment activities subject to their resource limitations. The wellbeing of the household hence depends on the extent to which the household members consume food and non-food items and leisure. The preferences of the household members, the resource profile and the environment within which the household operates determine the extent to which resources are utilized (*i.e.* through deferred gratification).

2.2 External Environment

The external environment is the bio-physical and socio-economic sphere outside the household for which the household do not have any control. The household interact with formal and informal market for food, labor, land, capital (pawning, mortgaging, lending), and support organization (both government and non-government) in the external environment. The accessibility to infrastructure such as markets, roads, electricity and water, is another aspect of the external environment.

The household constantly engage in exchange relationships with the external environment through supplying resources and obtaining goods and services. In return, they obtain wages, salaries, various types of rental payments and in-kind payments (food, labor, etc.).

The level of income generation, the extent to which resources are utilized (both during crisis times and non-crisis times), changes made to the patterns of consumption of food and non-food item as well as the costs incurred by the households for leisure/enjoyment ultimately determine the level of wellbeing of a given household.

2.3 Strategies Adopted During Crisis Times

A food crisis situation can be described as a change in the availability and prices in formal market, i.e., food market in the external environment.   The strategies adopted by the households in dealing with such situations have been classified into various groups by the previous researches.

Curtis (1993), by assessing famine household coping strategies during armed conflicts, argued that the household will adopt different types of strategies in the form of: (i) increasing its access to extraordinary resources, (ii) reducing its consumption, and (iii) disposing its assets so as to maintain its economic and social viability. The same author classifies strategies according to their response to risky activities by minimizing risk (at the onset of famine), absorbing risk (during famine) or taking risks (at peak of the famine). Minimization of risks can be found in the form of (a) maintenance of a minimum level of productivity (inter-cropping and planting of risk-averse crops), (b) accumulation of assets (increasing food storage, investing in valuable, and amassing capital), (c) expansion of access to credit and barter through setting up of a social support network, and (d) diversification of income base through starting-up of non-farm activities, whereas risk absorbing strategies may include selling of accumulated assets, selling farm animals (small ones first and then larger ones), calling back of outstanding loans, searching for more credit, reducing or dismissing hired farm wage laborers, cutting down the consumption of food (initially adults will eat smaller meals and as things worsen adults will miss meals and children will have smaller meals), migrating to areas with more employment opportunities (entire family or individual members) and also relying upon support from religious entities.

Maxwell *et al.* (2003) divided the coping strategies into two groups: long-term (*i.e.* longer term alteration of income earning or food production patterns and one-off responses such as asset sale) and short-term (*i.e.* immediate and short-term alteration of consumption patterns).   They identified four types of household coping strategies viz; (i) changing diets (from preferred food to cheaper less preferred food), (ii) attempting to increase food supplies using short term strategies that are not sustainable over a long period (*i.e.* borrowing, purchasing on credit, consuming wild foods), (iii) reducing the number of people to be fed by sending some of them elsewhere, and (iv) attempting to manage the shortfall by rationing the available food at the household level.

In such a situation, a household may adopt one or both of the following strategies: (a) it may earn an extra income or obtain food using some other means so as to maintain the same level of food consumption, and (b) it may reduce the quality and quantity of food consumption. In doing so, it is likely that the household may weaken its linkages with the formal food market and strengthen its linkages with the rest of the entities of the external environment.

The strategies adopted by the households to smoothen food consumption and ways in which they reduce food consumption are given in the following two sections.

2.3.1 Smoothing food consumption

It is hypothesized that households fully utilize the resources that were underutilized during non-crisis situations so as to smoothen food consumption. For an example, during non crisis periods some members of the household may not provide their labor to the market and certain other members of the household may not fully provide labor. Similarly, they may not fully utilize the lands available to them. This is not due to the fact that the household does not maximize its utility during such times, rather due to the fact that there is a trade-off between usages of a resource e.g. labor for work or leisure (Sadoulet and Janvry, 1995).

For an example, the results of the study conducted by the FAO in 2009 show that when families are faced with crisis situations characterized by declining wages and reduced demand for work, they would: (i) migrate to areas where there are job opportunities, (ii) participate in new type of economic activities (especially women), (iii) return migration to village, and (iv) sell assets and borrow from informal markets.

It is evident that certain households may also sacrifice the leisure and provide more labor to the market by even employing children with or without abiding to the labor laws in the country. According to Monlar (1999), in extreme cases, individuals and households turn to less socially acceptable means such as begging and sexual exchange. Curtis (1993) also states that frustration and anguish may lead the household to adopt risk taking strategies. Greater levels of divorce, selling of assets (starting from livestock, agricultural tools, finally land), selling of children into slavery, prostitution by women and children and crimes committed in food procurement (food rioting, looting etc.) and abandoning or suffocating of children have been cited by this author as lucid examples for such strategies.

Furthermore, the households may forgo certain socio-economic activities that would not yield immediate returns (children's education, expenditure on health, delayed payment of utility bills etc.) during crisis times so as to smoothen consumption. TEPAV, UNICEF and World Bank (2009) have reported certain types of coping strategies that were adopted by poor families in Turkey during economic crisis times. Accordingly, households have fallen behind utility payments (water, electricity, phone, gas, telephone) and lost electricity connections at least temporarily and have mobilized support from neighbors, friends, family, their community, and public programs, also leaving some families without any support. The prominent coping strategies observed were in the form of (i) curtailing/stopping the buying of non-food products, (ii) changing mode of transportation and (iii) reducing the usage of health services and (iv) withdrawing or postponing of education.

The households may incline to do more transactions with the informal market during crisis times especially when it comes to short term financing (such as pawning, mortgaging, and renting of certain capital items). Alderman *et al.* (1993) have observed that households coped with seasonal fluctuations by taking on credit from informal sources such as local lenders and shopkeepers. Ninno *et al.* (2003), through assessing household coping strategies during 1998 floods in Bangladesh, reported that households adjusted to shocks created by flood by reducing expenditure, selling assets, borrowing (*i.e.* to purchase food, education, health, farming and

business, repayment of loans, marriage and for giving dowries) and mortgage of land. Among the strategies adopted, private sector borrowing played a key role in helping households maintain consumption.

The household members may interact with the social entities and seek assistance from their social contacts and networks during crisis times. According to Alderman *et al.* (1993) households coped with seasonal fluctuations by relying on social networks, remittances and social networks. Webb and Braum (1994) have stressed the importance of studying social networks and related methods that households use to cope with post-shock food security and highlighted the danger of idealizing private coping capacities (*i.e.* in absence of external help).

Carter and Maluccio (2003) by examining the effects of shocks on child nutritional status explored as to how well households cope with shocks. Questions related to coping strategies (*i.e.,* whether assets were sold, insurance was used, money was borrowed, children were taken out of school) and non-household members who were economically linked to the household were asked and the results show that households in communities with more social capital[2] seem better able to weather shocks.

Qureshi (2007), though focusing on coping strategies, an index to measure food security was created and a number of outcomes were obtained, viz., coped alone, relied on market, received help from local institutions, received help from non-institutions and did nothing (in addition to some other strategies). The results show that relatively insecure individuals are more likely to cope alone. There is evidence that more secure households relying on the market as a coping mechanism. Local institutes helped the relatively insecure members of the community suggesting assistance reaches vulnerable populations.

2.3.2   *Changing food consumption pattern*

While some households may maintain the same level of food consumption by improving earnings, increasing borrowings and/or cutting down of non-food expenditure, the others may have to reduce their food consumption levels to cope up with food crisis situations. Such alterations may include switching to lower quality and less nutritious food, reduction of consumption by certain members of the family, reduction in frequency of consumption and/or size of the portion as well as reduction in diet diversity.

The results of FAO (2009) further show that when families are faced with declining wages and reduced demand for work, they will respond by changing the consumption patterns by shifting towards cheaper starchy foods and away from micronutrient-rich food and reduced expenditure on health, education and durable and semi-durable goods. Households have reduced food consumption expenditure and the prominent coping strategies observed were in the form of substituting into cheaper food items, reducing the quantity of food consumption as well as participation at social functions/gatherings as per the results of TPPAV, UNICEF and World Bank (2009).

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[2] Social capital refers to the connections within and between social networks. It is hypothesized that the stronger the linkages are, the greater the ability to cope up a shock.

According to Young (2008), high prices of staple food decreases the real income of households and thereby results in lower intake of the regular staple food and increases the intake of cheaper food grains, leading to lower intake of other food which ultimately leads to low energy, protein and micronutrient intake. Decreased intake of nutritious food creates higher incidence of protein energy malnutrition among the population. Further, with the reduction in the real income, households spend more time working outside home and lesser money on health care and result in lower attendance to school (which relates to lower care giving to children, high frequency and severity of illness and high level of child abuse, prostitution and banditry). It has been observed that low level of care and higher frequency of illnesses ultimately leads to high micronutrient deficiencies.

