Effects of the global financial crisis on the food security of poor urban households;
CASE STUDY ACCRA, GHANA

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Correct citation: Mattah, Agbeko P.D and Jonas Kofi Akpakli, Effects of the global financial crisis on the food security of poor urban households: CASE STUDY ACCRA, GHANA; Humanity Focus Foundation, Accra and RUAF Foundation, Leusden, July 2010.

This case study is one of **five case studies** implemented in the context of the study on the effects of the global crisis on the food security of poor urban households (which are accessible on line at www.ruaf.org and www.idrc.org), including (next to Accra):

- Yavich, Natalia et al, Effects of the global financial crisis on the food security of poor urban households: CASE STUDY **ROSARIO, ARGENTINA**; Investiga Más, Rosario, and RUAF Foundation, Leusden, July 2010
- Sanchez, Claudia Marcela and Yibby Forero, Effects of the global financial crisis on the food security of poor urban households: CASE STUDY **BOGOTA, COLOMBIA**; IPES-Colombia, Bogota and RUAF Foundation, Leusden, July 2010.
- Atukorala, Sunethra, Pulani Lanerolle and Angela de Silva. Effects of the global financial crisis on the food security of poor urban households: CASE STUDY **COLOMBO, SRI LANKA**; Faculty of Medicine, University of Colombo, Sri Lanka and RUAF Foundation, Leusden, July 2010
- Mwitwa Jacob and Phillimon Ng'andwe, Effects of the global financial crisis on the food security of poor urban households: CASE STUDY **KITWE, ZAMBIA**, School of Natural Resources, Copperbelt University, Kitwe and RUAF Foundation, Leusden, July 2010

The **Synthesis report** includes a comparative analysis of the five case studies and main conclusions and recommendations: *Prain, Gordon, Effects of the global financial crisis on the food security of poor urban households: Synthesis report on 5 city case studies, RUAF Foundation, Leusden, July 2010)*

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Photos: by Humanity Focus Foundation

The study was undertaken in coordination with **United Nations HABITAT**, Rome, Italy and the **International Development Research Centre** (IDRC), Ottawa, Canada.

This study was carried out with the aid of a grant provided by the **International Development Research Centre** (IDRC), Ottawa, Canada.

SUMMARY

This survey in Accra was part of a study of 5 cases to find out the effect of the recent global financial crisis on lives of poor urban households in a middle income and a low income (or slum) area in each of five cities in different continents.

In Accra, the capital of Ghana, Teshie-Nungua Estates, a middle income area, and Sabon Zongo, a low income neighbourhood, were selected for the study. Three hundred households were selected from each community making a total of 600 households. As part of the household survey, anthropometric data was collected on children 0 to 6 years and women 15 to 49 years. In addition two focus group discussions were organized with teachers in selected schools in the two communities to gain more insight on the situation in each community and the coping strategies the households applies to overcome the effects of the crisis. Also two in-depth interviews were organized with key officials to throw more light on the policy responses to the financial and food crisis.

The study observed various changes that took place in the household income, household expenditure patterns and household food consumption, due to increased inflation and the global financial, food and fuel crises. Seventy percent of households in the poor neighbourhood noticed a change in their diet in the past year. The study also found that the main source of food for 98 percent of households interviewed was from purchases. However, over 10 percent of households engaged in farming or livestock rearing in the city as a secondary source of food for the households. They produce their own food either in or around house or on a farm in the home village or vacant land at the outskirt of the city. Most of those who farmed or reared livestock started it within the past two years which was a response to economic hardship on households and it was to provide additional source of food or income for households.

Results from the anthropometric data were largely comparable with the Ghana Demographic and Health Survey (GDHS) 2008 and Multiple Indicator Cluster Survey (MICS) 2006. Twenty three percent of children under five in the study were stunted, 3.4 percent were wasted and 9 percent were underweight. Though it may be difficult to directly link this situation to the global financial crisis, it is clear that the low income earners in urban communities like Sabon Zongo are under severe economic stress. Having been under economic stress, urban households have adopted various strategies to cope with the increasing economic hardship and dwindling income. Growing own food is one of the strategies adopted by a few households, while other households rely on relatives, reduce expenditures including reducing the consumption of food or take on extra work.

In-depth interviews conducted with directors from selected government ministries revealed that various policies were adopted by the government of Ghana to reduce the effect of the global financial crisis on households of Ghana. These policies were both direct and indirect. The direct policies were the immediate responses to the financial crisis and include tax reductions on imported food products such as cereals and petroleum. Indirect policies were implemented well before the crisis set in but were meant to provide some economic relief for poor and middle income households in Ghana. Some of these indirect policies include the President's Special Initiatives (PSI) which provided jobs for many unemployed youth of Ghana and also the capitation grants and school feeding programmes, all which reduced expenditures for education of poor households. Though there are questions concerning the sustainability of these policies, they greatly helped in curbing the effects of the global financial crisis on the poor (not only in urban areas) of Ghana. This is evident in the fact that there were no civil disorders in Ghana as happened in other African countries in the aftermath of the global financial, food and fuel crises.

CONTENTS

ACKNOWLEDGMENTS

LIST OF ACRONYMS

AMA	Accra Metropolitan Area
DHRC	Dodowa Health Research Centre
DHS	Demographic Health Survey
DTCP	Department of Town and Country Planning
EA	Enumeration Area
FAO	Food and Agricultural Organization
FGD	Focus Group Discussion
GDHS	Ghana Demographic Health Survey
GDP	Gross Domestic Product
GSS	Ghana Statistical Service
HDIS	High Density Indigenous Sector
HDLCS	High Density Low Class Sector
LDNDS	Low Density Newly Developing Sector
LDHCS	Low Density High Class Sector
LDMCS	Low Density Middle Class Sector
LEKMA	Ledzokuku- Krowor Municipal Area
MDG	Millennium Development Goal
MDIS	Medium Density Indigenous Sector
MDCMCS	Medium Density Middle Class Sector
MICS	Multiple Indicator Cluster Survey
MOESW	Ministry of Employment and Social Welfare
MOFEP	Ministry of Finance and Economic Planning
NCHS	National Center for Health Statistics
NDC	National Democratic Congress
NPP	New Patriotic Party
IDI	In-depth Interview
IDRC	International Development Research Centre
RUAF	Resource Centre on Urban Agriculture and Food Security
SPSS	Statistical Package for Social Sciences
WFP	World Food Programme
WHO	World Health Organisation

1. INTRODUCTION

1.1 This study

The case study presented here is part of the "Study on the effects of the global financial crisis on the food security of poor urban households" that was undertaken in 5 cities by the RUAF Foundation on request of -and in collaboration with- the International Development Research Centre (IDRC) in Canada and UN Habitat, Nairobi.

The main objective of this study is to generate data that can help understand the extent to which rising food prices and the financial crisis are impacting on malnutrition levels in cities and how the policy and institutional context has been mitigating or exacerbating problems of food insecurity. It is hoped that the study will provide local actors with valuable information for the design of adequate policies and programmes to counteract the effects of the financial and food crisis.

An appraisal of the food security of households was conducted in selected low and middle income neighbourhoods of 5 cities in different continents through both quantitative and qualitative analysis, including Bogota (Colombia), Rosario (Argentina), Accra (Ghana), Kitwe (Zambia) and Colombo (Sri Lanka).

Although hunger is most often associated with low agriculture output, drought, and famine in rural areas, previous studies have shown that hunger is not always related to food production or availability; rather, in urban areas, other factors, such as income level, inadequate access to basic services and poor living conditions, play more significant roles. In cities, hunger is usually a consequence of people's inability to purchase food that it's both sufficient and nutritious.
Moreover, food represents about 60-80 percent of consumer spending by poor urban households in developing countries. Thus, variations in income or food prices directly translate into rising rates of malnutrition in urban areas.

The financial crisis has the potential to affect developing countries and the urban poor through economic retrenchment, negative effects on the terms of trade with the rich world and consequent job losses, especially in cities which are more directly embedded in the global economy. Because of the stage-wise nature of much household migration (Natali, 2009), the reduced remittances from family members working abroad can disproportionately affect urban households.

This financial crisis came at a time when most countries are still struggling with the impacts of rising food and fuel prices. Despite the decline in international cereal export prices from their peaks in the first half of 2008 and policy responses by governments, food prices have remained at high levels in many developing and low-income-food-deficit countries compared to five years ago. It is estimated by the World Bank that the high food and fuel prices alone have increased the number of extremely poor in the world by at least 100 million. In many cases, domestic prices are still higher than before and where they have declined, price reductions have been relatively much less than those in the international markets.

Among those at greatest risk are the urban poor that are dependent on the market to access food and since the share of food in their total expenditures is much higher than that of wealthier sections of the urban population. Especially female-headed urban households are vulnerable to the impacts of the financial crisis and rising food and fuel prices.

Against this background, UN Habitat and IDRC decided Mid 2009 to undertake this study in order to generate more data on the effects of the financial crisis and rising food prices on the urban poor and to provide local actors with valuable information for the design of adequate policies and programmes to counteract the effects of the financial and food crisis.

Four types of data were collected for this study:
- Information on the economic, policy and institutional context affecting food security, both pre-dating the crises and as positive or negative measures taken since the crises began.
- Data on the current livelihood assets and strategies of households in low and middle income areas of the case cities which reflect responses to external stresses, shocks and institutional circumstances and to the households' internal needs and constraints. These external and internal factors both pre-date and are directly related to the food price and the financial crises.
- Perceptions of survey respondents and Focus Group Discussion participants about how these recent crises have affected household livelihoods and what coping strategies they have explicitly adopted to secure their livelihoods, especially those related to food consumption.
- Anthropometric data measuring current nutritional "outcomes" among under six-year olds and fertile women between 15 and 49 years. Although the livelihood practices and coping strategies affecting food consumption which households have been pursuing contribute importantly to these nutrition "outcomes", there are other contributions, such as diseases and environmental circumstances which have not been included in the survey. In order to understand whether these nutritional outcomes have worsened since the crisis, in other words, whether the livelihood practices and coping strategies adopted by households since the food price and financial crises have had a more severe effect on nutrition the results of the anthropometric studies are compared as far as possible with earlier nutritional assessments.

In this report, the implementation and results of the case study in Accra, Ghana are represented.

The results of the comparative analysis of the outcomes of the 5 case studies are presented in the "Synthesis report".

1.2 The global financial and food crises and their impacts on the economy of Ghana

The recent global financial crisis (which met in its wake increases in prices of food products and bio fuel) has not only affected the developed nations but evidently contributed to the decline of weak economies of developing countries like Ghana. The financial crisis is characterized by a 20 percent decline in global industrial production, a decline in global GDP -the first since the Second World War- and a decline in world trade -the largest in 80 years with the sharpest losses in East Asia (World Bank, 2009). According to the World Bank, developing countries stand to face a financing gap of $270 - $700 billion depending on the severity of the crisis and strength and timing of policy responses. In the World Bank's estimation, more than 46 million people will become poor in 2009 as a result of job loss, falling wages and declining remittance flows (World Bank, 2009). This has affected global efforts to enhance human development through the Millennium Development Goals (MDGs). Until the beginning of these crises, strong attempts made globally to attain the MDG of reducing abject poverty yielded substantial results even though many gains were yet to be made in other areas like child and maternal mortality, completion of primary education, nutrition and sanitation. The combined effect of the global

financial, fuel and food crises is a threat to the attainment of the MDGs and their achievement may be delayed as a result of the crises. Unless some drastic measures are taken, the global financial crisis is bound to push over 100 million people into abject poverty and malnutrition (World Bank, 2009).

Ghana's effort to reduce poverty has been well documented (WFP, 2009). Ghana's economy has seen a steady growth of over 5 percent per annum in the past decade (FAO, 2008). This growth was mainly in the agricultural sector which employs over 60 percent of the economically active population. High prices of cocoa, gold and timber on the international market since 2001 supported the steady growth in the economy. Statistics from FAO indicated that the number of people who are undernourished has reduced from 5.4 million in 1990-92 to 3.0 million in 1995-97 and further to 1.9 million in 2003-05 (FAO, 2008). Similarly poverty declined from 58 percent to 29 percent between 1992 and 2006 (Ghana Statistical Service, 2007; WFP, 2009).
In 2008, when the food crisis hit the world, Ghana had surplus in all major staple food products except millet and sorghum (Table 1).

Table 1 Ghana's food stock as at 2008 (Metric Tonnes)

Staple Food	Estimated amount available	Estimated amount needed	Surplus / Deficit
Maize	1,038 million	998,000	38,000
Cassava	8.17 million	3.4 million	4.6 million
Yam	3.9 million	995,000	2.9 million
Plantain	3.0 million	1.9 million	1.1 million
Cocoyam	1.5 million	1.3 million	219,000
Millet	90,000	145,000	-55,000
Sorghum	127,000	230,000	-106,000

Source: http://ghanabusinessnews.com/2009/02/23/

Poverty has many dimensions- low income, ill health, malnutrition, illiteracy and insecurity with its sense of powerlessness and exclusion and may be greatly influenced by socio-environmental factors. Therefore, despite the economic development in the past decade, poverty is still widespread in Ghana.
On household levels, there is widespread poverty. The 2005/2006 Ghana Living Standards Survey established that approximately 39 percent of rural population and 11 percent of the urban dwellers were below the poverty line of about 370 Cedis (Ghana Statistical Service, 2007). Though poverty is mainly a rural phenomenon in Ghana, the 11 percent of Accra's population that is currently below the poverty line is of much concern since this figure is an astronomical increase from the 4 percent in 1998/99. According to GSS, this increase could be due to net number of migrants from rural regions into Accra (Ghana Statistical Service, 2007). These migrants, who are mostly poor and unemployed, often reside in low income neighbourhoods, densely populated areas liable to flooding.

Due to the global financial crisis, more people in Ghana have lower purchasing power as incomes remain low and remittances from relatives abroad became lower and erratic. Many people cannot have access to food mainly due to the high food prices coupled with poor road networks in Ghana. After 2008, the price of food products remained high despite good harvests and lowering food prices on the international market (although still higher than before) (FAO, 2009).

Figure 1 Trend of Poverty in Ghana (using upper poverty line of 3,708,900 old Cedis) (%)
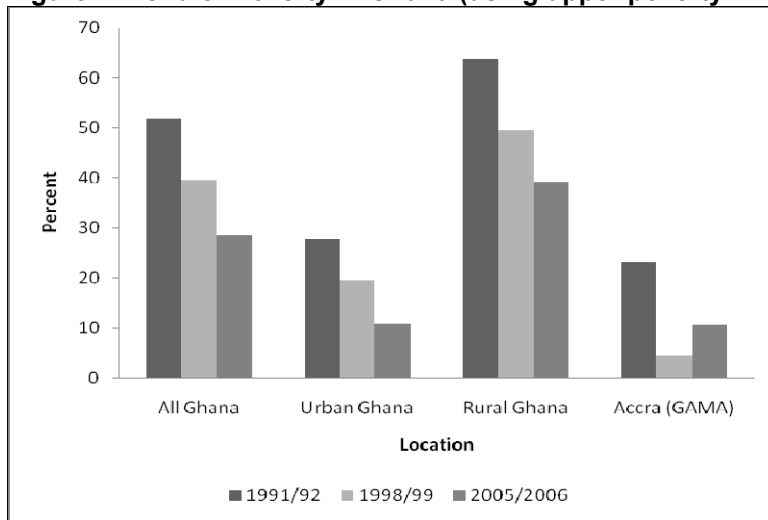
Source: Ghana Statistical Service, 2007

For all urban centres in Ghana, WFP found that the urban poor spend over 67 percent of their income on food as 80 percent of urban dwellers in Ghana have markets as their source of food (WFP, 2009). In the WFP study, 2 percent of 69,000 people surveyed in Accra were food insecure while 4 percent were vulnerable to food insecurity. Maxwell *et al.* (2000) observed that over 90 percent of food consumed in Accra, comes from household purchases.

2. ORGANISATION AND METHODOLOGY OF THE STUDY

2.1. Introduction

The studies assessed current socio-economic circumstances of households, food practices, coping strategies, the policy environment and current nutritional status of women and young children.

The case study generated data through: 1. household surveys, 2. 24 hour food recall, 3. anthropometry of under-five year olds and women from 15 to 49, 4. Focus Group Discussions with key informants in the selected neighbourhoods and 5. Individual interviews were held with officials and experts to get their opinion on policy issues.

2.2 Composition of the survey team

The survey team was made up of staff of three main research oriented institutions. Ten professional fieldworkers/ enumerators and supervisors (mostly graduates) were recruited from the Dodowa Health Research Centre (DHRC) in Dodowa near Accra. A Senior Statistician of Ghana Statistical Service was involved in the study as a co-investigator. Three senior staff of Humanity Focus Foundation including the Senior Researcher led the study team. A data manager at DHRC provided support for the nutrition data analysis.

2.3 Pre-implementation stage

Before the implementation of the study, the team adapted the study instruments to suit local conditions in Accra, Ghana. The survey questionnaire was modified and pre-tested in Madina Zongo, a suburb of Accra that shares similar characteristics with Sabon Zongo, one of the two selected areas. A few corrections were made to the questionnaire after the pre-test.
Tools for the Focus Group Discussion (FGD) and In-depth Interviews (IDI) were developed.
In Accra the Teshie-Nungua Estates, a middle income area, and Sabon Zongo, a low income neighbourhood, were selected for the study. Figure 2 shows the location of Teshie-Nungua Estates and Sabon Zongo. Both communities were until 2008 part of the Accra Metropolitan Area (AMA), Teshie-Nungua Estates was recently re-zoned under the Ledzokuku-Krowor Municipal Area (LEKMA).

Figure 2: Location of Sabon Zongo and Teshie- Nungua Estates

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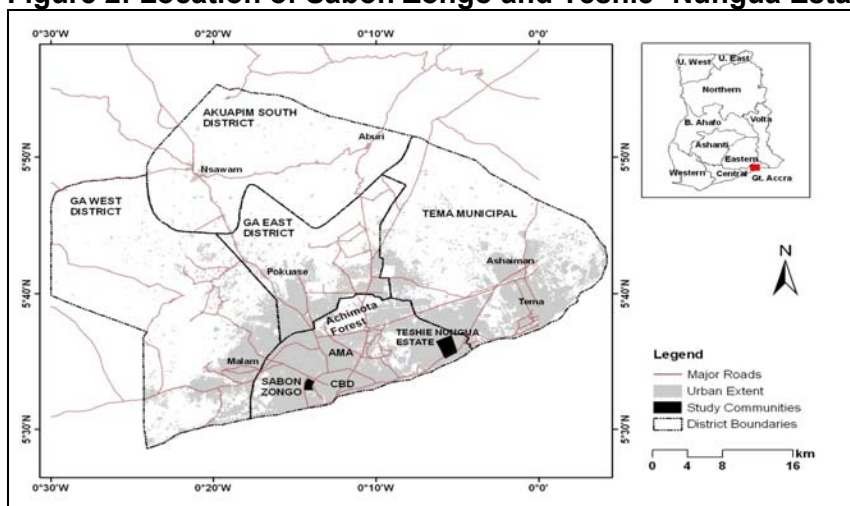
The selection was based on the classification developed by the Department of Town and Country Planning (DTCP 1992) into seven socio-environmental zones: i. High Density Indigenous Sector (HDIS), ii. High Density Low Class Sector (HDLCS), iii. Medium Density Indigenous Sector (MDIS), iv. Medium Density Middle Class Sector (MDMCS), v. Low Density Middle Class Sector (LDMCS), vi. Low Density High Class Sector (LDHCS) and vii. Low Density Newly Developing Sector (LNDS). According to DTCP (1992). Sabon Zongo and Teshie-Nungua Estates belong to HDLCS and MDMCS respectively. HDLCS are communities that have very high densities; low income population; high percentage of migrant population; ethnically diverse; extremely poor infrastructure conditions; high population growth rates; physically low-lying areas easily flooded and houses are more often than not temporary wooden shacks usually characteristic of slums. Communities within MDMCS started as LDHCS but have been overcome by rapid urbanization. Residential quality and services are good. MDMCS houses people with primary education or better and incomes are medium but slightly lower than LDHCS.

Teshie-Nungua Estates

Teshie-Nungua Estates has a total population of 18,804 residing in 4,275 households as at 2000. With a land surface area of 4.5km^2, the estate has a population density of 4,179 persons/ km^2.The estate which is located at the eastern side of AMA is sandwiched between Nungua community at the east, South Teshie at south, North Teshie at the west and Batsona at its north. It is situated on the beach road that runs from Accra to Tema. The estate is a middle income area with high educational levels. Houses of the estates are generally walled, streets tarred and the community has a well defined layout with streets and lanes demarcating various portions of the community (figure 3). Unlike other surrounding communities, potable water and electricity flow is regular.

Figure 3 Typical environment of Teshie-Nungua Estates

Sabon Zongo

The "new zongo" area, as the name implies, is the older of the two communities selected for the study. Reports have it that the community developed as early as 1912 with the migration of certain groups of Hausa settlers from the then Accra central (Low 1999). It is about two kilometres from the city business area. It is mainly a migrant community; a low income

community with large compound houses that are mostly an agglomeration of shacks that harbour so many households. Though the community is well laid out with streets and lanes, these streets are not tarred and until recently many drains were not constructed (Figure 4). The community has a total population of 18,616 residing in 4,192 households as at 2000 and with a land surface area of 1.2km^2, the community has a very high population density of 15,513 persons/ km^2. Sabon Zongo even though very congested, has regular potable water and electricity flow. Sabon Zongo covers a land surface area of 1.2km^2

Figure 4 Typical environment of Sabon Zongo

A two-stage sample procedure was applied resulting in a sample that is representative of the two communities. The first stage was based on a sample of Enumeration Areas (EAs) drawn from the updated sampling frame of the two communities, derived from the 2000 Population and Housing Census conducted by Ghana Statistical Service. Teshie-Nungua Estates has a total of 18 enumeration areas while Sabon Zongo has a total of 21. A systematic random sample of 10 EAs was drawn from each community. This was done with probability proportional to size of the EAs. At the second stage, households in each selected EAs were randomly selected. Thirty households were selected from each Enumeration Area. Thus 300 households were randomly selected from each community, making a total of 600 households.

A two-day training was organized to familiarize the field team with the survey instruments and to rehearse ways of collecting anthropometric data on children and women. Six of the enumerators were familiar with anthropometric data collection.

2.4 Data Collection

Household Survey
A total of 600 household questionnaires were administered in the two study areas. Data was collected for seven days from 18[th,] - 21st September for the first week and 25th- 27th September 2009 for the second week. Data collection was mainly restricted to weekends in order to meet all household members. The 21st of September 2009 was a public holiday in Ghana and some fieldworkers worked. Fieldwork started at 6am and ended at 6pm each day. Each fieldworker interviewed 10 households on the average per day.

Respondents to the questionnaire were adult women (15 years and above) who were caregivers -or share in care giving- to young children as stated in the terms of reference. All household members (permanent and visitors) were listed with the consent and support of the household heads (where they were available). Questions on number of times particular food and liquids were taken during the previous day by adult household members were asked directly where the members were available (24 hours recall). For children (aged 0 - 5) their mothers or caregivers were asked to provide such data.

Basic information was collected on all household members including age, sex, education, relationship to the head of the household, ethnicity and occupation. Information was collected regarding ownership of dwelling, number of income earners in the household, total income, types of food eaten the previous day and coping strategies adopted to counteract possible effects of the financial crisis.

A supplementary questionnaire was administered to the selected households on 16th, 17th, 23rd and 24th January 2010 to get additional information on other sources of food for households and expenditure of households. During the revisit to administer the supplementary questionnaire, certain households (about 30 households) were absent- either travelled or relocated.

Anthropometric measurements

During the same visits, anthropometric data were collected. Visitors who were not usual members of the households were excluded. In the survey, height and weight were obtained for all children under age six years living in the households selected for the survey. Weight measurements (in kilogrammes) were obtained using (SECA 881U) digital scales. Children who could not stand were measured using the Mother-and-baby function of the scale. Height measurements (in centimetres) were obtained using Shorr Portable Infant / Child Height/ Length measuring board. These equipments were obtained from the Nutrition Department of the Ghana Health Service. Children younger than 24 months or 2 years were measured lying down on the board, while standing height was measured for children from 2 to 6 years.

Where certain household members were absent, especially women and children, the team revisited to ensure that the measurements were collected

Focus Group Discussions

Qualitative data was collected to augment the data collected in the household survey. Two focus group discussions (FGDs) were realized, one in each of the two communities. The two FGDs were organized for teachers of the two schools identified in the communities. Each FGD group was made up of eight participants aged between 24 and 52. Two of the participants in each of the two FDGs were not married. In Sabon Zongo, the group was made up of three women and five men, while in Teshie-Nungua Estates only one woman participated in the group. The teachers were residents of the respective communities. Participants discussed issues pertaining to various changes in income levels of households, employment, wages, remittances, prices of food products and coping strategies adopted by households in the communities.

During the FDGs the following topics were discussed:
1. Livelihoods and Incomes
    - major income sources for households in this community
    - changes in level of income for households compared to last year
    - changes occurred in the income earning activities
    - main reasons that have caused these changes
2. Employment and Wages
    - job losses / sectors compared to last year

- main reasons for job losses
3. Remittances
    - Changes in remittances (frequency and/or amount) compared to last year
4. Prices of food products
    - Changes in the prices of staple food compared to last year ago
    - In which months especially
5. Expenditures and Consumption
    - Changes in income spent on various types of expenditures in this community compared to one year ago
    - Changes in the type of food that people are buying and consuming compared to one year ago
6. Coping Strategies; Support received
    - Ways the households seek to cope with poverty and hunger now and before the crisis
    - What kind of external support households in this community receive and under what conditions

In-depth Interviews

In-depth Interviews were scheduled with the Directors for Food and Agriculture (MOFA) and Employment and Social Welfare (MOESW).
The following topics were discussed during these interviews
- Effects of the global financial crisis on the Ghanaian economy and food security of the households.
- The trend in the prices of essential food items in the country for the last two years and the factors that caused the price hikes.
- The policies that government put in place to mitigate adverse consequences of the crisis at various levels and the reasons why these policies were put in place.
- The impacts and sustainability of these policies
- What more could/should have been done to reduce the rising food prices?

2.5 Data processing, analysis and reporting

The data processing involved office editing of the questionnaires, coding of open ended questions and data entry. Census and Survey Processing System (CSPro version 4), a software developed by U.S. Census Bureau and commonly used for surveys such as Demographic Health Surveys (DHS) and similar studies, was used to capture the data. The data was then exported into Statistical Package for Social Sciences (SPSS version 16) for cleaning and analysis. Epi Info version 3.5 was used to run analysis for the Anthropometric data to determine the nutritional status of the children (aged 0-5) and women (aged 15- 49). A Chi- Square test was run to test the association between variables.
The report writing included amongst others the description of findings and comparing these outcomes with the results of the 2008 Nutrition survey, the Ghana Demographic Survey (GDHS) 2008 and Micro Indicators Cluster Survey 2006.

3. RESULTS OF THE STUDY

3.1 Demographic background of the surveyed households[1]

The questionnaire was used to collect information (sex, residence, age, education, marital status, place of origin, ethnicity, religion and occupation) on all usual residence and visitors who spent the night preceding the survey in the house of the household. This mode of data collection allows the analysis of either the de jure (usual) residents of the household or the de facto household population (including visitors who spent the night preceding the interview in the household and who were present in the time of the interview).

Household population by age and sex
The 600 households interviewed had a total population of 2,206 of which 1,205 (55 percent) were females. A total of 1,176 (53%) of the population covered was from Teshie-Nungua Estates. Table 2 shows the distribution of household population by age groups and sex on community basis. The result indicated that 30 percent of the population was below age 14, while 67 percent of the total population interviewed was in the economically active age group of 15-64 years and 3 percent were 65 years and above. A total of 33 percent of the population was therefore found in the dependent (non working) age group of 0-14 years and 65+ years. Teshie-Nungua had 66 percent of its population in the economically active group and 34 percent in the dependency group. Sixty seven percent of Sabon Zongo's population were in the economically active group while 33 percent were found in the dependency group. Teshie Nungua had 51 dependents to every 100 people in the economically active group while Sabon Zongo had 60 dependents for every 100 people in the economically active age group.

Table 2 Distribution of household population by age, sex and type of community

Age group (years)	# of resp.	Teshie-Nungua Estates			Sabon Zongo			Total		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
0-4	236	11.4	12.6	10.3	9.9	11	9	10.7	11.9	9.7
5-9	250	11.8	14	9.7	10.8	12.3	9.7	11.3	13.2	9.7
10-14	184	7.8	7.6	8	8.9	9.9	8.1	8.3	8.6	8.1
15-19	184	10.3	10.1	10.5	9.7	9	10.2	10	9.6	10.4
20-24	221	9.8	7.6	11.8	9.1	7	10.7	9.5	7.4	11.3
25-29	209	10.4	8.5	12.2	12.7	11.2	13.8	11.5	9.7	13
30-34	253	9.9	9.8	10	8.6	9.4	8	9.3	9.6	9
35-39	205	8.1	8.3	7.9	8.3	7.2	9.2	8.2	7.9	8.5
40-44	181	5.2	5.5	4.9	6.5	7.9	5.4	5.8	6.6	5.1
45-49	128	3.8	4.4	3.1	3.8	4.8	2.9	3.8	4.6	3
50-54	83	5.1	3.4	6.7	4	2.9	4.8	4.6	3.1	5.8
55-59	101	2.6	3.2	2	1.9	1.5	2.2	2.3	2.5	2.1
60-64	50	1	1.6	0.5	2.3	1.8	2.8	1.6	1.7	1.6
65+	69	2.7	3.2	2.3	3.6	4.2	3.1	3.1	3.6	2.7
Total	2206	100	100	100	100	100	100	100	100	100

Educational status of households
The ages at which a population started schooling and the level of education attained are important socio-economic indicators. Education provides people with the knowledge and skills that can lead to a better quality of life. Level of education has been found to be closely

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1 Household is defined as a person or a group of persons, related or unrelated, who live together in the same house or compound, share the same housekeeping arrangements, and eat together as a unit.

associated with the health of women and children, as well as reproductive health behaviours of women and men (Ghana Statistical Service, 2008).