Zhu (2008), who did an investigation of the impacts of food and energy price hikes and coping strategies, noted that the livelihood of low income groups have been significantly affected in China. The same author has observed that low income urban households have shifted from consumption of high value food to lower value substitutes and all of the rural households have reduced their total consumption expenditure in real terms. Furthermore, farming households have moved towards more imbalanced diets, leading to deteriorated nutritional status of the poor.

2.4 Determinants of the Choice of Strategy

Empirical evidence suggest that the choices that households make in crisis situations are dependent upon the socio-economic characteristics of the household, its resource base, the preferences of the household members and the external environment within which they operate.

Lokshin and Yemtsov (2004), by assessing household strategies for coping with poverty and social exclusion in post-crisis Russia in the wake of recent financial crisis, revealed that household choice of survival strategy strongly depends on its human capital. They argued that, the higher the level of human capital, the more likely that the household choose an active strategy (for finding a supplementary job or increasing home production). According to them, households with low levels of human capital, those headed by pensioners, and those with low levels of education, are more likely to suffer social exclusion.

Oxfam (2008) reported that high food prices caused an increase in food insecurity and a widespread food crisis in many developing countries. With the decline in consumption, women and children have been observed as those who suffer most, as women tend to prioritize men's consumption over their own. Furthermore, those already living on the edge are particularly vulnerable (landless, slum dweller, itinerant families *etc.*).

According to Young (2008), the adverse effects of the global food crisis is largely seen among poor and female headed households, people living in the urban slums, HIV/AIDS patients and children under the age of five. World Bank (2008) also stressed that rising food prices are aggravating vulnerability of children living among conflict, instability, HIV and drought.

A study done in Ethiopia (ACF, 2009) shows those high prices have been closely followed by an increase in malnutrition and mortality rate among children under-five years of age. However, overall findings of this study have revealed that all countries have not been affected equally whereas findings from the Central African Republic have revealed only a modest increases in prices and statistically insignificant increases in malnutrition. However, evidence from the same study suggests that high global food prices have had a substantial negative impact on the livelihoods and malnutrition of households, with the decline in access to food and reduction in the diversity and quantity of diets, especially among the poor.

According to the World Food Program (WFP) the demographic groups most affected include large families with high dependency ratios, women headed or widowed households, orphans and HIV/AIDS-affected households, subsistent farming households, pastoralists, households relying on pensions and allowances, remittances or daily or casual labor and petty traders (WFP, 2004). They report irregular school attendance and health center visits. They have fewer income sources, and own fewer assets such as animal and farm equipment. Urban households were more affected than rural households.

All in all, the wellbeing of the household during the crisis times is determined by a number of factors, which include: (a) resource profile of the household, (b) the perceived opportunities and constraints in the external environment by the households and (c) the preferences of the households and the resulted interactions between the households and their external environment. The later include preferences towards different food items, attitudes towards different employment opportunities, trade-off between consumption of goods and services and leisure/enjoyment that are shaped by the socio-economic characteristics of the household (see Figure 01).

3. Data Collection and Analysis

3.1 Study Area and the Sample

As indicated in the above conceptual model, the choice of the coping strategy and ultimately the wellbeing of the household during crisis times, largely depend on the characteristics of external environment as well as the household, which may differ from one sector/geographic location to another. Therefore sampling was carried out with the objective of covering different sectors (*i.e.* urban, rural and estate[3]) of a given geographic location. Kandy district was chosen as the geographical area as it reflects the average composition of population in Sri Lanka to a greater degree. The composition of urban, rural and estate populations[4] in Kandy district are 165,986 (12.19%), 1,100,892 (80%), and 99,121 (7.28%) respectively. Three Divisional Secretariat (DS) divisions (out of the total of 20) in Kandy districts viz., *Gangawata-Koralaya, Harispattuwa* and

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[3] According to the Census of Population and Housing, 80.0, 14.6 and 5.4 percent of the population of Sri Lanka reside in rural, urban and estate sectors respectively (Department of Census and Statistics, 2001).

[4] Area governed by either a Municipal Council or a Urban Council is considered as the urban sector, where plantation areas, which are more than 20 acres of extent and having not less than 10 residential laborers, are considered as the estate sector and residential areas, which do not belong to urban sector or estate sector, are considered as the rural sector (Income and Expenditure Survey, 2006/07).

Doluwa divisions were selected for the study. This was done after considering the spread of urban, rural and estate populations reside in such divisions respectively (See Appendix Table 01 for distribution of population in Kandy district across DS divisions). Approximately 10 *Grama Niladhari* (GN) divisions[5] were randomly selected from each DS division (Appendix Table 01) and approximately 16 poor households were randomly selected from each GN division with the expectation of obtaining information from approximately 150 households. It should be noted that the number of observations in each sample is not proportionate to the population and hence can be considered as disproportionate random sampling method[6]. This method was perceived as advantageous as it allows for comparisons across sectors.

3.2   Primary Survey and the Questionnaire

Face-to-face interviews were conducted with 160, 148 and 147 households in *Gangawata-Koralaya, Harispattuwa* and *Doluwa* respectively using a structured questionnaire during June-July, 2010.

The resource base of various groups of households was elicited by asking direct questions from the respondents on the status of their education, employment, income sources and income levels, asset ownership, food preferences, health of the members of the household and access to facilities. The enumerators were instructed to note down the conditions of the houses too. The diversity of income earning activities (*i.e.* the status of pluriactivity) adopted by family members was also obtained.

Ranking of food categories/food items in the order of importance on the basis of expenditure incurred was carried out. This was mainly due to the difficulties encountered in obtaining the real expenditure incurred by households. Food items were classified into 9 main categories namely (a) starchy food, (b) vegetables/leaves/curry dishes, (c) meat, fish and eggs, (d) milk and milk food, (e) fat and oil, (f) sugar and related stuff, (g) fruits, (h) confectionaries, and (i) beverages. The respondents were asked about the importance they place on various categories of foods and different food items within such categories according to the expenditure incurred using ranks and were asked to indicate the sources of food. Such information was used to provide a description on the general food consumption pattern.

A series of questions were included in the questionnaire to identify different types of coping strategies adopted by the household during crisis times. The questions were framed in such away to obtain responses for hypothetical crisis situations arisen due to food price hikes. Specific questions were asked on the measures taken by households for smoothening food consumption pattern, new economic activities undertaken and reliance they placed on informal and formal markets as well support services and social capital they were dependent upon. The perceptions of the households on the effectiveness and usefulness of a selected set of prominent strategies

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[5] The grassroots level entity of the civil administrative structure of the country.
[6] Weighted averages need to be obtained in generalizing results as urban and estate sectors were oversampled and rural sector is under-sampled. The unweighted averages across sectors are not unbiased estimates when disproportionate random sampling is being done.

adopted were also noted. The resultant information was used to provide a description on the coping strategies with special emphasis on the linkages with the external environment.

Measures used by the households to cut down food consumption, substitution took place, and the extent to which food consumption is influenced in crises situations were elicited and such information was used to document food and nutrition security of the household during crisis times.

3.3   Method of Analysis

The analysis was performed based on data obtained from 446 respondents, of whom 373 males and 73 females, who were either the heads of households or spouses of the heads of the household. Socio-economic characteristics, the resource profile of the household, pattern of food consumption and adoption of specific coping strategies and household's perceived effectiveness towards such coping strategies were analyzed using descriptive statistics.

The factors influencing the reduction of frequency of food consumption and portion size were investigated using multi-nomial Logit analysis. Three groups of households were categorized as those who have (a) not reduced consumption at all, (b) either reduced frequency of consumption or the portion size, and (c) reduced both frequency and portion size. The dependent variable of the model reflects the above categories. The factors that influence the decision, i.e., independent variables of the model, include the socio-economic characteristics of the members of the household, particularly the head of the household and area of residence.

Algebraically, a multi-nomial logit function with three outcomes could be specified as follows:

$V_0 = 0$
$V_1 = \beta_1 X + u_1$
$V_2 = \beta_2 X + u_2$

Where V_0, V_1 and V_2 are the three outcomes (V_0 is the base outcome), β is the vector of coefficients and X is a vector of independent variables.

The coefficients of the logit model and the marginal probability associated with the respective variable were used to examine the extent to which different variables influenced the probability of choosing a particular strategy. The results of the estimations of the V_1 and V_2 are to be interpreted in relation to the base category.

The model was estimated by Maximum Likelihood Estimation technique using STATA.

4. Results and Discussion

This section first presents the profile of the sample in terms of demographic characteristics, income and employment, asset ownership, and access to facilities. Next, it presents the food consumption pattern during regular times. Then, the coping strategies adopted by the households are presented focusing on measures taken to smoothen food consumption and changes made to pattern of food consumption. Finally, the results of the multi-nomial logit model, which identified the factors that influenced the decision to reduce food consumption pattern are presented.