Table 3 shows the educational attainment of all household members. About 10 percent of the population did not have any form of education. This is higher than found in GDHS 2008 for Greater Accra Region (9 %). As characteristic of urban areas in Ghana, higher numbers (71%) of the people had at least primary education and could possibly read and write. Obviously, more males (19 %) and females (10 %) of Teshie-Nungua Estates (middle-income area) had tertiary education than males (3 %) and females (2 %) of Sabon Zongo-(low-income area). This variation in highest educational status of respondents by locality was statistically significant (p<0.001).

Table 3 Highest educational status of households by sex and type of community

Highest Educational Level	# of resp	Teshie-Nungua Estates			Sabon Zongo			Total		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
No education	214	8.4	6.8	10.0	11.3	9.6	12.7	9.8	8.0	11.3
Crèche/Kindergarten	203	9.2	10.4	8.1	9.4	10.0	8.9	9.3	10.2	8.5
Primary	401	15.7	14.8	16.6	21.3	18.7	23.3	18.3	16.6	19.8
Middle/JSS	657	25.1	23.4	26.7	35.6	35.2	35.9	30.0	28.6	31.2
Secondary/SSS	338	17.9	17.3	18.4	12.7	14.0	11.6	15.4	15.9	15.1
Vocational/Technical/Commercial	148	7.4	7.0	7.8	6.0	7.6	4.9	6.8	7.2	6.4
Post secondary (nursing/teacher/agr.	41	2.2	1.6	2.8	1.5	2.0	1.0	1.9	1.8	2.0
Tertiary	186	14.0	18.8	9.6	2.2	2.9	1.7	8.5	11.7	5.8
Total	2188	100	100	100	100	100	100	100	100	100

Table 4 explains the educational attainment of households by age distribution.

Table 4 Highest level of education by age group

Age group	# of Resp.	No education	Crèche/Kinder garten	Primary	Middle/JSS	Sec. / SSS	Vocation/Techn./Comm.	Post second.	Tertiary	Total
0-4	223	47.7	59.1	0.2	0.0	0.0	0.0	0.0	0.0	10.2
5-9	248	5.6	34.5	41.4	0.0	0.0	0.0	0.0	0.0	11.3
10-14	183	0.0	0.5	24.9	12.2	0.6	0.0	0.0	0.0	8.4
15-19	221	2.8	0.5	3.0	17.8	18.3	11.5	4.9	2.2	10.1
20-24	209	2.8	0.5	4.0	11.0	20.7	11.5	0.0	14.5	9.6
25-29	252	2.3	0.0	6.7	12.6	19.2	17.6	22.0	19.9	11.5
30-34	205	0.5	0.0	4.5	12.2	13.3	14.9	19.5	16.7	9.4
35-39	181	4.2	1.0	4.5	11.3	9.5	11.5	19.5	11.3	8.3
40-44	128	3.7	1.0	3.0	8.2	5.0	10.1	2.4	10.2	5.9
45-49	83	4.7	0.5	2.5	4.0	3.6	7.4	9.8	4.8	3.8
50+	255	25.7	2.5	5.2	10.8	9.8	15.5	22.0	20.4	11.7
Total	2188	100	100	100	100	100	100	100	100	100

Marital status of household members
Women who are in marriage[2] have a high chance of receiving economic and family care support from their spouses and this in turn may improve the quality of care provided to children. Divorced or separated women with children, on the other hand, would have to share their time between work and care for children. Table 5 shows the marital status of household members who were 12 years and above in the two areas. About 40 percent of the total population within the age group (12 years and above) were married. Further comparison between the two communities revealed that more people (41%) were married in Teshie-Nungua Estates than in Sabon Zongo (38 %). This difference is statistically significant (p =0.001). Sabon Zongo leads in the proportion of people that were living together in an informal/loose union, separated, divorced or widowed.

Table 5 Marital status of household members by type of community

Marital Status	# of resp.	Teshie/Nungua Estates			Sabon Zongo			Total		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
Never married	920	50.1	53.6	46.9	45.5	50.4	41.8	48.0	52.2	44.4
Married	759	40.6	41.7	39.7	38.4	38.5	38.3	39.6	40.3	39.0
Informal / Loose union	108	4.2	3.6	4.8	7.4	7.4	7.3	5.6	5.2	6.0
Separated	41	1.7	0.2	3.1	2.6	1.3	3.7	2.1	0.7	3.4
Divorced	36	1.4	0.4	2.4	2.4	1.6	3.1	1.9	0.9	2.7
Widowed	52	1.9	0.6	3.1	3.7	0.8	5.9	2.7	0.7	4.4
Total	1916	100	100	100	100	100	100	100	100	100

Region of origin
Almost 25 percent of the people in the two communities had Greater Accra as their region of origin. About 24 percent of the households in Sabon Zongo were from the three northern regions of Ghana which constitute the poorest regions of the country. About 6 percent of inhabitants in Sabon Zongo were from other African countries as compared to 1 percent of Teshie-Nungua Estates (Table 6). On the other hand 29 percent of people from the Volta region were found in Teshie- Nungua Estates as against 13 percent of Sabon Zongo.

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2 In this report, the term 'married' refers to legal or formal marriage, and `living together` refers to an informal union in which a man and a woman live together, even if a formal civil or religious ceremony has not occurred.

Table 6 Region of origin by sex and type of community

Region of origin	# of resp.	Teshie-Nungua Estates			Sabon Zongo			Total		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
Western	59	2.5	3.2	1.8	2.9	2.2	3.5	2.7	2.7	2.6
Central	179	9.4	9.2	9.5	6.7	6.6	6.7	8.1	8.0	8.2
Greater Accra	561	24.8	25.6	24.1	26.1	25.0	27.0	25.4	25.3	25.5
Volta	470	29.0	26.1	31.7	12.6	13.2	12.1	21.3	20.3	22.2
Eastern	299	12.6	13.5	11.8	14.6	12.5	16.3	13.6	13.1	14.0
Ashanti	158	7.8	8.5	7.2	6.4	6.6	6.2	7.2	7.7	6.7
Brong Ahafo	46	2.7	2.3	3.1	1.4	1.5	1.2	2.1	2.0	2.2
Northern Ghana	198	5.8	5.3	6.2	12.6	14.9	10.7	9.0	9.6	8.4
Upper East	130	3.2	3.7	2.8	8.9	10.3	7.8	5.9	6.7	5.2
Upper West	35	0.9	1.4	0.3	2.4	2.2	2.6	1.6	1.8	1.4
Other African	69	1.0	0.9	1.1	5.5	5.0	5.9	3.1	2.7	3.5
Europe	1	0.1	0.2	0.0	0.0	0.0	0.0	*	0.1	0.0
Other	1	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
Total	2206	100	100	100	100	100	100	100	100	100

Ethnicity of the households

Closely linked with the region of origin is ethnicity as certain ethnic groups are known to come from particular regions in Ghana. Close to 19 percent of the households interviewed were Ga/ Dangmes the only tribes known to be originating from Greater Accra. As expected, the largest ethnic group were Akans (32% of the households) which are the most dominant ethnic group in Ghana. In Table 7 the high percentage (14%) who were classified as "other" were mainly tribes from northern Ghana and West Africa. Most of these migrants from the northern Ghana resided in the low income community of Sabon Zongo where economic and environmental conditions are not favourable and poverty high.

Table 7 Ethnicity by sex and type of community

Ethnicity	# of resp.	Teshie-Nungua Estates			Sabon Zongo			Total		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
Akan	706	34.6	36.8	32.7	29.3	24.8	32.8	32.1	31.5	32.7
Ga/Dangbe	426	21.8	23.3	20.4	16.7	17.3	16.2	19.4	20.6	18.3
Ewe	471	31.2	27.5	34.6	10.2	10.6	9.9	21.4	20.0	22.7
Guan	22	1.2	0.9	1.5	0.8	0.9	0.7	1.0	0.9	1.1
Gruma	18	1.3	0.9	1.6	0.3	0.4	0.2	0.8	0.7	0.9
Mole/Dagbani	193	5.4	5.9	4.9	12.7	16.0	10.1	8.8	10.4	7.4
Grusi	56	2.0	2.3	1.8	3.1	3.5	2.8	2.5	2.9	2.3
Mande	7	0.2	0.0	0.3	0.5	0.4	0.5	0.3	0.2	0.4
Other	298	2.3	2.5	2.1	26.4	25.9	26.8	13.6	12.9	14.1
Total	2197	100	100	100	100	100	100	100	100	100

Religious affiliation

The communities have shown differences in their religious affiliations. In Table 3.7 Teshie-Nungua Estate has 92 percent of its population being Christians with the Pentecostal and Charismatic forming 50 percent. Sabon Zongo community consists of 53 percent Christians (29 % Pentecostals and Charismatic) and 46 percent Islam..

Table 8 Religion of household members by type of community

Religious affiliation	Number of respondents	Teshie/Nungua Estates	Sabon Zongo	Total
Catholic	237	13.6	7.7	10.8
Protestant	424	22.8	15.5	19.4
Pentecostal/Charismatic	878	50.0	29.0	40.1
Other Christian	67	5.3	0.5	3.1
Islam	553	6.5	46.4	25.3
Traditional	4	0.1	0.3	0.2
No religion	15	0.8	0.6	0.7
Other	10	0.9	0.0	0.5
Total	2188	100	100	100

Characteristics of household heads in the study areas
Table 9 shows various demographic characteristics of the heads of the 600 households in the two communities. Women headed households formed 33 percent of the households interviewed. Of all the women headed households, 59 percent were found in Sabon Zongo. There were more male-headed households in Teshie-Nungua Estates (54%) than Sabon Zongo (46%). Close to 66 percent of household heads were married while 9 percent were in informal loose union or living together. About 11 percent of household heads were either separated or divorced. Four out of five (83%) household heads had at least Middle/ JSS education. There is a statistical significant difference between the educational levels of household heads and the location: Teshie-Nungua 63.0% and Sabon Zongo 32.7% (p< 0.001)]. The study also discovered a significant difference between the educational levels of female headed households in both localities: Teshie-Nungua 41.5% percent and Sabon Zongo 19.1% (p= 0.014).

Table 9 Characteristics of household heads by age and sex

	Females		Males		Total	
Years	%	n	%	n	%	n
10-14	0.5	1	0.0	0	0.2	1
15-19	0.5	1	0.0	0	0.2	1
20-24	7.1	14	0.5	2	2.7	16
25-29	12.6	25	10.9	44	11.5	69
30-34	15.2	30	19.7	79	18.2	109
35-39	32.3	21	21.0	69	15.0	90
40-44	30.8	20	18.0	59	13.2	79
45-49	20.0	13	13.4	44	9.5	57
50-54	41.5	27	9.5	31	9.7	58
55-59	23.1	15	7.6	25	6.7	40
60-64	5.6	11	4.0	16	4.5	27
65+	10.1	20	8.2	33	8.8	53

Table 9 continued

Marital Status of household head	Females		Males		Both Sexes	
	%	# of Females	%	# of Males	%	Total
Never Married	12.6	25	5.5	22	7.8	47
Married	32.8	65	81.6	328	65.5	393
Informal Loose Union/ Living Together	8.6	17	8.5	34	8.5	51
Separated	13.6	27	1.5	6	5.5	33
Divorced	13.6	27	1.7	7	5.7	34
Widowed	18.7	37	1.2	5	7.0	42
Communities						
Sabon Zongo	58.6	116	45.8	184	50.0	300
Teshie-Nungua Estates	41.4	82	54.2	218	50.0	300
Highest Educ. level of household heads						
No education	14.1	28	5.2	21	8.2	49
Creche/ Kindergarten	1.0	2	0.7	3	0.8	5
Primary	16.2	32	4.5	18	8.3	50
Middle/ JSS	40.4	80	32.1	129	34.8	209
Secondary/SSS	13.1	26	19.9	80	17.7	106
Vocational/ Technical/Commercial	4.5	9	12.4	50	9.8	59
Post Secondary	4.0	8	3.8	15	3.8	23
Tertiary	6.6	13	21.4	86	16.5	99

3.2 Socio-economic background of the surveyed households

Ownership of housing structure

Table 10 shows that about 41 percent of the households in the two communities living there for three years or more, owned the structures they lived in.

There was a statistically significant (p< 0.001) difference between the two communities: while 23 percent of the inhabitants of Teshie-Nungua owned the structures they lived in, a lesser percentage (13%) owned their structures in Sabon Zongo. More households (201) in Sabon Zongo lived in premises that were rented and more than 75 percent of them have been living in those premises for less than 2 years. While no household is squatting in Teshie-Nungua, about 0.3 percent of households in Sabon Zongo were squatters.

Table 10 Ownership of housing structure by number of years that the household lived continuously in this structure and type of community

	# of households	Period that household live continuously in structure			
		Below 1 year	Between 1 and 2 years	3 years or more	Total
Owns	208	8.3	13.2	40.9	35.3
Pays rent or lease	345	83.3	82.4	52.7	58.6
No rent with consent of owner	34	8.3	3.3	6.1	5.8
No rent squatting	2	0.0	1.1	0.2	0.3
Total	**589**	**100**	**100**	**100**	**100**
Teshie-Nungua Estates					
Owns	133	4.2	5.5	26.8	22.6
Pays rent/Lease	144	54.2	36.3	20.7	24.4
No rent with consent of owner	16	8.3	1.1	2.7	2.7
No rent squatting	0	0.0	0.0	0.0	0.0
Total	293	66.7	42.9	50.2	49.7
Sabon Zongo					
Owns	75	4.2	7.7	14.1	12.7
Pays rent/Lease	201	29.2	46.2	32.1	34.1
No rent with consent of owner	18	0.0	2.2	3.4	3.1
No rent squatting	2	0.0	1.1	0.2	0.3
Total	**296**	**33.3**	**57.1**	**49.8**	**50.3**

Income of the households

Table 11 summarizes the monthly income of all the households encountered in the survey. Majority of households (49 percent) were found in the income group of 1- 200 Ghana Cedis while two percent earned nothing and were dependent on gifts, remittances and other transfers from relatives and friends. Thirty- two percent of households in Teshie-Nungua Estates earned 500 Cedis and above as compared to 10 percent in the same income group at Sabon Zongo. A statistically significant difference at (p-value< 0.001) was observed between household income and the type of community where the households are live: while households of Teshie-Nungua Estates are evenly distributed across the various income groups, households of Sabon Zongo are skewed toward the low income groups.

Table 11 Total household income per month by type of community

Cedis	# of resp.	Teshie/Nungua Estates	Sabon Zongo	Total
0	12	1.0	3.0	2.0
1 - 200	289	38.4	60.1	49.1
201 - 500	177	30	30.2	30.1
501or More	122	31.6	9.6	20.7
Total	600	100	100	100

Table 12 shows that 60 percent of all the household heads who completed tertiary education were in the highest income group of > 501 Ghana Cedis. Only 9 percent of those who completed Middle/JSS were in the highest income group as compared to 15 percent of the household heads who had no education at all. These differences are statistically significant (p< 0.001). Even though income of households may depend upon several factors such as the total

number of income earners in the household and the type of occupation of the household members, it is seen here that education of the household head highly determines to what income group a household belongs.