4.1 Characteristics of the Household:

4.1.1 Demographic Characteristics of the Household

Demographic characteristics of the study sample are presented in terms of family composition, level of education and the ethnicity and the religious background of the households. Table 1 provides key demographic characteristics of the households by sector.

Family Composition: The average family size was not statistically significant among the three geographical areas viz., 4.49, 4.43 and 4.40 members in the estate, rural and urban sectors respectively.

Educational Background: It was revealed that about 15%, 5% and 7% of household heads in the urban, rural and estate sectors respectively have not attended schools. Approximately, 49% of heads and 66% of spouses in the urban sector and 70% of heads and 75% of spouses in rural sector had their education up to the secondary level. In contrast, a majority in the estate sector, i.e., 64%, had their education only up to the primary level.

Ethnicity and Religious Background: The majority of the households is Sinhala Buddhists in all three sectors and almost in all cases both the heads and spouses of the households are in the same ethnic and religious group. Approximately 40% of the households in the estate sector are Tamils and majority of them are Hindus.

Table 1: Demographic Characteristics of the Household

Variables	Description	Head of the Household			Spouse of the Head of the Household		
		Urban	**Rural**	**Estate**	**Urban**	**Rural**	**Estate**
School education	Not attended school	20 (14.8)	8 (5.3)	10 (7)	7 (6.6)	8 (6.5)	13 (13.8)
	Primary education	48 (35.5)	35 (23.2)	100 (70.4)	26 (25.0)	20 (16.2)	60 (63.8)
	Secondary education	66 (48.8)	106 (70.3)	31(21.8)	70 (65.6)	92 (74.6)	21 (22.3)
	Degree/Diploma	-	2 (1.3)	1(0.8)	3 (2.8)	4 (3.2)	-
	Sub total	**135 (100.0)**	**150 (100.0)**	**142 (100.0)**	**105 (100.0)**	**123 (100.0)**	**94 (100.0)**
Ethnicity	Sinhala	111 (82.2)	111 (74)	85 (59.8)	92 (87.6)	91(73.9)	59 (62.7)
	Tamil	11(8.1)	24 (16)	57 (40.1)	7(6.6)	21 (17)	35 (37.2)
	Muslim	12 (8.8)	1(0.7)	-	6 (5.7)	10 (8.1)	-
	Other	-	-	-	-	1 (0.8)	-
	Sub total	**135 (100.0)**	**150 (100.0)**	**142 (100.0)**	**105 (100.0)**	**123 (100.0)**	**94 (100.0)**
Religion	Buddhism	112 (82.9)	110 (73.3)	85 (59.8)	91(86.6)	90 (73.1)	59 (62.7)
	Hinduism	10 (7.4)	22 (14.6)	52 (36.6)	6 (5.7)	19 (15.4)	31 (32.9)
	Christianity	1 (0.7)	4 (2.6)	5 (3.5)	2 (1.9)	4 (3.2)	4 (4.2)
	Islam	12(8.8)	14 (9.3)	-	6 (5.7)	10 (8.1)	-
	Sub total	**135 (100.0)**	**150 (100.0)**	**142 (100.0)**	**105 (100.0)**	**123 (100.0)**	**94 (100.0)**
Food preference	Vegetarian	10 (7.4)	2 (1.3)	14 (9.8)	8 (7.6)	5 (4)	9(9.5)
	Non-Veg I (consume milk)	2 (1.4)	2 (1.3)	1(0.7)	5 (4.7)	4 (3.2)	
	Non-Veg II (consume milk/fish/meat/eggs)	111(82.2)	130 (86.6)	111(78.1)	85 (80.9)	96 (78)	73 (77.6)
	Non-Veg III (consume fish and eggs)	10 (7.4)	14 (9.3)	16 (11.2)	5 (4.7)	16 (13)	12 (12.7)
	Other	2 (1.4)	2 (1.3)	--	2 (1.9)	2 (1.6)	-
	Sub total	**135 (100.0)**	**150 (100.0)**	**142 (100.0)**	**105 (100.0)**	**123 (100.0)**	**94 (100.0)**
Age	>14 years	-	-	-	-	-	-
	15 – 65 years	112 (82.9)	113 (75.3)	132 (92.9)	104 (99.8)	116 (94.3)	93 (98.9)
	>65 years	12 (8.8)	17 (11.3)	10 (7)	1(0.8)	7 (5.6)	1 (0.8)
	Sub total	**135 (100.0)**	**150 (100.0)**	**142 (100.0)**	**105 (100.0)**	**123 (100.0)**	**94 (100.0)**

Values in the parenthesis are percentages. Total number of household: Urban: 148, Rural: 160, Estate: 147 *Number of household heads in each sector: Urban 135 (23 female headed), Rural: 150 (22 female headed), Estate 142 (27 female headed)**Number of spouses in each sector: Urban 105, Rural: 123, Estate 94.

4.1.2 *Income and employment of the households*

Table 2 depicts the type of employment and sources of income by households by sectors. Average monthly household income levels among rural, urban and estate sectors are more or less similar, representing Rs. 16,973, 18,826 and 17,540 respectively. The majority of the household who engage in paid employment are daily wage earners attached to the private sector institutions. The results indicated that 32%, 20% and 28% of the household heads are attached to private sector institutes in urban, rural and estate sectors respectively. Around 15% of daily wage earners in the estate sector are attached to government or semi-government institutes and the fraction attached to the same in the urban and rural sectors is negligible. The fraction of households who are self employed on either full or part time basis, is also found to be negligible. *Samurdhi* benefits[7] are received by 31%, 18% and 62% of urban, rural and estate households respectively.

Table 2: Paid Employment: Daily Wage Earners

Member	Sector	Govt/ Semi Govt	Private	Foreign Employment	Other
Household head	Urban	3	42		17
		(2.30)	(32.30)		(13.10)
			3		
			(2.30)		
	Rural		29		10
			(19.70)		(6.80)
					1
					(0.70)
	Estate	19	36		7
		(14.60)	(27.70)		(5.40)
Spouse	Urban	1	6		2
		(3.40)	(20.70)		(6.90)
			1	1	
			(3.40)	(3.40)	
	Rural		2		3
			(7.10)		(10.70)
		1	1		
		(3.60)	(3.60)		
	Estate	11	5		6
		(19.60)	(8.90)		(10.70)
		1		1	
		(1.80)		(1.80)	

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[7] The Samurdhi program of social assistance was initially launched in 1995, by the Government of Sri Lanka to combat poverty in the country. The bulk of program resources are distributed as transfers of consumption grants to households with an umbrella objective of improving "the economic and social conditions of youth, women and disadvantaged groups of the society. Currently a total number of 1.6 million families' benefitted from the Samurdhi subsidy programme at a government expenditure of Rs. 9,298 million. This programme offers beneficiaries monthly coupons that can be exchanged for goods from the local co-operative store. The amount given to a household is either Rs. 1000, Rs. 500, Rs. 250, Rs. 200 or Rs. 100. Technically, the amount disbursed to a family depends on the number of members and income levels of households, (families receiving less than Rs 1500 a month are identified as the eligibility criteria).

A close examination of types of employment reveals that heads of households engage in multiple jobs and there are multiple income earners within a given family. Table 02 provides a description of employment by type and category.

4.1.3 Asset ownership of the household

Ownership of movable assets: TVs, radios, fridges, sewing machines, bicycles, agricultural implements and livestock are found to be the major moveable assets owned by the study population (Table 3). Although the ownership of TVs, radios and fridges are relatively lower in the estate sector a larger proportion of estate households own bicycles compared to that of rural and urban sectors. A relatively small percentage of urban households own sewing machines compared to that of households in the rural and estate sectors. The ownership and the usage of agricultural implements are found to be quite smaller among households in all the sectors. It is quite evident from the findings that ownership of livestock was negligible across all the three sectors. This is due to the fact that only a minority of households in all three regions engaged in agricultural activities as their primary employment.

Type of dwelling: Appendix Table 02 shows the characteristics of the dwelling owned by the respondents. The most common type of roofing material found in the urban and rural households are corrugated asbestos, which is a relatively expensive material compared to corrugated metal sheets, the most common roofing material found in the estate sector. Even though, cement is the most common form of flooring material used by the majority of respondents, a relatively larger proportion of urban and estate households have used earthen/cow dung as their flooring material, which is usually considered as a lower quality material. Plastered walls are the most common type of wall (used by 92% of the households). Approximately 11% and 16% in the urban and estate sector households have wattle and dam walls. Squatting pans are the most common type of toilets, yet pit toilets are also used by 43% and 16% of the households in urban and estate sectors.