Table 12 Monthly income of households by educational status of household heads n (%)

(Cedis)	Educational status of household heads							
	No education	Primary	Middle /JSS	Sec. / SSS	Voc/Tech /Comm	Post sec.	Tert.	Total
< = 200	30	33	130	52	29	6	9	289
	(62.5)	(66.0)	(63.1)	(50.5)	(50.0)	(25.0)	(9.1)	(49.1)
201-500	11	12	58	33	22	10	31	177
	(22.9)	(24.0)	(28.2)	(32.0)	(37.9)	(41.7)	(31.3)	(30.1)
> 501	7	5	18	18	7	8	59	122
	(14.6)	(10.0)	(8.7)	(17.5)	(12.1)	(33.3)	(59.6)	(20.7)
Total	48	50	206	103	58	24	99	588
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)

Participants in the focus group discussions mentioned as major income sources for households in these communities: (i) salaries/ wages (if the person is a salaried worker), (ii) extra work in whatever occupation the person has (e.g. teachers organize extra classes for school children so as to get additional income), (iii) trading- buying and selling, (iv) dependence on remittances from relatives both in Ghana and abroad and (v) farming. Most households have multiple income sources.

According to the participants in the FGD, changes have occurred in the income earnings of people in the respective communities in the past one year. The changes were characterized by (i) marginal increases in the salaries / wages; (i) increases in inflation and (iii) increases in prices of commodities. Value of money has reduced and people have to work extra hard to get what they used to get last year (2008). Debtors currently take longer periods in redeeming their debts. Profits made currently are lower as compared to what was earned last year.

An equal number of households (63) in each of both communities said they occasionally receive remittances from relatives abroad. About 80 percent of respondents from Sabon Zongo and 67 percent from Teshie- Nungua Estates reported that during the last year changes had occurred in the remittances they received. Regarding the type of change in remittances, 45 percent of respondents in both communities mentioned a decrease in both amount and frequency of remittance, which was confirmed by the participants in the FGD. According to the FGD groups these changes can be attributed to a change in government3, loss of jobs, general increase in prices of food products and change in location of businesses as city authorities (AMA) stopped hawkers from selling on pavements. The core of the issue was that incomes have generally become insufficient than ever.

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3 Ghana's democratic election in 2008 brought in the National Democratic Congress (NDC party) to replace the New Patriotic Party in government.

Occupation of household members

From the 1651 economically active persons (between 15-64 years) 1174 (71%) had some form of occupation (Table 13). Twelve percent of those having some form of occupation were unemployed at the time of the survey. Of the economically active group 477 (29%) was either in school or in apprenticeship. The main occupation of household members was petty trading (39 percent). Though petty trading mainly involved women (52%) a quarter of working men (25%) also engaged in petty trading.

A higher percentage (51%) of the population in Sabon Zongo is engaged in petty trading as compared to 29 percent of Teshie- Nungua Estates. More so, a higher number (35%) of the males from Sabon Zongo engaged in petty trading than those from Teshie- Nungua 17 percent. This may possibly be attributed to the proximity of Sabon Zongo to Agbogbloshie, the city business centre where food products from other parts of Ghana are sold.

More than 7 percent of the respondents were artisans in the building and construction industry while another 7 percent were into transport business as commercial vehicle drivers or drivers' mates. Close to 6 percent of household members were tailors, dressmakers, hairdressers and barbers who were grouped together as beauticians.

Respondents from the focus group discussion noted that there have been job losses especially among politicians, people in civil service, workers in industries and unskilled workers. Respondents in Sabon Zongo sited the political reasons, world economic and financial crisis and health problems as contributing to job losses in Ghana. Meanwhile all the respondents agreed that wages for unskilled workers in Ghana have increased though very marginal.

Table 13 Occupation of household members by type of community (%)

Occupation	Sabon Zongo			Teshie- Nungua Estates			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Artisan / labourer	9.7	1.4	4.9	10.4	2.1	6.1	10.1	1.7	7.4
Petty trading	34.6	62.8	50.9	17.2	41.4	29.8	25.1	52.3	38.5
Beautician	2.7	13.6	9.0	3.9	19.0	11.8	3.4	16.3	6.3
Teacher/ Edu worker	5.1	4.0	4.4	6.2	5.7	5.9	5.7	4.8	5.0
Administrator / Secr.	3.1	1.1	2.0	2.6	3.6	3.1	2.8	2.3	2.4
Caterer/Hotelier	0.8	2.0	1.5	2.6	4.5	3.6	1.8	3.2	1.6
Lawyer/Judge	0.0	0.0	0.0	0.6	0.0	0.3	0.4	0.0	0.2
Engineer	0.4	0.0	0.2	2.3	0.0	1.1	1.4	0.0	0.8
Retired/Pensioner	5.1	3.1	3.9	5.2	2.4	3.7	5.1	2.8	4.5
Acc./Banker	1.2	0.3	0.7	4.2	0.9	2.5	2.8	0.6	1.7
Dev.work/Researcher	0.4	0.0	0.2	1.9	0.9	1.4	1.2	0.4	0.7
Sec. worker	2.3	0.0	1.0	3.2	0.6	1.9	2.8	0.3	1.9
Health worker	0.0	0.0	0.0	3.2	3.3	3.3	1.8	1.6	0.9
Technician	9.3	0.6	4.3	8.4	0.0	4.0	8.8	0.3	6.5
Driver/Driver's mate	12.5	0.3	5.4	6.8	0.3	3.4	9.4	0.3	7.3
Estate Dev.	1.9	0.0	0.8	1.9	0.0	0.9	1.9	0.0	1.4
Clergy	0.0	0.0	0.0	0.3	0.0	0.2	0.2	0.0	0.1
Journalist/Actor	0.8	0.3	0.5	0.3	0.0	0.2	0.5	0.1	0.5
Farmer/Agric worker	0.4	0.0	0.2	1.6	0.0	0.8	1.1	0.0	0.6
Unemployed	9.7	10.5	10.2	16.9	15.5	16.1	13.6	12.9	11.8
Total	100	100	100	100	100	100	100	100	100

3.3 Types of food consumed by the households

The type, quality and quantity of foods consumed by households have a direct impact on their health and that of their dependants. The survey included questions on the types of foods consumed and the number of times households consumed the food during the day and the night preceding the interview. In this section, we analyse the relations between the various socio-demographic and socio-economic characteristics of the households and the type of food consumed in the households.

Consumption of Infant formula by households with infants

Infant formula is an artificial substitute for human breast milk, intended for infant consumption. A 2001 WHO report finds that infant formula prepared in accordance with applicable *Codex Alimentarius* standards is a nutritionally adequate and safe complementary food and a suitable breast milk substitute. Nonetheless, with few exceptions the WHO report recommends exclusive breastfeeding for the first 6 months of life for all babies.

A total of 43 children in the survey were below one year of age. Table 14 shows the number of times commercially produced infant formula was taken by children below one year. The study revealed that six children below 6 months of age (who were supposed to be exclusively breast feeding) were fed on infant formula four of which in Teshie-Nungua Estates. Infants who consumed infant formula are evenly distributed across the income groups (Table 15).

Table 14 Consumption of infant formula by age n (%)

# of times infant formula was taken during the previous day	Age group	
	<= 6 months	**>6 but <=12 months**
None	13 (68.4)	8 (33.3)
Once	1 (5.3)	3 (12.5)
Twice	3 (15.8)	4 (16.7)
3 times	2 (10.5)	7 (29.2)
4 times	0 (0.0)	2 (8.3)
Total	19 (100)	24 (100)

Table 15: Consumption of infant formula by income groups n (%)

# of times infant formula was taken	<= 6 months			>6 but <=12 months			Total		
	<=200	**201-500**	**> 500**	**<= 200**	**201-500**	**> 500**	**< = 200**	**201-500**	**> 500**
None	9	3	1	6	1	1	14	4	2
	(75.0)	(75.0)	(33.3)	(50.0)	(12.5)	(33.3)	(62.5)	(33.3)	(33.3)
Once	0	1	0	0	2	0	0	3	0
	(0.0)	(25.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(25.0)	(0.0)
Twice	1	0	2	3	1	0	1	1	2
	(8.3)	(0.0)	(66.7)	(25.0)	(12.5)	(0.0)	(16.7)	(8.3)	(33.3)
3 times	2	0	0	3	4	0	5	4	0
	(16.7)	(0.0)	(0.0)	(25.0)	(50.0)	(0.0)	(20.8)	(33.3)	(0.0)
4 times	0	0	0	0	0	2	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(33.3)
Total	12	4	3	12	8	3	20	12	6
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)

Consumption of water and other liquids in the households
Water makes up more than two thirds of the weight of the human body, and without it, humans would die in a few days. The Ministry of Health of Ghana recommends drinking at least 8 glasses of water a day. Individuals in households were asked the number of times they drank water, fruit juice and any other liquids the previous day. For water, depending on the type of cups used, it is assumed that one time drinking is equivalent to one and one-half glass for adults and half to one glass for children.

Table 16 shows the average number of times various liquids were consumed in the day or night preceding the interview. Both males and females of Teshie-Nungua Estates took more water (mean of 5.0 and 4.7 respectively per day) than their counterparts in Sabon Zongo (mean of 4.2 and 4.1 per day). Consumption of fruit juice was more (mean 0.3) in Teshie- Nungua Estates than Sabon Zongo (mean 0.2). Consumption of other liquids was the same (mean 0.2) for both communities.

Table 16 Mean number of times water and other liquids were consumed in a day by sex and type of community

Locality	Sex	Plain water	Fruit juice	Any other liquid
Sabon Zongo	Male	4.2	0.2	0.2
	Female	4.1	0.2	0.2
	Total	4.1	0.2	0.2
Teshie/Nungua Estates	Male	5	0.3	0.2
	Female	4.7	0.3	0.2
	Total	4.8	0.3	0.2
Total	Male	4.6	0.3	0.2
	Female	4.4	0.3	0.2
	Total	4.5	0.3	0.2

Further analysis revealed that income of households did not affect the rate of water consumption. Income however was important in the consumption of fruit juice and other liquids as is shown in Table 17. There is statistical significant difference ($p< 0.001$) between income and consumption of both fruit juice and other liquids. Other liquids here did not include alcoholic beverages.

Table 17: Consumption of fruit juice and other liquids by income group n (%)

Income Group	Fruit Juice	Any other liquid
<200 Cedis	154	78
	(15.7)	(8.1)
200- 500 Cedis	180	152
	(27.1)	(23.3)
> 500 Cedis	203	111
	(43.9)	(24.8)

Consumption of grain based food
Table 18 shows that 95 percent of the respondents consumed grain based food products the day/night before the survey. Grain-based foods that are mostly consumed in Accra include Banku, Kenkey, Tuo zafi, Rice and Omotuo. On the whole, 53 percent of those who consumed grain-based food the day before the survey were from Teshie-Nungua while 47 percent resided in Sabon Zongo. This difference is statistically significant ($p < 0.001$).

Table 18 Consumption of grain-based food products by type of community

Number of times grain-based foods were consumed	Sabon Zongo %	Teshie/Nungua Estates %	Total %	# of resp.
None	3.7	6.9	5.4	115
Once	14.5	42.1	29.1	624
Twice	59.1	40.5	49.3	1058
Three or more times	22.7	10.5	16.2	349
Total	100	100	100	2146

Consumption of Carotene-rich vegetables and roots

Only 11 percent of the respondents Teshie-Nungua and 7 % of Sabon Zongo consumed carotene-rich vegetables like carrots, pumpkin, sweet potatoes etcetera the day preceding the survey (Table 19). This difference is statistically significant (p = 0.009).

Table 19 Consumption of carotene-rich food by type of community

# of times carotene-rich food was consumed previous day	Sabon Zongo %	Teshie/Nungua Estates %	Total %	No. of Respondents
None	91.3	86.3	88.7	1718
1	6.8	11.3	9.1	176
2	1.6	2.0	1.8	35
3 or more	0.3	0.5	0.4	8
Total	100	100	100	1937

Comparing the rate of consumption of the carotene-rich food product among income groups (Table 20) shows that about 22 percent of those in the higher income group of > 501 Cedis consumed carotene-rich food products the previous day, against 12 percent of the respondents in the 200- 500 Cedis income group and 5 percent in the <=200 Cedis income group..
This variation was statistically significant (p< 0.001).

Table 20 Number of times carotene-rich food was eaten the previous day by income groups

# of times carotene-rich food were consumed the previous day	Household Income (Cedis)				No. of Respondents
	< = 200 %	201-500 %	> 500 %	Total %	
None	95.3	87.6	78.4	88.8	1688
1	3.8	10.6	16.8	9	172
2	0.8	1.3	3.9	1.7	33
3 or more	0.1	0.4	0.9	0.4	8
Total	100	100	100	100	1901

Education of household heads seems to be important in the choice of carotene-rich foods for households. Table 21 shows that 21.4 percent of households whose heads completed tertiary education consumed carotene-rich food the day before against 4.6 % in the group with only primary education. This is statistically significant (p= 0.025).

Table 21 Consumption of carotene-rich food by educational status of household heads n (%)

# of times carotene rich food was consumed in previous day	No Education	Primary	Middle/ JSS	Sec./ SSS	Voc/Tech Comm.	Post sec.	Tertiary	Total
None	48	43	173	87	47	17	74	489
	(98.0)	(95.6)	(92.0)	(93.5)	(83.9)	(77.3)	(79.6)	(89.6)
1	1	2	12	4	8	3	15	45
	(2.0)	(4.4)	(6.4)	(4.3)	(14.3)	(13.6)	(16.1)	(8.2)
2	0	0	3	2	1	2	4	12
	(0.0)	(0.0)	(1.6)	(2.2)	(1.8)	(9.1)	(4.3)	(2.2)
Total	49	45	188	93	56	22	93	546
	100	100	100	100	100	100	100	100

Consumption of other roots and tubers

In Ghana, roots and tubers constitute a very important component of the daily meal of the population. Cassava, cocoyam, water yams and potatoes are grown in the forest zones of the country where as white yams are mainly grown in the northern savannah zones of the country. Sixty nine percent of households interviewed in Sabon Zongo consumed some kind of roots and tubers the previous day where as 65 percent of the respondents in Teshie-Nungua consumed some form of tubers. On the whole, more people in Teshie- Nungua (53%) consumed roots and tubers than residents of Sabon Zongo (47%). A statistically significant difference (p < 0.001).

Pearson's correlation was run to test the relationship between income of households and consumption of roots and tubers. The result indicates that consumption of roots and tubers among the various income groups increased with increasing income.

Consumption of meat, chicken, fish, etcetera

Animal/ fish-based protein therefore constitutes a major portion of households' food in Ghana.

About 96 percent and 97 percent of the respondents in the Teshie- Nungua and Sabon Zongo respectively consumed animal/fish based proteins on the day preceding the survey. Of those who consumed meat, chicken, fish, etcetera, 68% of respondents in Sabon Zongo and 50 percent in Teshie- Nungua consumed it twice. About 32 percent of the respondents in Teshie-Nungua and 15 percent in Sabon Zongo consumed fish at least once in a day.

Consumption of plant-based proteins- legumes, lentils beans etc

Plant-based proteins like beans, legumes, lentils etc are also widely consumed in Ghana. However, over 80 percent of respondents in each of the selected communities did not consume any plant-based proteins. Almost 53 percent of those who consumed plant-based proteins were from Teshie- Nungua and 47 percent were from Sabon Zongo. This variation is statistically significant (p < 0.001).

Consumption of green-leafy vegetables

Green-leafy vegetables are recognized by nutritionists as one of the most inexpensive sources of so many important nutrients. Vegetables are ideal for weight management as they are typically low in calories. They are useful in reducing the risk of cancer and heart disease since they are low in fat, high in dietary fibre, and rich in folic acid, vitamin C, potassium and magnesium, as well as containing a host of phytochemicals, such as lutein, beta-cryptoxanthin, zeaxanthin, and beta-carotene.

The percentage of those who consumed green-leafy vegetables two or more times during the day before the survey was in Sabon Zongo higher (27%) than in Teshie- Nungua Estates (9%). This is statistically significant (p<0.001) (Table 22).

Table 22 Consumption of green-leafy vegetables by type of community n (%)

# of times green-leafy vegetables were consumed	Locality		Total
	Sabon Zongo	**Teshie/Nungua Estates**	
None	401	670	1071
	(39.5)	(59.3)	(50.0)
Once	336	358	694
	(33.1)	(31.7)	(32.4)
Twice	229	93	322
	(22.6)	(8.2)	(15.0)
Three times or more	48	9	56
	(4.7)	(0.8)	(2.6)
Total	1014	1130	2144
	(100)	(100)	(100)

About 40 percent of the respondents in the income group of >501 Cedis consumed green leafy vegetables at least once in the day/night preceding the survey, against 28 percent in the low income group (Table 23). Vegetables are part of daily meals for households in Accra no matter the income of households.

Table 23 Consumption of green-leafy vegetables by income groups

Number of times green leafy vegetables were consumed	Income Group			Total
	< = 200	**201-500**	**> 500**	
None	498	333	215	1046
	(51.2)	(49.6)	(46.4)	(49.7)
Once	270	229	186	685
	(27.8)	(34.1)	(40.2)	(32.5)
Twice	161	95	62	318
	(16.6)	(14.2)	(13.4)	(15.1)
Three times or more	43	14	0	56
	(4.4)	(2.0)	(0.0)	(2.7)
Total	972	671	463	2106
	(100)	(100)	(100)	(100)

 More household heads with post secondary or tertiary education consumed vegetables at least once in a day (close to 70%) than the household heads of other educational level (about 50%)(Table 24).

Table 24 Consumption of green-leafy vegetables by educational status of household heads

# of times green-leafy vegetables were consumed	Educational status of household heads							Total
	No Education	Primary	Middle /JSS	Sec. /SSS	Voc. /Tech. /Comm.	Post sec. (Nursing /Teacher)	Tertiary	
None	25	28	98	50	34	6	32	273
	(48.1)	(54.9)	(47.3)	(47.6)	(57.6)	(26.1)	(33.0)	(46.0)
Once	13	21	59	41	12	10	48	204
	(25.0)	(41.2)	(28.5)	(39.0)	(20.3)	(43.5)	(49.5)	(34.3)
Twice	9	2	43	13	11	6	17	101
	(17.3)	(3.9)	(20.8)	(12.4)	(18.6)	(26.1)	(17.5)	(17.0)
Three times or more	5	0	7	1	2	1	0	16
	(9.6)	(0.0)	(3.4)	(1.0)	(3.4)	(4.3)	(0.0)	(2.7)
Total	52	51	207	105	59	23	97	594
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)

Consumption of fruits

Fruit and vegetables are important as essential building blocks of any diet. Not only are they loaded with vitamins and minerals which are essential for healthy living, but they also help fill the body, as part of a balanced diet. By increasing the intake of fruit and vegetables, the immune system of the body is boosted, as well as building resistance to common illnesses and infections. The Ministry of Health also recommends eating fruits on a daily basis.

Tables 25 and 26 summarize the percentage of respondents that consumed various kinds of fruits in the two communities. Residents of Teshie-Nungua consumed more fruits than Sabon Zongo and the difference was statistically significant ($p < 0.001$) for the consumption of other fruits like banana, apples, green beans etc.

Table 25 Consumption of Mango, Papaya or Guava per type of community %

Locality	Number of times Mango, Papaya or Guava was consumed the previous day				
	None	Once	Twice	Total	# of resp.
Sabon Zongo	47.1	47.7	41.7	47.1	1008
Teshie/Nungua Estates	52.9	52.3	58.3	52.9	1131
Total	100	100	100	100	2139

Table 26 Consumption of other types of fruits per type of community %

Locality	Number of times other fruits-bananas apples etc was consumed the previous day					
	None	Once	Twice	Three times or more	Total	# of resp.
Sabon Zongo	31.0	33.3	61.9	65.8	47.3	1009
Teshie/Nungua Estates	69.0	66.7	38.1	34.2	52.7	1125
Total	100.0	100.0	100.0	100.0	100.0	2134

When the income of households was compared with the rate of consumption of fruits, results indicate that 6.9 percent of respondents in the income group of > 501, 4.6 percent of those in the income group of 200- 500 Cedis and 3.8 percent of these in the income group of < 200

Cedis consumed Mango, Papaya and Guava and this difference is statistically significant (p < 0.001).

3.4. Sources of food

Table 27 shows that for 98 of all the households of Teshie/Nungua Estate and Sabon Zongo purchasing food is the main source of food. This explains why consumption of food products increases with income of households. Own production of food crops is only for two percent of the households in Teshie-Nungua Estates and one percent in Sabon Zongo the main source of food.

Table 27 Main sources of food by type of community %

Main source of food	No of households	Teshie-Nungua Estates	Sabon Zongo	Total
Purchases	586	97.7	98.3	98.0
Own production	8	1.7	1.0	1.3
Own stock	0	0.0	0.0	0.0
Gift or Aid	3	0.3	0.7	0.5
Other	1	0.3	0.0	0.2
Total	598	100	100	100

In January 2010, the research team went back to the households to further collect data on <u>secondary</u> sources of food consumed by the households. Results indicate that for 4.7 percent of respondents in Sabon Zongo and 2.8 percent of Teshie-Nungua own food production was a secondary source of food (Table 28).

Table 28 Secondary sources of food by type of community n (%)

Secondary source of food	Locality		Total
	Sabon Zongo	Teshie/Nungua Estates	
Purchases	235	271	506
	(85.1)	(94.8)	(90.0)
Own production	0	2	2
	(0.0)	(0.7)	(0.4)
Own stock	13	6	19
	(4.7)	(2.1)	(3.4)
Others (Gifts)	28	7	35
	(10.1)	(2.4)	(6.2)
Total	276	286	562
	(100)	(100)	(100)

Own food production
Table 29 shows the responses to the question where the household members grew or produced their own food. Due to high population density and lack of space the people of Sabon Zongo had plots or farms located away from the community (87%). On the other hand, large houses with compounds in Teshie-Nungua Estates and availability of vacant plots encouraged respondents to farm in or around their houses (62%). There is a significant difference (p= 0.007) in where households grew their crops in the two communities. Choice of place for farming or own food production among respondents was not dependent on the income of the households.

Table 29 Areas where household produce food themselves n (%)

Responses	Community	
	Sabon Zongo	**Teshie/Nungua Estates**
In or around the house (home/backyard, rooftop)	0 (0.0)	6 (100.0)
In a plot at a community or institutional garden	1 (6.7)	0 (0.0)
A plot on the edge of the city	1 (6.7)	0(0.0)
A plot in home village	13 (86.7)	0 (0.0)
Total	15 (100)	6 (100)

Table 30 shows the types of crops grown by the households that engaged in own food production. While the cultivation of cereals dominated in the type of crops grown in Sabon Zongo (71%), green leafy vegetables dominated (63%) in Teshie-Nungua Estates. There was no significant difference between the types of crops grown by low income households and high income earners in the survey.

Table 30 Types of crops grown by type of community n (%)

Type of Crops Grown	Sabon Zongo	Teshie-Nungua Estates
Cereals (Maize/ Rice)	10	2
	(71.4)	(25.0)
Legumes (Beans)	1	0
	(7.1)	(0.0)
Vegetables (Green Leafy)	1	5
	(7.1)	(62.5)
Roots (Cassava, Yam)	2	1
	(14.3)	(12.5)
	14	8
Total	(100)	(100)

In Sabon Zongo 28 percent of the households were engaged in livestock rearing against 11 percent in Teshie-Nungua. While respondents of Teshie-Nungua Estates reared livestock mainly for own consumption (77%), 50 percent of respondents in Sabon Zongo reared livestock for a dual purpose: to sell and for own consumption. Only 2 percent of the respondents in the survey reared animals mainly for sale (Table 31)

Table 31 Reasons for rearing livestock by community n (%)

Reasons for rearing of livestock	Locality		Total
	Sabon Zongo	**Teshie/Nungua Estates**	
Mainly for sale	2	0	2
	(2.6)	(0.0)	(1.9)
For sale and own consumption	38	7	45
	(50.0)	(22.6)	(42.1)
Mainly for own consumption	36	24	60
	(47.4)	(77.4)	(56.1)
Total	76	31	107
	(100)	(100)	(100)

Comparing income of households that reared livestock (Table 32) revealed that 69 percent of households in the highest income group of >501 Cedis reared animals for consumption, while 43 percent of households in the middle income group of 200- 500 Cedis reared livestock for sale and consumption.

Table 32 Reasons for rearing livestock by income group n (%)

Reasons for rearing livestock	Household income (Ghana Cedis)			
	< = 200	201-500	> 501	Total
Mainly for sale	1	1	0	2
	(1.7)	(3.3)	(0.0)	(1.9)
For sale and own consumption	25	13	5	43
	(42.4)	(43.3)	(31.3)	(41.0)
Mainly for own consumption	33	16	11	60
	(55.9)	(53.3)	(68.8)	(57.1)
Total	59	30	16	105
	100	100	100	100

Types and number of livestock produced in the various communities are shown in Table 33. The number of households that rear livestock is higher in Sabon Zongo than in Teshie- Nungua Estates, showing the importance of livestock in sustaining the livelihood of low income communities.

Table 33 Type and number of livestock produced by type of community (% of households)

Type of livestock	Number of livestock	Locality		Total
		Sabon Zongo	Teshie/Nungua Estates	
Fowls	1-5	5 (8.8)	4 (16.7)	9 (11.1)
	6-10	22 (38.6)	13 (54.2)	35 (43.2)
	11-15	12 (21.1)	4 (16.7)	16 (19.8)
	16-20	11 (19.3)	2 (8.3)	13 (16.0)
	> 21	7 (12.3)	1 (4.2)	8
Total fowls		57 (100)	24 (100)	81 (100)
Small Ruminants	1-5	6 (13.3)	10 (66.7)	16 (26.7)
	6-10	13 (28.9)	2 (13.3)	15 (25.0)
	11-15	9 (20.0)	2 (13.3)	11 (18.3)
	16-20	8 (17.8)	1 (6.7)	9 (15.0)
	> 21	9 (20.0)	0 (0.0)	9 (15.0)
Total Ruminants		45 (100)	15 (100)	60 (100)
Cattle	1-5	2 (25.0)	0 (0.0)	2 (22.2)
	6-10	2 (25.0)	1 (100.0)	3 (33.3)
	11-15	1 (12.5)	0 (0.0)	1 (11.1)
	16-20	2 (25.0)	0 (0.0)	2 (22.2)
	> 21	1 (12.5)	0 (0.0)	1 (11.1)
Total cattle		8 (100)	1 (100)	9 (100)
Ducks (total)	1-15	2 (100)	3 (100)	5 (100)

Table 34 shows that 92 percent of the self producing households in Sabon Zongo and 88 percent in Teshie-Nungua Estates started to grow crops within the past two years. Similarly, 64

percent and 62 percent of the households in the two communities respectively began to rear livestock within the last two years.

Table 34 Number of years households are growing crops/rearing livestock by type of community %

Type of own production	Number of years	Locality		Total
		Sabon Zongo	Teshie/Nungua Estates	
Crop	0	65	26	91
		(83.3)	(76.5)	(81.3)
	1-2	7	4	11
		(9.0)	(11.8)	(9.8)
	3- 10	1	3	4
		(1.3)	(8.8)	(3.6)
	> 11	5	1	6
		(6.4)	(2.9)	(5.4)
Total		78	34	112
		100	100	100
Livestock	0	4	3	7
		(5.1)	(8.8)	(6.3)
	1- 2	46	18	64
		(59.0)	(52.9)	(57.1)
	3-10	19	9	28
		(24.4)	(26.5)	(25.0)
	> 11	9	4	13
		(11.5)	(11.8)	(11.6)
Total		78	34	112
		(100)	(100)	(100)

Majority of respondents mentioned '*additional source of food" or "additional source of income'''* as main reasons for engaging in cropping or rearing of livestock (Table 35).

Table 35 Reasons for own production (growing crops or raising livestock) of food by communities n (%)

Households main reason for own production of food	Locality		Total
	Sabon Zongo	Teshie/Nungua Estates	
Traditional activity of the household	26	7	33
	(38.2)	(22.6)	(33.3)
Loss of job by household member	1	1	2
	(1.5)	(3.2)	(2.0)
Increase in cost of food stuffs	1	3	4
	(1.5)	(9.7)	(4.0)
Preference for own produced food	4	3	7
	(5.9)	(9.7)	(7.1)
Additional food source for households	22	11	33
	(32.4)	(35.5)	(33.3)
Additional income source for household	14	6	20
	(20.6)	(19.4)	(19.2)
Total	68	31	99
	(100)	(100)	(100)

3.5 (Changes in) household expenditure patterns

Table 36 summarize the proportion of households' expenditure for various items e.g. health, education, transport, food, debt re-imbursement, rent and utilities among others for 2008 and 2009. More than 40 percent of the households surveyed spent more than 50 percent of their expenditure on food. Of the households in Sabon Zongo, 76 percent used over 40 percent of their income on food against 73 percent in Teshie Nungua. This difference was statistically significant (p<0.001).
Close to 80 percent of households spent between 1 to 10 percent of their income on transportation. Also to education the households mostly (about 40%) allotted a range of 1-10 percent of household income. The majority of households (above 65%) spent 1 to 10 percent of their income on rent and utility bills. Few households (1%) spent 1 to 10 percent of their income on debt re-imbursement.