Table 3: Asset Ownership

Type of Asset	Asset	Urban	Rural	Estate
Movable	Radio	105(78.40)	135 (86.00)	108 (74.40)
	TV	106 (76.80)	136(87.10)	98 (70.50)
	Fridge	25 (22.30)	66 (49.20)	21 (14.30)
	Bicycle	6 (6.70)	9 (7.80)	14 (11.00)
	Motorcycle	11 (11.30)	7 (6.00)	15 (11.70)
	Sewing machine	44 (12.20)	62 (48.40)	43 (33.30)
	Wheelers	4 (4.30)	11(9.10)	1 (0.90)
Movable Agricultural	Tractor	-	-	-
	Sprayer	-	1 (0.90)	5 (9.00)
	Farm tools	-	-	6 (10.90)
Farm Animal	Cattle	3 (3.70)	3 (2.70)	5 (9.00)
	Buffalo	1 (1.20)	-	1 (1.80)
	Goats	4 (4.80)	1 (0.90)	4 (7.20)
	Swine	-	-	-
	Poultry	6 (6.50)	7 (6.40)	6 (11.50)

Values in parenthesis are percentages calculated using number of respondents in each sector.

4.1.4 Access to facilities

Approximately 47%, 45% and 30% households possess mobile phones and 24%, 20% and 29% possess land telephones in the urban, rural and estate sectors respectively.

A majority of the households (85% in urban, 91% in rural and 72% in estate) obtain electricity from the national grid and a minority (14% in urban, 6% in rural and 27% in estate) uses kerosine as the source of energy for lighting. LP gas is the major source of energy used for cooking by 95% of the households in the urban sector whereas firewood is the energy source used by 74% and 98% of the household in the rural and estate sectors respectively.

Pipe borne water is the source of water used by 29%, 56% and 34% of the households in urban, rural and estate sector respectively.

The distance to the nearest hospital was taken an indication of access to infrastructure by the households. It was revealed that, on average, urban, rural and estate households are located 3.5km, 2.34km and 3.00km away from the nearest public hospital.

4.2 Food Consumption Patterns

This section describes food preferences in terms of rankings of 10 different food categories and different food items (*i.e.* by expenditure) under each category (starchy food; meat, fish and eggs; vegetables, leaves and other curry dishes; fats and oils; milk and milk food; sugar and related food; fruits; confectionaries; beverages; meals outside), by the respondents in the order of importance assigned by them, levels of food consumption, and food sources that they rely on (see Appendix Tables 3 and 4).

Findings revealed that less than 10% of the household heads and spouses are pure vegetarians (relatively larger proportion of estate households, compared to urban and rural households, are vegetarians). Approximately 75% of the non-vegetarians found to be consuming milk, eggs, fish and meat. Table 1 depicts food preferences of the household head and spouse.

An attempt was made to identify the relative importance of different food categories and food items within each category Table 04 presents relative rankings of food categories and food items within each category based on the expenditure incurred. It was revealed that among the 10 food categories examined. The highest expenditure is incurred on starchy food, followed by the broad category titled 'vegetable, leaves and other curry dishes'. 'Meat, fish and related products', 'fats and oils' and 'milk and milk food' were the third, fourth and fifth largest expenditure categories respectively.

As far as the rankings of food items under each food category is concerned, a greater majority of respondents ranked rice and wheat in the starchy food category; sprat, soya, dried fish and eggs in the category of "meat, fish and eggs"; vegetables and dhal in the category of "vegetables and related stuff" ; fresh coconut and coconut oil in the "fat and oil" category, and milk powder in the "milk food" category as the items for which a higher expenses are incurred.

Table 4: Rankings of Food Categories and Food Items within Each Food Category

Category Rank	Category	Food Item	Food Item Rank		
			Urban	Rural	Estate
1	Starchy food	Rice	1	1	1
		Wheat	2	2	2
		Chick-pea	3	3	3
		Jack fruit	4	4	4
2	Vegetables and related stuff	Vegetables	1	1	1
		Dhal	2	1	1
		Potato	3	3	4
		Green leaves	4	4	3
3	Meat, Fish and eggs	Sprat	1	1	4
		Soya	1	5	1
		Dried fish	1	2	2
		Egg	1	3	2
		Fish	5	3	5
4	Fat and oil	Fresh coconut	1	1	1
		Coconut oil	1	1	1
		Margarine	3	3	3
5	Milk and milk food	Milk powder	1	1	1
		Yogurt	2	2	2
		Curd	3	3	3
		Butter	3	4	4

Table 5 shows the average consumption levels of food items which are commonly consumed by the households. The table indicates that consumption level of cereals (rice and wheat) is larger in the estate sector and wheat consumption level in the estate sector is more than twice as high as those of rural and urban sectors. Among protein sources, estate households consume relatively more soy food stuff whereas urban and rural households consume relatively more sprats. Furthermore, vegetable and dhal consumption levels are slightly larger in the estate sector whereas consumption level of fresh coconut, coconut oil and milk powder are quite higher in the rural sector compared to those in the urban and estate sectors.

The mean comparison tests performed indicate that there are statistically significant differences among sectors in relation to consumption levels of food commodities except for dhal, milk powder and oil.

Table 5: Levels of consumption of selected food items under normal circumstances

Food items	Mean Food Consumption per household (Kg/ week)		
	Urban	**Rural**	**Estate**
Rice	7.50	7.25	8.50
	(0.29)	(0.25)	(0.28)
Wheat	2.80	2.2	4.30
	(0.43)	(0.22)	(0.35)
Soya	0.40	0.42	0.76
	(0.04)	(0.02)	(0.13)
Sprat	0.43	0.38	0.24
	(0.07)	(0.02)	(0.02)
Vegetables	3.25	3.40	4.15
	(0.17)	(0.14)	(0.21)
Dhal	0.94	0.76	1.00
	(0.07)	(0.04)	(0.07)
Fresh coconut	4.59	4.41	10.1
	(0.18)	(0.15)	(0.50)
Coconut oil	0.64	0.82	0.77
	(0.04)	(0.07)	(0.06)
Milk powder	0.55	3.51	0.6
	(0.05)	(2.93)	(0.05)

The values in the parenthesis are standard errors.

Table 6 shows the sources of food items which are commonly consumed by the households. The table clearly shows that a greater majority buys them from the market either on cash or credit. Those who obtain food items from the market, 30%, 20% and 43% of the respondents in the urban, rural and estate sectors respectively indicated that they usually buy such items on credit. Among the items for which larger expenditures are incurred by the households, rice, vegetables and fresh coconut are home grown by certain households yet only a very small proportion of the sample relies on their own cultivations for such food items. Exchange of home grown products among friends and relatives is found to be a common practice in the study area.

The Chi-square tests performed to compare frequency of food purchases on credit across sectors indicate that there are statistically significant differences among sectors except for sprats and milk powder.

Table 6: The Number and Percentage of Households Who Purchased Food on Credit by Sector (selected food items)

Food item	Urban	Rural	Estate
Rice	55	38	81
	(31.25)	(19.79)	(42.63)
Wheat	28	22	70
	(33.33)	(19.30)	(42.68)
Soya	31	19	56
	(27.43)	(24.68)	(47.46)
Sprat	31	24	39
	(30.39)	(18.60)	(48.15)
Vegetables	50	34	66
	(28.09)	(18.38)	(38.37)
Dhal	40	37	67
	(29.85)	(20.11)	(38.29)
Fresh coconut	43	32	79
	(29.86)	(18.82)	(44.13)
Coconut oil	45	34	79
	(30.82)	(19.54)	(43.17)
Milk powder	36	32	47
	(29.27)	(19.51)	(43.12)

4.3 Coping Strategies Adopted

The coping strategies adopted by the households during a crisis times are discussed under two categories: (i) smoothing of food consumption (through purchasing of food items on credit, lowering of expenditure on non food items, and by increasing income through engagement in additional income generation activities), and (ii) changing of pattern of food consumption (through lowering of frequency of consumption, reducing portion size, and/or switching to a substitute).

4.3.1 Smoothing food consumption

(i)   Purchasing of food items on credit:

As stated earlier, most of the food items consumed by the households are purchased from the market, either on cash or credit, even under normal circumstances. Table 6 shows the extent to which different food items are bought on credit. Food purchase on credit was found to be a coping strategy used during food price hikes, adopted by 46% in urban, 23% in rural and 43% in estate sector households. Among those who purchase food on credit, approximayely 80% indicated that they purchase rice on credit. The percentage of households obtained wheat based products on credit is relatively higher (60%) in the estate sector compared to those in the urban and rural sectors (20% and 30% respectively). This is due to the fact that wheat based products are the usual staple food in the estate sector. The findings show that 60% of those who purchase food on credit, in the estate sector, purchase dhal too on credit, as opposed to 34% and 38% in the urban and rural sectors respectively. Around 45% of the urban households purchase fresh coconut on credit, compared to 16% in the rural sector and 32% in the estate sector. The

percentage of households purchased coconut oil and milk powder are found to be higher in estate and rural sectors respectively compared to those in the other sectors.

(ii) Reductions of non-food consumption:

The majority of the households, relatively more in the rural sector, indicated that they cut down the purchase of clothing (76%), meals outside home (49%), delayed payments of the utility bills (for example 49% on electricity) and expenses on pilgrimages and vacations (35%).