Table 36 Proportion of household's current (2009) expenditure by community *) %

Proportion of expend.	Health		Education		Transport		Food		Debt reimbursement		Rent & Utilities		Other Expenditure	
	SZ	TN E	SZ	TN E	SZ	TN E	S Z	TN E	S Z	TN E	SZ	TN E	SZ	TN E
None	6.2	12.0	28.6	15.1	1.8	7.4	0.0	0.0	98.9	99.3	8.0	15.8	28.3	45.1
1- 10 %	82.6	67.3	40.9	37.3	85.9	72.2	0.0	0.0	1.1	0.4	68.8	58.1	41.7	34.5
11- 20 %	9.1	19.0	18.1	33.8	11.6	20.1	0.7	1.4	0.0	0.4	22.8	23.6	18.5	12.0
21- 30 %	2.2	1.1	6.2	6.7	0.7	0.4	4.7	7.0	0.0	0.0	0.4	2.5	5.8	4.6
31- 40 %	0.0	0.4	5.4	5.6	0.0	0.0	17.0	22.2	0.0	0.0	0.0	0.0	2.5	2.1
41- 50 %	0.0	0.4	0.7	0.7	0.0	0.0	32.6	29.9	0.0	0.0	0.0	0.0	2.5	0.4
> 51 %	0.0	0.0	0.0	0.7	0.0	0.0	44.9	39.4	0.0	0.0	0.0	0.0	0.7	1.4
	276	284	276	284	276	284	276	284	276	284	276	284	276	284
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100

*) SZ = Sabon Zongo
  TN E = Teshie-Nungua Estate

Table 37 shows the proportion of expenditures by income category. Close to 13 percent of households in the lower income group of < 200 Cedis compared to 3 percent of households in the higher income group of > 501 Cedis spent all their income on food. This variation is statistically significant (p< 0.001).

Table 37 Proportion of households' income spent on food by income group n (%)

Proportion of income spent on food	Income Groups			Total
	< = 200	201-500	> 500	
Almost none	1	0	1	2
	(0.3)	(0.0)	(0.8)	(0.3)
Less than half	23	33	59	115
	(8.0)	(18.9)	(48.8)	(19.7)
About half	110	72	30	212
	(38.1)	(41.1)	(24.8)	(36.2)
More than half	118	63	27	208
	(40.8)	(36.0)	(22.3)	(35.6)
All	37	7	4	48
	(12.8)	(4.0)	(3.3)	(8.2)
Total	289	175	121	585
	(100)	(100)	(100)	(100)

Comparing by educational levels of household heads (Table 38) revealed that over 31 percent of households in all educational levels groups (with exception of household headed by persons with tertiary education) spent more than half of their income on food. There is statistically significant difference (p< 0.001) between households whose heads completed tertiary education (45 percent of them spent less than half of their income on food) and households whose heads obtained no or only primary education (of whom 92 percent spent about half or more than half of their income on food).

Table 38 Proportion of households' income spent on food by educational status of household heads

Proportion of income spent on food	Educational status of household heads							Total
	No Educ.	Primary	Middle /JSS	Sec./SSS	Vocat./ /Techn. /Comm.	Post sec. (Nursing /Teacher)	Tertiary	
Almost none	0	0	0	1	1	0	0	2
	(0.0)	(0.0)	(0.0)	(1.0)	(1.8)	(0.0)	(0.0)	(0.3)
Less than half	4	4	30	14	11	7	44	114
	(8.3)	(8.2)	(14.8)	(13.3)	(19.3)	(30.4)	(44.9)	(19.6)
About half	26	24	76	32	21	7	26	212
	(54.2)	(49.0)	(37.4)	(30.5)	(36.8)	(30.4)	(26.5)	(36.4)
More than half	15	16	73	49	20	8	26	207
	(31.3)	(32.7)	(36.0)	(46.7)	(35.1)	(34.8)	(26.5)	(35.5)
All	3	5	24	9	4	1	2	48
	(6.3)	(10.2)	(11.8)	(8.6)	(7.0)	(4.3)	(2.0)	(8.2)
Total	48	49	203	105	57	23	98	583
	100	100	100	100	100	100	100	100

Changes in household expenditure patterns
Respondents were asked whether they observed changes in their pattern of expenditure in the last year. The majority (over 45%) of the respondents from the two communities said changes occurred mostly in the proportion of income used for the purchase of food (Table 39).
Statistically significant changes in expenditure also occurred in the areas of health (p= 0.16), education (p< 0.001), transport (p< 0.001) and rent and utility (p= 0.001). Comparison of the reported changes between income groups revealed that changes in food expenditures are similar in all income groups (table 40).

Table 41 lists possible reasons for the changes in expenditure patterns as provided by respondents in both quantitative and the qualitative data collection. The role of the national health insurance in reducing expenditure on health was acknowledged by the respondents. Expenditure on education was low in households where children have completed school or where parents have deliberately changed schools for their children to reduce cost. When children climbed higher in education or additional children have gone to school, expenditure on education rose. Increase in fuel, high transport fares and long distance to work place have increased the proportion of expenditure on transportation. Household members reduced the rate at which they travel or the way they travel in order to save cost and also by relocating.
Rise in food prices, high rate of inflation and increasing household size (and thus higher consumption of food) contributed greatly to increase in expenditures on food. Where certain household members have moved out or relocated, the proportion of households' expenditure also reduced.

Table 39 Changes in pattern of expenditure by type of community

	Health		Education		Transport		Food		Debt re-imbursement		Rent & Utilities		Other expenditures	
	Sabon Zongo	Teshie/ Nungua Estates	Sabon Zongo	Teshie/ Nungua Estates	Sabon Zongo	Teshie/ Nungua Estates	Sabon Zongo	Teshie/ Nungua Estates	Sabon Zongo	Teshie/ Nungua Estates	Sabon Zongo	Teshie/ Nungua Estates	Sabon Zongo	Teshie/ Nungua Estates
Yes	29.7*	39.4*	15.2*	30.6*	12.7*	27.8*	44.9	49.3	1.8	3.2	17.8*	29.9*	33.3	34.9
No	70.3	60.6	84.8	69.4	87.3	72.2	55.1	50.7	98.2	96.8	82.2	70.1	66.7	65.1
Total	276	284	276	284	276	284	276	284	276	284	276	284	276	284
	100	100	100	100	100	100	100	100	100	100	100	100	100	100

*Significant at 5 percent level

Table 40 Changes in the pattern of expenditure by income groups

Income Group (Cedis)	Health			Education			Transport			Food			Debt re-imbursement			Rent & Utilities			Other expenditure		
	< = 200	201-500	> 501	< = 200	201-500	> 501	< = 200	201-500	> 501	< = 200	201-500	> 501	< = 200	201-500	> 501	< = 200	201-500	> 501	< = 200	201-500	> 501
Yes	37.2	31.5	33.9	21.2	23.8	28.6	18.6	18.5	27.7	47.6	43.5	53.6	1.5	3.0	3.6	22.3	22.6	30.4	33.8	32.1	39.3
No	62.8	68.5	66.1	78.8	76.2	71.4	81.4	81.5	72.3	52.4	56.5	46.4	98.5	97.0	96.4	77.7	77.4	69.6	66.2	67.9	60.7
Total	269	168	112	269	168	112	269	168	112	269	168	112	269	168	112	269	168	112	269	168	112
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 41 Reasons for changes in expenditure

Expenditure Type	Possible Reasons for changes noticed	
	Households that noticed a reduction in expenditure	Households that noticed an increase in expenditure
Health	Registered for National Health Insurance Scheme; Nobody fell sick / Improved care for children	High cost of living; A child/ family member (s) was/ were sick; Did not register in NHIS; Pregnant/ Child delivery; Old age
Education	Some of children have completed/ graduated from school; Change of school	Child (ren) now in school; Children are in higher classes-SHS/ university; Increase in fees/ prices of goods and services; Additional child in school; Change of school; Spouse in school
Transport	Reduced the rate of travelling; Relocating into the community	Acquired a car/ vehicle; Child transport to school; Distance to work place has increased; High fares; Travelling a lot; No means of transport
Food	Some family members have moved out of the household	Change in food prices; Global food crises; Prices of food items are high; Higher consumption; High rate of inflation
Debt Re-imbursement	Did not borrow/ pay any debt; Payment of debt for last year; Finished paying bank loan	Had debts to pay; Took a loan to buy vehicle; Over spending
Rent & Utilities	Did not pay rent last year; Have stopped using certain electrical gadgets; No more paying rent; Now living in a staff bungalow; Assisted by relatives	Cost of utility is now high; Economic hardship; Increase in rent; Inflation; High cost of building materials
Other Expenses	Because of school fees; High cost of living; Decreased in core expenditures; Invested last year; Paid rent and utility bills	Addition of some other things to household needs; High cost of living

In total, 96 percent of respondents noticed an upward change in the prices of goods especially including food products. Table 42 indicate that according to the participants in the FGD prices of certain staple food products doubled in the past year.

Table 42 Changes in price of food products according to FGD participants

| No	Item (quantity)	Price in 2008 (Cedis)	Price in 2009 (Cedis)
1	I bag of Rice 50 Kg	25	55
2	1 Cup	0.5	0.7
3	A bowl of maize	0.9	2
4	Gari (Cassava)	1.1	1.7
5	Vegetable cooking oil	8	12
6	Cooked rice with stew	1 Cedi was enough to satisfy an adult person	2 Cedis are needed to satisfy an adult person

According to the respondents, the changes in the prices of food products were greatly affected by the rise in fuel prices also affecting cost of production for both industries and farmers. The FDG in Teshie-Nungua group also mentioned global warming with its associated unreliable rainfall pattern as a contributory factor. Many farmers have lost interest in farming and have shifted to doing other jobs causing scarcity of food on the market. In an in depth interview with the director of policy planning of the Ministry of Finance and Economic Planning, the director confirmed that food prices have increased steadily over the last two years and quoted figures to support his claim. According to him, in 2007 a 50 kg of rice was sold at ¢ 35-40, in 2008 it was ¢

60 and ₵ 70 in 2009. The prices quoted by the director for rice were higher than that of the respondents but this may be explained to a difference in the variety of rice each of them was referring to.

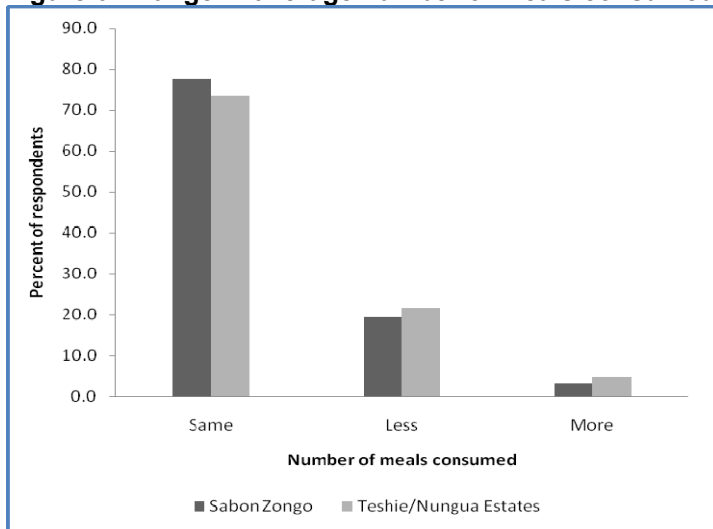## 3.6 Changes in the households' diet

Figure 5 shows that more than 74 percent of the households in Sabon Zongo and 63 percent in Teshie-Nungua Estates currently consume three meals a day. Less than 5 percent of the population from both Teshie/Nungua Estate and Sabon Zongo had four or more meals in a day while barely one percent of the respondents consumed food only once in a day.

Figure 5 Average number of meals consumed in a day
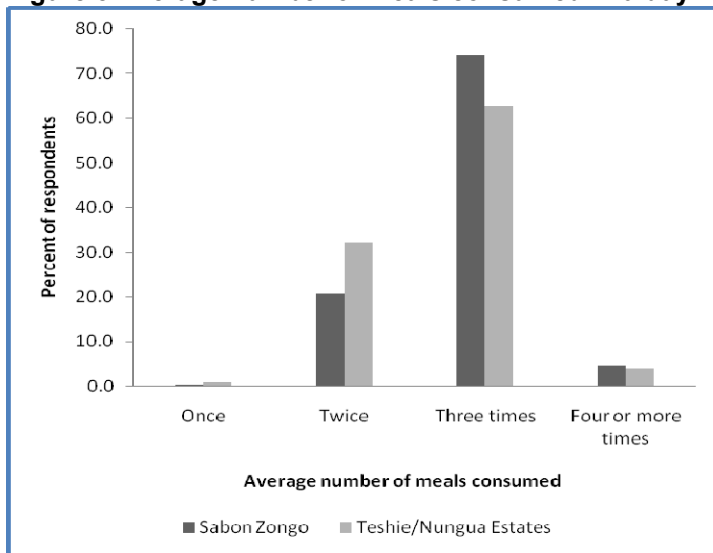
The majority of the households (76%) reported that they still consume the same number of meals in a day, 21 percent indicated that they currently consume a lesser number than the year before, while 4 percent felt they currently consume more than they used to do (Figure 6).

Figure 6 Change in average number of meals consumed per type of community

The study also sought to find out whether any changes occurred in the diets of the households (the types of food they regularly consume). Table 43 shows that over 65 percent of respondents in the two communities said they observed changes in their diet. A statistically significant difference (p< 0.001) exists between those respondents who claimed changes in their diet in Sabon Zongo (75 %) and respondents of Teshie- Nungua Estates (56%).

Table 43 Households reporting diet changes in the last year per type of community n(%)
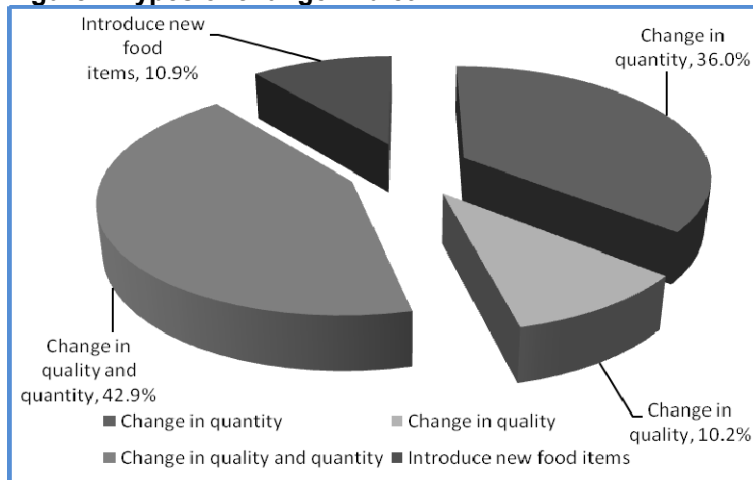
	Locality		Total
	Sabon Zongo	**Teshie-Nungua Estates**	
Yes	222	166	388
	(74.7)	(55.7)	(65.2)
No	75	132	207
	(25.3)	(44.3)	(34.8)
Total	297	298	595
	(100)	(100)	(100)

Table 44 compares changes in diet per income group. There is a statistically significant difference (p= 0.007) between the households in the low income group (< 200 Cedis) and the high income group (> 501 Cedis) that report changes in their diet (70.1 % and 54.1 respectively).

Table 44 Households reporting diet changes in the last year by income group n (%)

	Income Groups			Total
	< = 200	**201-500**	**> 500**	
Yes	202	118	66	386
	(70.1)	(67.0)	(54.1)	(65.9)
No	86	58	56	200
	(29.9)	(33.0)	(45.9)	(34.1)
Total	288	176	122	586
	(100)	(100)	(100)	(100)

Respondents' views on the type of changes in their diets vary (figure 7). Forty three percent of the households mentioned a change in both quality and quantity of the food consumed, while 36 percent noted change in quantity only and 10 percent experienced a change in the quality of the diet only (a reduction or an increase in the vitamins, nutrients or calories contained in the food). Nearly eleven percent of households report changes in the types of food consumed (eating food types that were hitherto not the main food type).

Figure 7 Types of change in diet

Tables 45.and 46 show the type of change in diet by type of locality and by income groups.

Table 45 Types of changes in diet by type of community n (%)

Type of change in diet	Locality		Total
	Sabon Zongo	Teshie-Nungua Estates	
Change in quantity	82	60	142
	(36.6)	(35.3)	(36.0)
Change in quality	21	19	40
	(9.4)	(11.2)	(10.2)
Change in quality and quantity	92	77	169
	(41.1)	(45.3)	(42.9)
Change of food (Introduce new food items)	29	14	43
	(12.9)	(8.2)	(10.9)
Total	224	170	394
	100	100	100

Table 46 Types of changes in diet by income group n (%)

Type of change in diet	Income Group			Total
	< = 200	201-500	> 500	
Change in quantity	76	42	22	140
	(37.6)	(35.6)	(33.3)	(36.3)
Change in quality	20	14	5	39
	(9.9)	(11.9)	(7.6)	(10.1)
Change in quality and quantity	92	48	25	165
	(45.5)	(40.7)	(37.9)	(42.7)
Introduce new food items	14	14	14	42
	(6.9)	(11.9)	(21.2)	(10.9)
Total	202	118	66	386
	(100)	(100)	(100)	(100)

When data on changes in households' diet were cross tabulated with data on the main types of food consumed by the households it was found that 51 percent of all households who noticed change in their diets were consumers of banku related foods (58% among households that do not perceive change) and 87 percent were consumers of any grains based diet (Banku, Tuo zafi and Rice/Omo tuo; 77% amongst those households that did not perceive change)) (Table 47).

Respondents in the focus group discussion indicated that the changes in type of food consumed amongst others included the substitution of rice (which became expensive) by gari (which hitherto was not a usual type of food in these communities).

Table 47 Changes in diet by main type of food consumed

	Type of changes taking place				Total
	Change in quantity	**Change in quality**	**Change in quality and quantity**	**Introduce new food items**	
Banku related food	62	23	102	15	202
	(43.7)	(57.5)	(60.7)	(34.9)	(51.4)
Fufu related food	13	5	13	11	42
	(9.2)	(12.5)	(7.7)	(25.6)	(10.7)
Tuo zafi related food	35	3	22	3	63
	(24.6)	(7.5)	(13.1)	(7.0)	(16.0)
Rice/Omo tuo related food	27	9	27	13	76
	(19.0)	(22.5)	(16.1)	(30.2)	(19.3)
Gari related food	0	0	0	1	1
	(0.0)	(0.0)	(0.0)	(2.3)	(0.3)
Other	5	0	4	0	9
	(3.5)	(0.0)	(2.4)	(0.0)	(2.3)
Total	142	40	168	43	393
	100	100	100	100	100

3.7 Households' coping strategies

Maxwell et al (2000) observed that communities, households and individuals of Accra device their own strategies in order to survive during times of economic stress. Table 48 indicates the various coping strategies that were adopted by the urban households in Accra to cope with the crisis situation.

Table 48 Coping strategies adopted by the households by type of community n (%)

	Locality		Total
	Sabon Zongo	**Teshie/Nungua Estates**	
Got a second job	28	11	39
	(9.7)	(3.8)	(6.8)
Growing own food	0	2	2
	(0.0)	(0.7)	(0.3)
Sending children to rural areas	3	2	5
	(1.0)	(0.7)	(0.9)
Taking children out of school	1	1	2
	(0.3)	(0.3)	(0.3)
Relying on relatives	30	16	46
	(10.4)	(5.6)	(8.0)
Have reduced consumption of food	193	190	383
	(66.8)	(66.2)	(66.5)
Other	34	65	99
	(11.8)	(22.6)	(17.2)
Total	289	287	576
	100	100	100

67 percent of households claim that they reduced consumption of foods. Some households claimed they have reduced the consumption of snacks which normally were eaten in-between main meals, while others reduced eating foods that are not main staple food of the household e.g. households that mainly ate banku or fufu related foods and occasionally ate rice removed rice from their menu to have enough money for the main staple food.

Other (6.8%) respondents diversified their income sources by getting a second job. The households in Sabon Zongo take a second job more frequently as a coping strategy (9.7%) than the households in Teshie-Nungua Estates (3.8%), a statistically significant difference (p = 0.001).

Eight percent of the households reported to rely on relatives to overcome the crisis period.

Two households in Teshie- Nungua Estates resorted to growing their own food for consumption. One household each from the two communities withdrew their children out of school in order to cope with the economic pressure.

More than 17 percent of the respondents used "other" coping strategies to survive e.g. reduce / curtail savings, taking a loan,

Table 49 compares coping strategies adopted by households from different income groups. While 71 percent of respondents in the low income group (<200 Cedis) reduced consumption of other goods, 55 percent in the high income group (> 501 Cedis) did so. The difference between income groups is statistically significant (p = 0.002).

Table 49 Coping strategies by income group n (%)

Strategies adopted by households	Income Groups (Cedis)			Total
	< = 200	201-500	> 500	
Got a second job	23	7	9	39
	(8.2)	(4.1)	(8.0)	(6.9)
Growing own food	0	2	0	2
	(0.0)	(1.2)	(0.0)	(0.4)
Sending children to rural areas	1	2	1	4
	(0.4)	(1.2)	(0.9)	(0.7)
Taking children out of school	1	0	0	1
	(0.4)	(0.0)	(0.0)	(0.2)
Relying on relatives	21	17	6	44
	(7.4)	(9.9)	(5.3)	(7.8)
Have reduced consumption of foods	200	117	62	379
	(70.9)	(68.4)	(54.9)	(67.0)
Other	36	26	35	97
	(12.8)	(15.2)	(31.0)	(17.1)
Total	282	171	113	566
	(100)	(100)	(100)	(100)

The focus group discussion confirmed that many households seek to take on extra work in order to get additional income to cope with the situation, reduce the quantity of food bought, reduce the number of meals in a day, change the type of food eaten (lower priced) and reduce other expenditures, while other households survived by taking a loan.

3.8 Nutritional status of children and women

The reduction in households' income and the increase in prices of food and fuel led to changes in type, quantity and quality of the food consumed by the households, as has been shown

above, which well may have affected the nutrition status of the households in Accra. Most vulnerable members of households are children (especially under-five years of age) and women in the fertile age (between ages 15- 49). This section presents information obtained on the health and nutritional status of children 0-5 years and women 15-49 with the aim to understand better how the changes in the expenditure and consumption patterns of the surveyed households affected their health and nutritional status. Anthropometric data on height and weight were collected to assess the nutritional status of young children and women. The survey findings were compared with data from the Ghana Demographic Health Survey (GDHS) from 2008 and the Micro Indicators Cluster Survey (MICS) from 2006.

3.8.1 Nutritional status of children 0-5 years

The height and weight data were used to compute three summary indices of nutritional status namely: height-for-age, weight-for-height and weight-for-age. These indices were expressed as standard scores (z-score) or standard deviation units from the median for the international reference population developed by the World Health Organization (WHO). Children who were more than two standard deviations below (-2 SD) the WHO child growth reference population median were considered undernourished, while those who were more than three standard deviations below (-3 SD) the reference median were regarded as severely undernourished.
Although data were collected for all children under age six years, the analysis was limited to children under age five years. The following analyses focuses on the children for whom complete anthropometric and age data were collected (N=221). In this survey, children were directly linked with their mothers/ caretakers, whereas in the case of the GDHS and MICS, instead, the children were linked to the household heads.

Height-for-age
Children whose height-for-age were below minus two (-2) standard deviation from the median of the reference population were considered stunted for their age. Stunting is an indicator of linear growth retardation. It reflects failure to receive adequate nutrition over an extended period of time and is also affected by recurrent and chronic illness. The study revealed that 23 percent of the children under-five years in Teshie-Nungua Estates and Sabon Zongo were stunted, while 15 percent were severely stunted (Table 50). Stunting is highest (35%) among children age 18-23 months and lowest (6%) among children age 6-8 months. Male children (25%) were more likely to be stunted than female children (21%). Similarly, children from Sabon Zongo (32%) were more likely to be stunted than children from Teshie-Nungua Estates (17%). There was no child stunted in a household whose total monthly income was above GH¢ 501.00.

According to the GDHS 2008, 17 percent of Ghanaian children under the age of five in all urban areas of Ghana were stunted (based on the median of the NCHS/CDC/WHO international reference population), while   12.8 percent were stunted in Greater Accra region. Also, in the GDHS, stunting was highest in the age 18-23 months (38%) as found in the Accra survey. In the Multiple Indicator Cluster Survey (MICS) 2006, 13 percent of children in urban areas of Ghana were stunted while 10 percent were stunted in the Greater Accra region. Figures from this 2009 survey are therefore generally higher than those recorded in the GDHS 2008 and MICS 2006.

Table 50 Nutritional status of children 0-5 years

	Height-for-age			Weight-for-height				Weight-for-age			
	% < -3SD	% < -2SD	Mean Z-score (SD)	% < -3SD	% < -2SD	% > +2SD	Mean Z-score (SD)	% < -3SD	% < 2 SD	Mean Z-score (SD)	# of child
Age in months											
<6	10.5	15.8	-0.1	10.5	10.5	10.5	-0.4	0.0	4.5	1.9	22
6-8	0.0	6.3	0.3	12.5	12.5	0.0	-1.1	6.3	6.3	-0.8	16
9-11	0.0	10.0	0.5	0.0	0.0	10.0	0.2	0.0	0.0	0.3	10
12-17	10.3	24.1	-0.3	0.0	0.0	6.9	0.2	0.0	3.2	-0.1	31
18-23	35.3	35.3	-1.1	6.7	6.7	6.7	0.0	0.0	23.5	-0.3	17
24-35	28.6	33.3	-1.4	0.0	0.0	17.5	1.1	0.0	9.8	0.2	41
36-47	13.5	27.0	-0.8	2.9	2.9	5.7	-0.1	5.6	19.4	-0.8	36
48-59	10.4	16.6	-0.9	0.0	2.3	14.0	0.6	0.0	2.1	0.3	48
Sex											
Male	17.4	24.7	-0.9	3.9	4.9	10.6	0.3	1.8	9.1	0.0	111
Female	12.8	21	-0.5	1.9	1.9	9.6	0.1	0.9	8.1	0.2	110
Residence											
Sabon Zongo	21.3	31.5	-0.6	3.7	3.7	15.8	0.5	2.2	9.7	0.2	92
Teshie-Nungua	10.9	17.1	-0.8	2.4	3.2	6.4	0.1	0.8	7.8	0.0	129
House hold Head's Education											
None	23.5	23.5	-0.7	6.3	6.3	6.3	-0.3	0.0	11.8	-1.1	17
Primary	16.7	27.8	-0.2	0.0	0.0	11.8	-0.1	5.3	15.8	1.4	19
Middle /JSS	14.5	19.2	-0.9	1.3	2.7	15.2	0.4	0.0	7.2	0.3	84
Secondary +	14.1	25.5	-0.6	4.3	4.3	3.2	0.2	1.9	7.9	-0.1	101
House hold Income(¢)											
< 200	17.9	24.3	-0.7	3.4	4.3	12.0	0.1	0.8	9.5	0.0	127
201-500	15.9	26.1	-0.8	1.5	1.5	10.8	0.6	1.4	7.2	0.3	69
501 +	0.0	8.3	-0.4	4.2	4.2	0.0	-0.3	4.2	8.4	-0.4	24
Total	15.3	23.1	-0.7	2.9	3.4	10.1	0.2	1.4	8.6	0.1	221

Weight-for-height

Children whose weight-for-height were below minus two standard deviations (-2 SD) from the median of the reference population were considered wasted (or thin) whilst children whose weight were above plus two standard deviations (+2 SD) from the WHO reference population median were considered too heavy for their height. Wasting represents the failure to receive adequate nutrition in the period immediately before the survey and typically may be the result of inadequate food intake or recent episode of illness causing loss of weight and the onset of malnutrition. The weight-for-height index therefore measures body mass in relation to body height or length and describe current nutritional status.

Table 50 reveals that 3 percent of children were wasted and 3 percent were severely wasted. Severe wasting was high among children from 6 to 8 months. The age of 6 to 8 months is when children are introduced to food in case exclusive breast feeding is used. The proportion of children that were too heavy for their weight was 10 percent. Female children were less likely to be overweight or obese than male children. Similarly, children from Teshie-Nungua Estates were less likely to be overweight or obese than children from Sabon Zongo.

Wasting among children under five in urban areas of Ghana was higher (6%) in the GDHS 2008 than in this survey, but severe wasting in the GDHS 2008 was much lower (1%) than found in this survey. Figures for wasting in the MICS also vary slightly from this survey: about 5 percent of children under five nationwide were wasted and 0.9 percent were severely wasted. For urban areas MICS (2006) recorded 1 percent wasting as against 3 percent each for both wasted and severely wasted in this survey. The proportion of urban children that were too heavy for their weight in the GDHS 2008 was 5 percent. This is two times lower than the figure in this survey.

Weight-for-age
Children whose weight-for-age were below minus two standard deviations (-2 SD) from the median of the reference population were considered underweight. The measure reflects the effect of both acute and chronic malnutrition. 9 percent of the children were underweight while 1 percent classified as severely underweight. Peak levels of low weight-for-age were found among children aged 18-23 months (table 50). Children living in Sabon Zongo were more likely to be underweight than Teshie-Nungua Estates children (10% and 8% respectively).
The figures found in this study are much lower than the 14 percent and 12 percent of children under five in urban areas that suffered malnutrition in the GDHS and MICS respectively. One important similarity between the GDHS, MICS and this study is that peak levels of weight-for-age were found among children aged 18-23 months.

Thus, in conclusion we may say that malnutrition levels in the two sample areas in 2009 are higher than the figures for GDHS 2008 and MICS 2006.

3.8.2 Nutritional status of women 15-49 years

Based on the anthropometric measurements collected on women aged 15-49 years the body mass index was calculated for women age 15-49 years. The body mass index (BMI) was used to measure thinness and overweight. BMI is defined as weight in kilogrammes divided by height squared metres (kg/m^2). Normally, a cut-off point of 18.5 is used to define thinness or acute under-nutrition and a BMI of 25.0 or above normally indicates overweight or obesity. The women for whom there was no information on the height and/or weight and for whom a BMI could not be estimated were excluded from this analysis. The height analysis is based on 630 women.

Table 51 shows that the BMI of 3.4 percent of the women 15-49 in Teshie-Nungua Estates and Sabon Zongo were too thin or malnourished and a little above half (52.9%) were overweight. It is worth noting that the age group of women is directly related to BMI. Women 15-19 years have lower overweight or obesity (13.0%) and women 40-49 years have the highest overweight or obesity (75%) and this is statistically significant (p< 0.001). Slightly more women in Teshie-Nungua Estates have normal BMI as compared to their counterpart in Sabon Zongo.