(iii) Increased borrowings/mortgages/ pawning, selling assets and turning to friends (need a better/concise term):

Increased borrowings, selling of assets and turning to friends and relatives are another group of strategies adopted by the households to cope up the food crisis. While a smaller proportion (10% in urban, 5% in rural and 7% in estate) of the sample, in all three sectors, have sold assets as a strategy to cope up high food prices, a larger majority, especially in the estate sector, indicated that they relied on the borrowings from family, friends, money lenders and local shop keepers. Pawning, mostly jewelry, is another common strtegy adopted by most households (80%) in the estate sector, followed by urban (59%) and rural (47%) sectors. Table 7 presents the degree to which such strategies are adopted by the households in different sectors (see Appendix Table 5).

The Chi-square tests performed to compare frequency of using above strategies across sectors indicate that there are statistically significant differences among sectors with respect to borrowing from friends, borrowings from money lenders, borrowings from local shop keepers and turning to friends.

Table 7: Borrowings, Pawning and Selling Assets so as to Smoothen Food Consumption

Strategy	Urban	Rural	Estate
Bank loans	13	14	7
	(81.25)	(60.87)	(100.00)
Seettu	30	42	27
	(88.24)	(89.36)	(100.00)
Borrowings from family	27	35	31
	(87.10)	(83.33)	(100.00)
Borrowings from friends	57	41	73
	(93.44)	(85.42)	(100.00)
Borrowings from money lenders	7	20	24
	(46.67)	(66.67)	(100.00)
Borrowings from local shop keepers	28	21	70
	(90.32)	(77.78)	(100.00)
Whether assets are sold or not	10	9	6
	(10.31)	(5.20)	(6.67)
Whether assets are mortgaged or not	2	1	4
	(2.06)	(0.58)	(4.44)
Whether assets are pawned or not	57	80	80
	(58.76)	(46.24)	(88.89)
Whether loans were recalled or not	5	8	9
	(55.56)	(57.14)	(100.00)
Turned to relatives for assistance	40	28	30
	(27.00)	(17.50)	(25.21)
Turned to friends for assistance	40	29	62
	(27.70)	(19.07)	(46.96)
Moved in with relatives	9	5	11
	(6.50)	(3.31)	(9.32)

(iv)   New income generation activities:

The findings show that certain households had started to engage in new income generation activities as a coping strategy. Expansion of crop cultivation and livestock rearing, either in the home garden or elsewhere have been noted in this regard, especially by the estate households (Table 8). Seasonal or permanent migration was reported by 13%, 10% and 14% of the respondents in the urban, rural and estate sectors respectively so as to find new employment. Most of the respondents engaged in informal activities, i.e., petty trade (11%, 6% and 9% in urban, rural and estate sectors respectively) and provision of casual labor (6%, 3% and 3% in urban, rural and estate sectors respectively). New engagements with formal and relatively longer-term activities, i.e., small and medium enterprises, have not been reported.

The Chi-square tests performed to compare frequency of using different income generation activities across sectors indicate that there are statistically significant differences among sectors with respect to home gardening and engagement in small and medium enterprises.

The results of the study are in par with the results of Lokshin and Yemtsov (2001) who suggested that educated people tend to go for supplementary income earning activities. The education levels of the study sample are lower and hence such strategies have been used by the minority.

Table 08: Engagement in New Income Generation Activities so as to Cope Up High Food Prices

Strategy	Urban	Rural	Estate
Crop cultivation was expanded	19	30	34
	(12.93)	(18.763)	(23.13)
Livestock rearing was expanded	7	11	16
	(4.76)	(6.83)	(11.68)
Engagement in home gardening	14	8	25
	(9.46)	(5.00)	(17.01)
Engagement in SME	1	-	6
	(0.68)	-	(4.08)
Engagement in casual labor	9	4	5
	(6.08	(2.50)	(3.40)
Engagement in crop diversification	1	2	6
	(0.68	(1.25)	(4.08)
Engagement in petty trade	17	9	13
	(11.49)	(5.63)	(8.84)
Extraction of public natural resources	1	1	-
	(0.68)	(0.63)	-
Seasonal or permanent migration	19	16	19
	(12.93)	(10.00)	(13.57)

Values in the parenthesis are percentages from the total number of households responded for the respective question of the respective sector.

It was revealed that thefts, child labor, alcoholism and incidences of drugs addictions in the neighborhood have increased during times of high food price hikes. Significant disparities can be observed among different sectors. A larger groups of households in the urban sector noted incidences of theft (34%), alcoholism (16%) and drugs (6%). Compared to urban and estate sectors, the incidences of child labor is found to be lesser in the rural sector (7.5%). Table 9 shows certain illegal and unethical acts noted in the neighborhood by the respondents.

Poverty and destitution had not prevalent among low-income households in Kandy district, even during food price hikes and hence households did not engage in socially unacceptable risk taking activities as Curtis (1993), Monlar (1999) and Young (2008) noted.

Table 9: Unethical / Illegal Activities Observed in Neighborhood

Activity	Urban	Rural	Estate
Theft	55 (34.2)	27 (18.4)	17 (11.6)
Child labor	21 (13.0)	11 (7.5)	23 (15.6)
Begging	5 (3.1)	2 (1.4)	3 (2.0)
Alcohol	26 (16.1)	5 (3.4)	18 (12.2)
Drug	10 (6.2)	5 (3.4)	3 (2.0)

Figures in the parenthesis are the percentages of the full sample observations

4.3.2 Changing of food consumption patterns

Reductions of frequency of food consumption, number of items in the meal and portion size, substitution into a lower quality product and changing of intra-household allocation of food are some of the common strategies adopted by the households to cope up the crisis. Table 10 shows the extent to which these strategies are adopted by the households by sector. Around 46% of the households in the urban and estate sectors each indicated that they reduced consumption of rice due to the hike in food prices and a smaller proportion i.e., 19% in the rural sector indicated the same. A similar pattern can be observed for wheat based products, soya, sprat, vegetables, coconut, milk powder and dhal as shown in the Table 10. The majority of the respondents, i.e., 71%, 91% and 97% in the urban, rural and estate sectors respectively indicated that they have reduced the number of items of vegetables they consumed. The reduction of the size of the portion was evident mostly in the urban and estate sectors as a coping strategy, especially in the case of items other than rice. Switching to a lower quality produce was done by a smaller portion of the households and change in the intra-household allocation of food was noted only for milk powder.

The adaptation of coping strategies for rice, being the staple, is quite noticeable. The findings indicate that 47%, 19% and 46% have reduced the frequency of consumption, 32%, 3% and 27% reduced the size of the portion, 25%, 18% and 7% switched to lower quality rice or switched to an alternative (mainly jack fruit) in the urban, rural and estate areas respectively. Furthermore, it was revealed that 49% of the households did not either reduce the frequency of consumption of rice or portion size of rice as a coping strategy and 35% either reduced the frequency or portion size and 9% reduced both frequency and the portion size.

Milk consumption also had undergone certain changes during the crisis times. Reductions in frequency of consumption of milk powder and portion size were reported by a larger majority in urban and estate sectors compared to those in the rural sector, which reported a reduction through lowering of consumption by certain members in the family.
In general, the reductions in frequency of food consumption as well as portion size of all the food commodities found to be quite smaller in the rural sector compared to that of urban and estate sectors. The reduction in number of items in the meal was quite sizable in all three sectors.

The observations of Oxfam (2008) in relation to intra-household allocations, i.e., women tend to prioritize men's consumption over their own, was evident only with respect to milk-powder in this study. No statistically significant differences were found between male headed vs. Female headed households as noted by Young (2008).

Table 10: Changes in Pattern of Food Consumption

Sector	Strategy	Rice	Wheat	Soya	Sprat	Vegetable	Fresh Coconut	Coconut Oil	Milk Powder	Dhal
Urban	Reduction in frequency of food consumption	68	39	31	59	80	72	76	53	77
		(47.22)	(56.52)	(43.06)	(72.84)	(56.34)	(54.14)	(58.46)	(52.48)	58. (33)
	Reduction in portion size	47	45	35	33	108	60	84	86	78
		(32.64)	(65.22)	(48.61)	(40.74)	(76.06)	(45.11)	(64.62)	(85.15)	(59.09)
	Switching to a low quality product	36	1	1	3	8	4	1	11	3
		(25.00)	(1.45)	(1.39)	(3.70)	(5.63)	(3.01)	(0.77)	(10.89)	(2.27)
	Reduction in consumption by some members	7	5	3	5	3	1		16	
		(4.86)	(7.25)	(4.17)	(6.17)	(2.11)	(0.75)		(15.84)	
	Reduction in number of items per meal					101				
						(71.13)				
Rural	Reduction in frequency of food consumption	28	12	8	20	5	6	7	16	8
		(19.31)	(17.65)	(19.51)	(26.67)	(4.46)	(6.74)	(7.45)	(18.82)	(7.92)
	Reduction in portion size	5	4	7	13	12	7	2	9	9
		(3.45)	(5.88)	(17.07)	(17.33)	(10.71)	(7.87)	(2.13)	(10.59)	(8.91)
	Switching to a low quality product	26	1		1	13			10	3
		(17.93)	(1.47)		1(.33)	(11.61)			(11.76)	(2.97)
	Reduction in consumption by some members	4	1	1	1	4		1	18	2
		(2.76)	(1.47)	(2.44)	(1.33)	(3.57		(1.06)	(21.18)	(1.98)
	Reduction in number of items per meal					103				
						(91.96)				
Estate	Reduction in frequency of food consumption	67	77	44	22	68	81	79	51	116
		(46.21)	(66.96)	(50.00)	(40.00)	(50.00)	(58.27)	(57.66)	(62.20)	(84.06)
	Reduction in portion size	39	72	50	31	72	82	84	51	81
		(26.90)	(62.61)	(56.82)	(56.36)	(52.94)	(58.99)	(61.31)	(62.20)	(58.70)
	Switching to a low quality product	10	7	2	1				5	7
		(6.90)	(6.09)	(2.27)	(1.82)				(6.10)	(5.07)
	Reduction in consumption by some members	6	6			1	2	2	5	4
		(4.14)	(5.22)			(0.74)	(1.44)	(1.46)	(6.10)	2.90)
	Reduction in number of items per meal					132				
						(97.06)				

The values in the parenthesis are the percentages obtained from the respondents who respond to the respective coping strategy related to the respective food item.

Substitution by low quality food items or locally grown items is a common strategy used by a number of households. Rice has been substituted by jack fruit, manioc and bread fruit and milk powder has been substituted by tea, malted milk, yoghurt and fresh milk (Table 11). Interestingly, certain respondents indicated that they substituted most of the items, even vegetables, with rice leading to increased consumption of rice in place of other items.

Table 11: Food Substitution

Food Items	Substitutes
Rice	Rice (low quality), Wheat, Jack fruit, Manioc, Chick-pea, Bread fruit
Wheat	Rice
Sprat	Dried fish and soya
Vegetables	Jack, Bread fruit, Manioc
Dhal	soya, vegetables, green leaves, *batana* dhal
Fresh coconut	Coconut oil
Coconut oil	Fresh coconut[8]
Milk powder	Milk powder (low quality), rice, yoghurt, tea leaves, malted milk, fresh milk

4.4 Factors Affecting the Choice to Reduce Food Consumption

A multi-nomial logit model was estimated to determine the factors affecting the decision to adopt a coping strategy with respect to rice consumption. Three categories were considered in the multi-nomial logit model: (a) households that did not either reduce the frequency of consumption or portion size, (b) households that either reduced the frequency or portion size, and (c) households that reduced both frequency and portion size. The category (c) was considered as the base category and hence the results of the first and second categories are interpreted in relation to the category (c).

It was hypothesized that characteristics of the decision maker, i.e., head of the household (sex, age, level of education, ethnicity, religion), family characteristics (household income, family size, presence of non-communicable diseases in the family, dependency ratio) and environmental factors (access to infrastructure and area of residence, ability to purchase food on credit, ability to sell/mortgage or pawn assets during crisis time) influence the decision to adopt the coping strategy related to food consumption. Among the above variables, age, household income, access to infrastructure and number of assets sold/mortgaged or pawned were continuous variables and the rest was categorical. The latter was included as dummy variables in the model.

The results of the multi-nomial logit regression indicate that the model explains only a smaller fraction of the variability with a pseudo R^2 value of 0.11 and log likelihood Ratio value of -335.24 (Table 12).

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[8] Household uses both coconut milk and coconut oil as a main ingredient of cooking curries in Sri Lanka and when the price of coconut oil increases they tend to substitute oil with fresh coconut milk and they have the opportunity to control cost of usage of coconut milk vis-à-vis coconut oil.

The coefficients of the multi-nomial regression are presented in terms of the log odds, i.e., the logarithm of the odds ratio, which is given by the probability of occurrence of an event divided by the probability that the event will not happen. For continuous independent variables in a multi-nomial logit model, a one unit change in a variable will result in change in the log of odds equivalent to the magnitude of the coefficient. For dummy variables, the co-efficients show the odds of occurrence of the respective level of the dependent variable in relation to the base category of the dummy variable.

The coefficient estimates revealed that there are significant differences among various religious groups and sectors as per the choices made on the strategies adopted. The level of school education of the household head too seems to influence such choices.

The results of the estimation show that the likelihood of rural and estate households to be in the category of 'neither adopted' was significantly lower by 1.3 and 0.27 respectively compared to an urban household. In contrast, the likelihood of a rural household to be in the category of 'either adopted' is significantly lower by 1.33 compared to an urban household.

The effects of religious influences found to be statistically significant. Compared to Islamic respondents, log-odds ratios of Buddhists, Hindus and Christians in the category of people who did not adopt such strategies are higher by 18.62, 20.06 and 18.80.

An increase in household income by one unit reduces log-odds ratio of non-adopters by 0.0004 and that of adopters of both by 0.0002.

Compared to the group of house hold heads with no education, the household heads that had completed the primary education in the people who adopt either of strategies has a lower log odds ratio equivalent to 0.9 whereas the reduction was 0.75 for those who have completed secondary education.

The logs odds ratio of older household heads in the category of adopting either of the strategies has significantly higher by 0.01. Similarly, larger households have lower log odds ratios by 0.15 in the category of adopting either of the strategies.

Table 12: Multi-nomial Logit Regression Results

Variables	Category	Coefficient	Standard Error	P Value
1				
Sector	Rural	- 1.30	0.60	0.03**
	Estate	- 0.27	0.50	0.60
Religion	Buddhist	18.61	1.12	0.00***
	Hindu	20.06	1.17	0.00***
	Christianity	18.80	1.55	0.00***
Household Head	Primary Education	- 0.01	0.80	0.99
	Secondary Education	0.63	0.50	0.21
Purchased Rice on Credit		- 0.02	0.47	0.96
Purchased Other Food on Credit		0.74	0.68	0.28
Number of Assets Mortgaged/sold/pawn		- 0.33	0.38	0.38
Household Income		- 0.00	0.00	0.07*
Distance to a hospital		- 0.02	0.06	0.72
Age of Household Head		0.02	0.01	0.29
Dependency Ratio		0.02	0.13	0.90
Household Size		- 0.04	0.15	0.80
Constant		- 20.38	.	.
2				
Sector	Rural	- 1.33	0.31	0.00***
	Estate	0.24	0.31	0.43
Religion	Buddhist	- 0.53	0.48	0.26
	Hindu	- 0.25	0.56	0.66
	Christianity	-2.19	1.22	0.07*
Household Head	Primary Education	-0.90	0.46	0.05**
	Secondary Education	-0.75	0.27	0.01***
Purchased Rice on Credit		-0.22	0.29	0.44
Purchased Other Food on Credit		-0.52	0.48	0.28
Number of Assets Mortgaged/sold/pawn		0.17	0.22	0.42
Household Income		-0.00	0.00	0.08*
Distance to a hospital		-0.02	0.04	0.58
Age of Household Head		0.01	0.01	0.09 *
Dependency Ratio		0.10	0.08	0.24
Household Size		-0.15	0.09	0.10*
Constant		1.21	0.80	0.13

*Significant at 0.1 level   Number of observations: 409
** Significant at 0.05 level
*** Significant at 0.01

4.5 Effectiveness of Coping Strategies

Among the variety of coping strategies adopted by the households, some were perceived to be highly effective by them. Table 13 shows the extent to which 8 selected strategies were adopted by households by sector and the degree of effectiveness of such strategies as perceived by them. The results show that home gardening was a coping strategy adopted by 19%, 13% and 34% in the urban, rural and estate sectors. Among those who adopted them, 50%, 25% and 32.5% households in the urban, rural and estate sectors respectively perceived them to be a highly useful strategy. Engagement in supplementary work was reported by 15%, 12% and 29% and amog them 52%, 37% and 17% in the urban, rural and estate sectors respectively perceived that it was a highly useful strategy.

Relatives and friends were sources of support for many hoseholds during the crisis times. Approximately, 27%, 17.5% and 25% of households in urban, rural and estate sectors respectively had turned to friends. The former was the highly useful strtegy for 52%, 39% and 13% and the later was a highly useful strategy 30%, 14% and 13% among those who used it in urban, rural and estate sectors respectively. The above results are in line with the results of Alderman *et al.* (1993), Webb and Braum (1994) and Carter and Maluccio (2003) who also emphasized the reliance of social networks to cope up food price hikes. The results of Alderman *et al.* (1993) and Ninno et al. (2003) who observed the reliance on informal credit from shop keepers and local lenders in a significant manner also are consistent with above findings.