Table 51 Nutritional status of women 15-49 years

		Normal	Thin			Over-weight/Obese			
	BMI	18.5-24.9 (Tot normal)	<18.5 (Tot thin)	17.0-18.4 (Mild thin)	<17 (Modest +severe thin)	≥25.0 (over-weight /obese)	25.0-29.9 (over-weight	≥ 30.0 (obese)	# of wom en
Age group									
15-19	21.6	73.0	14.0	10.0	4.0	13.0	11.0	2.0	99
20-29	25.4	50.6	1.6	1.2	0.4	47.8	33.9	13.9	246
30-39	28.4	29.3	1.1	0.5	0.5	69.6	38.7	30.9	192
40-49	29.9	23.9	1.1	1.1	0.0	75.0	33.7	41.3	92
Location									
Sabon Zongo	26.3	40.8	3.2	0.9	2.2	56.0	36.4	19.6	315
Teshie-Nungua Est.	26.4	46.8	3.5	1.0	2.6	49.7	26.9	22.8	314
Educ.level head of hh.									
None	28.6	48.3	0.0	0.0	0.0	51.7	17.2	34.5	29
Primary	27.2	44.6	3.6	1.2	2.4	51.8	27.7	24.1	83
Mid/JSS	25.9	42.0	5.5	1.2	4.3	52.5	42.0	19.6	254
Secun.+	26.3	45.0	1.5	0.8	0.8	53.6	33.3	20.3	263
Income category									
< 200	26.5	41.1	3.8	3.1	0.7	55.1	34.1	20.9	287
201-500	26.1	46.5	3.5	2.0	1.5	50.0	28.0	22.0	201
501 +	26.5	45.9	1.5	1.5	0.0	52.6	33.1	19.5	133
Total	26.4	43.8	3.4	2.4	1.0	52.9	31.7	21.2	629

3.9 Analysis of policy responses to the financial and food crisis

The global financial crisis that started from the United States of America in September 2008, by December had covered the whole world as a result of a systemic failure in the banking and the financial sectors of the developed economies.

In Ghana, the crisis lead to the collapse of the financial market and the crushing of the stock exchange. Capital became scarce. Interest rate has risen from 8 percent to 18 percent at the secondary market. This made it difficult for the Government of Ghana to borrow from the market. As a result the Government of Ghana was forced to borrow from the International Monetary Fund (IMF) with conditions which are not favourable yet have to be accepted due to lack of alternatives.
The value of Ghana's bond was almost half and this has fallen to about 60 percent at the end of 2008. In-flows have gone down which affected the foreign exchange reserves.
Ghana government also lost revenues from foreign exchange, import duties, income and value added taxes on the goods sold, etc.

In Ghana, the ability of many people to provide for their households was greatly affected as remittances and investment opportunities dwindled and many people lost their jobs.
As a direct consequence of the crisis in the developed countries, many Ghanaians staying abroad lost their jobs (especially in the countries that have been hardly hit such as USA) and are sending less remittances to their families in Ghana which had serious consequences for those families that heavily depended on remittances for their survival.

Another direct consequence was that the multilateral institutions and bilateral development partners (e.g. the USA) reduced their development aid to Ghana (that used to be about 25-35 percent of the national budget of Ghana) and concentrated more on rebuilding their own economy. As a consequence the Government of Ghana was forced to cut down its expenditures, which led to a loss of jobs (e.g. in construction companies).

Poverty and hunger in Ghana – according to the interviewed officials and experts- cannot exclusively be related to the global financial crisis. Poverty and hunger have been with us for a very long time. What the global financial crisis did was to worsen the already existing poverty and hunger situation of poverty and hunger: The economic strength of many people was weakened and the number of people who are hungry has increased as a consequence of the global crisis.
The official interviewed from the Ministry of Finance and Economic Planning indicates that a second round of effects of the global financial crisis still are to come and it is expected these second round effects will be more severe than the first round effects.

Policies introduced to reduce the effects of the global crisis

Government of Ghana implemented various policy measures to address the consequences of the global crisis and rising food prices. These policies include removal of import taxes on some food items- rice, wheat etc, removal of taxes on fuel, putting subsidy on fuel, introduction of capitation grant in basic schools, school feeding programme, supply of agricultural inputs for increased food production, the various President's Special Initiatives (PSIs), free supply of school uniforms and the free use of Metro Mass Transport by school pupils.
These policies could be classified into direct and indirect measures aimed at reducing the effects of the financial and food crisis. Direct policies were those measures introduced as immediate responses to the global financial crisis and the indirect policies were already in place before the current global financial crisis set in and which helped to relieve the effects of the crises for the population.

Among the direct policies figured the following:

1. Removal of import taxes on some food items
From May, 2007 the Government of Ghana removed import taxes on some food products especially cereals such as rice, wheat and maize. The aim was to guarantee steady importation of such food products to ensure continuous availability of food in Ghana. At the time of implementing this policy, Ghana had food surplus but prices of food had gone up as a result of the global financial, fuel and food crises. The implementation of this policy was beneficial in the short term. It provided enough food to meet the demand of the people of Ghana. However, the policy affected the income derived from domestic production of cereals and negatively influenced efforts to increase the domestic production of those crops, hence in the long term may lead to more poverty and hunger rather than less. Moreover, most of the importers brought in these food items only to re-export them to neighbouring countries. The exporters were therefore making profit at the expense of the Government of Ghana. However, what is important was that Government adopt this measure quickly to avert the effects of the global crisis on the food situation of the people of Ghana.

2. Subsidizing fuel
The Government of Ghana from early 2008 started subsidizing fuel. This became necessary because at that time the world market price of crude oil was around 150 US dollars per barrel which was affecting the survival of the ordinary Ghanaians. This policy was as a result of

agitations from political opposition groups and pressure groups e.g. when the price of petroleum on the international market rose to 147 US dollars per barrel somewhere early 2008, the then NPP Government was blamed by the opposition political parties for being insensitive to the plight of Ghanaians. This has compelled the NPP Government in power to put a cap on the import prices of petrol at 120 US dollars per barrel and to subsidize the difference (which was 27 US dollars per barrel). It was mainly the rich (owning cars) and businesses that benefited from and enjoyed this policy measure while it had hardly any direct benefits for the poor. Many argue that government should be advised to change the policy by putting levy on the petroleum products to generate more money to help the poor and the vulnerable.

3. Removal of taxes on fuel
In March, 2009 the present NDC Government of Ghana also removed some of the taxes because of the direct impact of high fuel prices on the cost of food items and transportation fares. The NDC party during the 2008 electioneering campaign promised Ghanaians that they would reduce the price of petroleum fuel drastically when elected into office. Upon resumption of duty as the Government of Ghana, Ghanaians including political opposition groups and pressure groups pushed the NDC Government to live up to its promises even though fuel prices were rising. Though this policy was done with good intentions it caused a lot of revenue lost for Ghana, while the prices of petroleum products continued to increase (even three times) leaving the tax removal with little positive effect.

4. Support for domestic production of food products
Government stimulated and supported farmers to grow more food crops for domestic consumption. Ghanaians were encouraged "to eat what we grow". Government intended to have food security and to enlarger food reserve, so all efforts were geared toward helping farmers to produce more. The Ministry of Food and Agriculture provided seedlings and other agricultural inputs to farmers to increase their production. Price of certain agricultural inputs was reduced to encourage more people into farming. Tractors were bought and certain irrigation facilities were rehabilitated or improved. The impact of this policy was that there was not seen severe hunger in Ghana as it happened in some neighbouring countries like Ivory Coast and Senegal. Ghana had bumper harvest in food products and food supply has been relatively stable.

Among the indirect policies are:

1. Presidents Special Initiatives (PSIs)
The President's Special Initiatives (PSIs) though were not as a result of the global financial crisis, were begun in 2001 as part of measures to create employment for people of Ghana. The PSIs covered areas of Cassava, Oil Palm, Cotton, and Education among others where many people were employed. This policy helped greatly in providing jobs and financial reliefs for people.

2. Capitation Grant
The capitation grant was introduced in 2007 (hence before the global financial crisis started).to support school children in public basic schools in the country by allowing non-payment of school fees, free supply of text books, chairs and desks. The policy led to an increase in enrolments into basic schools (and reduced expenditures of households for education, thus leaving more for food and other expenses).
In 2009 also school uniforms are supplied free of charge to pupils at the basic schools.

3. School Feeding Programme

Since the beginning of 2008, the government of Ghana has taken it upon itself to supply one meal to each basic school pupil per day. The aim is to ensure that each pupil gets at least a balanced diet in a meal per day. Aside providing good nutritional balance diets to the pupils in the basic schools, the programme has helped to lessen the burden of parents (who now provide only one meal in the evening at home for the children). In spite of the benefits the school feeding programme is being influenced politically and therefore its sustainability is not yet assured.

4. Metro Mass Transport Services

The Government of Ghana introduced the Metro Mass Transport Buses since 2001. Apart from the extremely low fares charged by the busses, school pupils and students are transported free-of-charge to and from school. Because of the low fare charges the buses serve as the main means of transport for the poor and the vulnerable households in the country. However, the sustainability of the Metro Mass Transport Services is not yet assured because more than 300 buses have broken down and have not been repaired due to a lack of resources.

5. Other indirect policies

There were other indirect measures such as the support given to cocoa farmers to enable them increase their yield for export as cocoa prices were still high. The cocoa industry witnessed a further boost when the Cocoa Research Institute through various researches found other uses for Cocoa husks. This also created a great deal of employment for the hitherto unemployed.

The officials and experts that we interviewed further indicated that Government could/should have taken additional measures to reduce the effects of the financial and food crisis:

a. A medium to long term national food and agriculture policy should have been developed and followed by all governments no matter what the political party is forming the government.

b. The laws governing the imports and exports of food items should have been enforced better to deter importers from re-exporting food items to neighbouring countries.

c. The encouragement of domestic production cannot be achieved as long as the zero tariffs on imports of food products such as cereals are still in place.

d. Promotion of irrigation has not been given the needed consideration by past Governments and food production in Ghana still mainly depends on rain-fed. It is believed that the use of irrigation will be one of the shortest ways to reduce poverty since about 35 percent of Ghana's Gross Domestic Product (GDP) depends on Agriculture. The current Government has outlined in its manifesto that Agriculture will be the main drive for growth. And that this will be achieved through importation of tractors and combine harvesters, promotion of rice production and subsidizing fertilizers.

e. Government should have learnt to negotiate well the prices of the primary products that we export. In that case we would have generated enough revenue to the extent that the country would not have felt the external shocks so much. The country also should engage more in processing of primary products like cocoa in order to add value before export, t least process cocoa to some extent before export.

f. Governments should have helped to expand the industrial base of the country and apply protectionist policies to protect the industries from the influx of foreign products into the country. Government could have taken advantage of the cheap labour, to create various export processing zones in Ghana to expand our industry base. Industries could have been spread across all rural areas in the country to create jobs and to stop the rural urban drift.

4. CONCLUSION

This study sought to better understand the effects of the global financial crisis on poor urban households in Accra. Six hundred households were interviewed in two selected communities of Accra: Teshie Nungua Estate (a middle income community) and Sabon Zongo (a low income community).

Economically, more households in Sabon Zongo (60%) were found in the low income group of (< 200 Ghana Cedis) while Teshie-Nungua Estates had its population well distributed across the various income groups. Most households interviewed had multiple income sources.
Sabon Zongo had the highest dependency ratio of 60 dependents to every 100 economically active people in the community while Teshie- Nungua Estates had 51 dependents to every 100 economically active persons. As expected, educational status of respondents in Teshie-Nungua Estates was higher than in Sabon Zongo. A third of the household heads encountered in the survey were women and 58 percent of these female headed households were found in Sabon Zongo, where divorce rates were also high.
The main occupation of people in the two communities was petty trading. Though petty trading was formerly mainly done by women, more men have ventured into petty trading lately. Apart from their main occupation households engage in extra works, relied upon relatives through remittances for extra income. Income sources have changed as a result of job losses and reduction in remittances due to the crisis, although there were marginal increases in wages. In the same period, household expenditure increased as inflation rose and price of petroleum products also increased.

The study revealed that consumption of certain food products by households was greatly affected by the income of households. E.g. households in the higher income group of > 501 Cedis consumed fruit juice, carotene- rich food products and roots and tubers more than the other income groups.

The majority (98%) of households in the study had market as the main source of food. About 10 percent of the households had a secondary source of food: either they produced food themselves or they received food as a gift from relatives or friends. Most households who produced their own food started within the past two years and this was an indication that production of own food was a response to the increase in food prices. Mostly, people of Teshie-Nungua Estates farmed around their houses as they have large compounds and vacant open spaces in their neighbourhood while the high population density and lack of open spaces in Sabon Zongo made that households here use to farm in the peri- urban areas and in their home communities in the rural areas.

The study concludes that the global financial crisis has deepened poverty in Ghana and especially in poor urban communities like Sabon Zongo. The low income earners of the two communities strongest felt the effects of the rising food prices.
To cope with the lowering income and rising food prices, the households adopted various strategies: changing the quantity and quality of food consumed by the household, reliance on relatives and friends for support, taking on extra work and taking up the production of own food (through farming or livestock rearing), amongst others (e.g. a very few households withdrew their children from school as a coping strategy).

Results from the anthropometric data were a bit higher than the figures of the Ghana Demographic and Health Survey (GDHS) 2008 and Multiple Indicator Cluster Survey (MICS) 2006. Twenty three percent of children under five in the study were stunted, while 3.4 percent

were wasted and 9 percent were underweight. Children from Sabon Zongo (low income area) were more likely to be stunted than children from Teshie- Nungua Estates (middle income).

The interviews with key officials and experts revealed that the global financial crisis and its associated food and fuel crises affected households of Accra and Ghana at large. The crisis caused a great reduction in economic aid that Ghana receives from international donors and as a consequence government investments in infrastructural developments have been relatively halted. The crises caused the collapse of companies, increased unemployment and reduced greatly the remittances to households in Ghana from relatives abroad. The number of people who are hungry grew as poverty increased.

The government of Ghana instituted various measures to reduce the effects of the crisis on the poor in Ghana especially the urban poor. The direct measures were implemented as immediate responses to the crisis and include reduction of taxes on imported cereals, petroleum products and increased support for domestic production of food products to reduce hunger. Indirect measures were those national policies that government started implementing well before the global financial crisis occurred to offer some relief to poor and middle income households in Ghana. They include the numerous President's Special Initiatives that provided jobs to many unemployed youth of Ghana, Capitation grant and School Feeding Programmes that ensured high enrolment of school-going children among others.
Even though these policies provided some form of immediate relief, they are not sustainable and may not be of good benefit to Ghana in the long term. For example the tax relief on importation of cereals may discourage domestic production of such cereals and encouraged smuggling of the imported cereals to neighbouring countries where the prices are still high. Nevertheless, Ghana government's action was timely to avert civil strife as occurred in neighbouring countries.

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