Cutting down of buying clothing is a strategy adopted by 75%, 76% and 53% of the households in urban, rural and estate sectors respectively among those 48%, 32% and 35% indicated that it was highly useful.

The reliance on support organization was reported by a smaller fraction of the sample, i.e.*,* by 13%, 7% and 5% in the urban, rural and estate sectors respectively. Selling of assets too was a strategy followed by only a very small fraction of the respondents (2%, 6% and 14% in urban, rural and estate respectively). This is in contrary to what Ninno et al. (2003) observed.

Table 13: Usage and Effectiveness of Selected Coping Strategies

Category	Strategy	Urban				Rural				Estate			
		Number of households used*	Number of households considered the strategy as**			Number of households used*	Number of households considered the strategy as**			Number of households used*	Number of households considered the strategy as**		
			Useful	Moderately useful	Highly useful		Useful	Moderately useful	Highly useful		Useful	Moderately useful	Highly useful
Interactions with markets	Cultivation of more crops in the home garden	26 (18.70)	2 (7.60)	10 (38.40)	13 (50.00)	20 (13.00)	3 (15.00)	12 (60.00)	5 (25.00)	40 (34.20)	11 (27.50)	14 (35.00)	13 (32.50)
	Changed the place of residence	1 (0.07)	-	-	1 (100.0)	-	-	-	-	2 (1.78)	-	2 (100.00)	
	Engagement in supplementary work	21 (15.00)	2 (9.5)	8 (38.00)	11 (52.30)	19 (11.80)	2 (12.25)	10 (52.60)	7 (36.80)	35 (28.92)	1 (2.8)	26 (74.20)	6 (17.10)
	Selling of assets	3 (2.10)		2 (66.60)	1 (33.30)	9 (5.84)	-	9 (100.00)	-	15 (13.51)	1 (6.60)	6 (40.00)	8 (53.30)
Social capital	Turned to relatives for assistance	40 (27.0)	3 (7.5)	16 (40.00)	21 (52.50)	28 (17.50)	2 (7.10)	15 (53.50)	11 (39.20)	30 (25.21)	5 (16.60)	21 (70.00)	4 (13.30)
	Turned to friends for assistance	40 (27.70)	3 (7.50)	25 (62.50)	12 (30.00)	29 (19.07)	5 (17.20)	18 (62.00)	4 (13.70)	62 (46.96)	23 (37.00)	31 (50.00)	8 (12.90)
	Moved in with relatives	9 (6.50)	-	4 (44.40)	5 (55.50)	5 (3.31)	2 (40.00)	2 (40.00)	1 (20.00)	11 (9.32)	8 (72.00)	3 (27.20)	-
Supporting organizations	Turned to the government for assistance	17 (12.60)	3 (17.60)	8 (47.00)	6 (35.20)	10 (6.57)	2 (20.00)	7 (70.00)	1 (10.00)	5 (4.54)	1 (20.00)	3 (60.00)	1 (20.00)
Cutting down of consumption	Cut down on buying clothing	111 (75.50)	6 (5.40)	51 (45.90)	53 (47.70)	121 (75.62)	9 (7.40)	72 (59.50)	39 (32.20)	75 (52.80)	16 (21.3)	33 (44.00)	26 (34.60)
	Cut down on meals outside home	69 (46.90)	5 (7.20)	30 (43.30)	33 (47.80)	77 (49.04)	8 (10.30)	37 (48.00)	32 (41.50)	54 (40.60)	5 (9.20)	23 (42.50)	25 (46.20)
	Spend less money on holidays and vacation	52 (36.33)	4 (7.60)	17 (32.60)	31 (59.60)	55 (34.59)	5 (9.00)	29 (52.70)	20 (36.30)	44 (32.60)	5 (11.30)	12 (27.20)	27 (61.30)
	Other (cut down transports)	7 (5.98)	-	3 (42.80)	4 (57.10)	3 (2.01)	1 (33.30)	2 (66.60)	-	11 (9.32)	8 (72.20)		3 (27.20)

5. Conclusions and Implications

The objectives of this study are to assess (i) the resource profile of the vulnerable households in Kandy district in Sri Lanka, (ii) food consumption pattern of the households, (iii) the coping strategies adopted by the households during the times of food price hikes, (iv) the usefulness and effectiveness of coping strategies adopted by the household, and (v) the factors that influence the decisions made by households to change their food consumption patterns in crisis situations. A primary survey was conducted with randomly selected samples of 160, 148 and 147 poor households in *Gangawata-Koralaya, Harispattuwa and Doluwa* which consists of large proportions of urban, rural and estate populations respectively in Kandy district. Data were gathered using a structured questionnaire and were analyzed using descriptive statistics and multi-nomial logit analysis where appropriate.

The results show that the three divisional secretariats, though expected to represent low-income households in urban, rural and estate sectors in Kandy district, were having certain key characteristics. The majority of the households, in all three areas, were engaged in non-agricultural activities as their primary source of income. The extent of land and agricultural assets owned by the households were rather small and the households in the estate sector showed a higher tendency to engage in more agricultural activities compared to those in the rural sector.

It was evident from the findings that a myriad of strategies have been adopted by households. Engaging in multiple income generating activities (*i.e.* being pluriactive) simultaneously as well as at different times of the year was found to be a prominent strategy adopted by almost all the households in order to adapt to the crisis situations. Purchasing of food items on credit found to be another common adaptation strategy. Findings revealed that the credit burden of the households tend to increase during crisis period. The tendency of the household to rely on their social networks found to be markedly higher during crisis situation. This was commonly visible in terms of borrowing money from the informal markets and increased dependence on friends and families that were perceived to be useful by the households.

As for starchy food, rice is perceived to be the top most important item in the diet of both rural and urban households whereas wheat based products found to be the staple diet for estate sector households. All in all, the dependence on imported food items such as wheat, sprats, soy, milk power, and dhal was quite prominent. It was evident that households have adopted a variety of food consumption related coping strategies for facing crises situations. Cutting down of consumption of non-food items was perceived to be useful by the households. Curtailing of food consumption was also observed in varying degrees in different sectors and for different food items. Reductions in frequency of consumption as well as portion size were noted particularly in urban and estate sectors especially in the case of imported food items. Substitution to local products, such as jack fruit, bread fruit and yams was also noted as food consumption related coping strategies adopted by the respondents. Selling of assets and starting up of new economic activities as coping strategies were utilized by a relatively smaller proportions of households.

The choice of strategy found to be context specific and hence noteworthy disparities are evident among rural, urban and estate sectors. Contrary to expectation, estate sector households showed a

higher dependency on homestead production activities compared to those in the rural and urban sectors.

The results imply that the development practitioners should pay a closer attention to the social relationships. Furthermore, it was quite evident from the findings that policies should be tailor made to suit the contextual differences that prevail in different sectors due to existing socio-cultural differences that have led to the adoption of different types coping strategies. One of the key policy questions arose from the study was whether the government could continue to promote rice as opposed to wheat based products (*i.e.* whether protect the local rice producer through discouraging the consumption of wheat based products) as it might give rise different impacts on different communities with different cultures. For example, although the government should continue to pay greater attention on rice as any change to the rice market have serious implications on wellbeing of the households, it should also be mindful of the fact that estate sector heavily rely on wheat and wheat based products as its staple food.

Although hunger and destitution were not prevalent among low-income households even during times of food price hikes, some of the coping strategies they have adopted, such as shifting to substitutes, must have led to the deterioration of nutritional status of household members. It was evident from the results that the imported food items, which were ranked as highly important, were rich in major nutrients and when they were substituted by relatively less nutritious items, the effects on nutritional status are adverse. Specifically, well articulated trade and domestic policies and regulations on wheat, sprat, soya, dhal, edible oil and milk, for which the households spends a larger share of expenditure, will be required.

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Appendices

Appendix Table 01: Geographical Coverage

Sector	DS division	GN divisions	Size of the sample
Rural	Harispattuwa	Yahalatenna	19
		Yahalatenna-West	08
		Seewalikanda	15
		Mahatenna	16
		Owatenna	16
		Rajasighagama	16
		Inigala	19
		Ratmale	16
		Senaratgama	16
		Batuambe	15
	Subtotal		**148**
Urban	Gangawata-Koralaya	Hanthana	15
		Bowalawatte	16
		Ketawala	15
		Ogastawatte	15
		Lewla	15
		Mahayyawa	15
		Suduhumpola-East	13
		Suduhumola-West	15
		Nagastenne	16
		Wewatenna	03
		Rajasighagama	19
		Inigala	01
		Ratmale	10
		Mahakanda	27
	Subtotal		**160**
Estate	Doluwa	Panwilatenna	18
		Nilambe	20
		Gurukele	20
		Pupurassa	10
		Hulugala	10
		Rajathalawa	14
		Mahamulgama	
		Mulgama	
		Pitawala	
	Subtotal		**147**

Appendix Table 02: Household Characteristics

Variables	Description	Urban Households	Rural Households	Estate Households
Roof	Tile	18 (12.20)	21 (130)	8 (5.40)
	Corrugated Asbestoses	82 (55.80)	106 (65.80)	32 (22.80)
	Cadjan	6 (4.10)	-	4 (2.70)
	Corrugated Metal Sheets	38 (25.90)	25 (15.50)	98 (66.70)
	Other	3 (2.10)	9 (5.60)	5 (3.40)
	Total	**147 (100.00)**	**160 (100.00)**	**147 (100.00)**
Floor	Earthen/ cow dung	31 (21.10)	8 (5.00)	27 (18.40)
	Cement	112 (76.20)	141 (87.60)	117 (79.60)
	Tiled		9 (5.60)	1 (0.70)
	Other	4 (2.70)	3 (2.80)	2 (1.40)
	Total	**147 (100.00)**	**160 (100.00)**	**147 (100.00)**
Walls	Wattle and daub	16 (10.90)	4 (2.5)	24 (16.30)
	Plastered	102 (69.40)	148 (91.9)	115 (78.20)
	Wooden	9 (6.10)	2 (1.20)	1 (0.70)
	Other	20 (13.70)	6 (4.30)	7 (4.70)
	Total	**147 (100.00)**	**160 (100.00)**	**147 (100.00)**
Toilet Facilities	None	4 (2.70)	4 (2.50)	10 (6.80)
	Pit	19 (12.90)	6 (3.70)	23 (15.60)
	Squatting pan	115 (78.20)	139 (86.30)	99 (67.30)
	Commode		9 (5.60)	3 (2.00)
	Common	9 (6.10)	3 (1.90)	12 (8.20)
	Total	**147 (100.00)**	**160 (100.00)**	**147 (100.00)**
Telephone	Land phone	33 (24.40)	32 (19.90)	42 (28.60)
	Mobile	70 (46.70)	73 (45.30)	44 (29.90)
	Cannot afford	13 (8.80)	12 (7.50)	31 (21.10)
	Not available	22 (150)	14 (8.70)	14 (9.50)
	Land phone and mobile	9 (6.10)	30 (18.60)	16 (10.90)
	Total	**147 (100.00)**	**160 (100.00)**	**147 (100.00)**
Energy source (Lighting)	National grid	125 (85.00)	146 (90.70)	106 (72.10)
	Solar cells	-	3 (1.90)	1 (0.70)
	Kerosene	20 (13.60)	9 (5.60)	40 (27.20)

Variables	Description	Urban Households	Rural Households	Estate Households
	Other	2 (0.70)	2 (1.20)	-
	Total	**147 (100.00)**	**160 (100.00)**	**147 (100.00)**
Energy source (Cooking)	National grid	-	1 (0.60)	-
	Kerosene	-	13 (8.10)	2 (1.40)
	Firewood	-	119 (73.90)	143 (97.30)
	LP gas	139 (94.60)	15 (9.30)	1 (0.70)
	Other	8 (5.40)	13(8.00)	1(0.70)
	Total	**147 (100.00)**	**160 (100.0)**	**147 (100.00)**
Water source (drinking)	Private well+ pipe line	28 (18.40)	13 (8.10)	16 (10.90)
	Public well	44 (29.90)	32 (19.90)	15 (10.50)
	Public pipeline	43 (29.30)	91 (56.50)	50 (34.00)
	Private pipeline	20 (13.60)	17 (10.70)	61 (41.50)
	Tube well	9 (6.10)	2 (1.20)	-
	Other	4 (2.40)	6 (3.60)	5(3.40)
	Total	**147 (100.00)**	**160 (100.00)**	**147 (100.00)**
Mean distance to the nearest Hospital (Km)		3.50	2.34	3.00

Values in the parenthesis are percentages from the total number of respondents for each sector

Appendix Table 03: Food Categories by Order of Importance

Food category	Number of Respondents Ranked the Category as:														
	No – 1			No – 2			No – 3			No – 4			No – 5		
	Urban	Rural	Estate	Urban	Rural	Estate	Urban	Rural	Estate	Urban	Rural	Estate	Urban	Rural	Estate
Starchy food	147	161	147	12	11	01	-	05	-	01	01	-	01	01	-
Meat, fish and eggs	02	08	-	23	43	19	54	61	87	21	15	06	28	18	17
Vegetables, leaves, and other curry dishes	02	06	01	78	80	119	35	36	17	20	27	05	05	13	03
Fats and oils	-	-	-	11	03	03	22	22	16	54	58	79	46	65	43
Milk and milk food	11	05	-	22	23	04	20	31	16	29	44	28	22	32	38
Sugar and related	-	-	-	01	-	-	09	01	11	16	12	20	27	20	35
Fruits	-	-	-	-	-	-	01	02	-	01		-	01	03	03
Confectionaries	-	-	-	-	-	-	01	-	-	02	03	01	05	-	-
Beverages	-	-	-	-	-	-	02	-	-	02	01	04	07	06	05
Total over sectors	**162**	**180**	**148**	**147**	**160**	**146**	**144**	**158**	**147**	**146**	**161**	**143**	**142**	**158**	**144**

Appendix Table 04: Food Items in Selected Food Categories by Order of Importance

Food Categories	Food Items	Urban Category Rank 01			Urban Category Rank 02			Urban Category Rank 03			Rural Category Rank 01			Rural Category Rank 02			Rural Category Rank 03			Estate Category Rank 01			Estate Category Rank 02			Estate Category Rank 03		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Starchy food	Rice	126	4	-	11	1	-	1	-	-	139	3	-	10	-	1	4	1	-	138	7					1		
	Jack	1	34	14	-	1	1	-	-	1	-	8	18	-	4	1	-	-	-				18	43				
	Chick-pea	-	24	21	-	3	5	-	-	1	-	27	30	-	-	1	-	2	2				12	17		1		
	Wheat	5	48	7	1	5	1	1	1	-	3	81	7	-	4	1	1	2	-	7	102	7						
Vegetables and related stuff	Vegetables	2	-	-	59	9	10	17	8	8	5	-	-	61	13	4	24	7	3	1			96	11	7	6	4	5
	Dhal	-	2	-	18	30	23	16	9	5	-	2	3	17	42	15	9	15	8			1	16	43	55	8	4	3
	Green leaves	-	-	1	-	29	9	-	6	5	1	4	1	-	16	21	-	9	5	1			7	54	23		3	3
	Potato	-	-	1	1	10	30	1	10	10	-	-	1	-	7	35	1	3	14					7	30	2	5	4
Meat, Fish and eggs	Sprat	-	-	1	5	2	1	23	5	3	2	1	4	4	6	13	17	24	9				1	2		13	18	7
	Soya	-	-	-	4	1	2	9	11	13	1	-	-	3	4	4	11	8	12				1	7	1	44	12	9
	Dried fish	-	-	1	5	2	1	23	5	3	1	3		6	12	5	13	14	5				3	5	2	18	22	14
	Egg	-	2	-	1	6	2	4	15	9		2	1	6	4	13	5	5	12				12	3	1	5	22	19
	Fish	1	-	-	3	6	1	3	3	7	1	1		15	8	2	10	5	8				3	1	6	6	8	12
Fat and oil	Fresh coconut				10	1	-	20	1	-				3			21	1						2		16		
	Coconut oil				1	10	-	1	20	-							1	21					3	1			16	
	Margarine				-	-	1	-	-	1							1									1	6	1
Milk and milk food	Milk powder	11	-	-	22	-	-	16	-	-	5	3		23			30	1					4			16		
	Yogurt	-	5	-	-	4	1	-	2	-		2		13	1		15	1						2			6	1
	Curd	-	-	1	-	1	-	-	-	-				3	3		1	3										3
	Butter	-	-	-	-	1	-	-	-	1				2	2		2	2									1	

Appendix Table 05: Assets Sold/Mortgaged/Pawn to Meet Food Needs

Assets	Urban			Rural			Estate		
	Sold	**Mortgaged**	**Pawn**	**Sold**	**Mortgaged**	**Pawn**	**Sold**	**Mortgaged**	**Pawn**
Radio	1 (14.2)	-	1 (14.2)	-	-	-	2 (50.0)	2(50.0)	-
TV	1 (12.5)	-	2 (25.0)	-	-	-	-	1(100.0)	-
Fridge	-	-	-	-	-	-	-	-	-
Bicycle	1 (16.6)	-	-	-	-	-	-	-	-
Motor bicycle	-	-	-	-	-	-	-	-	-
Sewing machine	-	-	1 (0.3)	-	-	-	1(25.0)	1(25.0)	2(50.0)
Jewelries	5 (8.0)	1 (1.7)	53 (85.5)	9 (9.5)	1 (1.1)	79 (83.2)	3 (3.7)	-	78 (96.2)
Motor vehicle	2 (25.0)	1 (12.5)	-	-	-	1 (8.3)	-	-	-

The values in parenthesis are percentages obtained from the fraction who respond for the each criterion under relevant sector.