

UNIVERSITY OF NAIROBI

DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

FOOD INSECURITY IN URBAN INFORMAL SETTLEMENTS:

A CASE STUDY OF KIBERA, NAIROBI

BY

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DECLARATION

This research project is my original work and has not been presented for a degree in any other university

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This research project has been submitted for examination with my approval as the university supervisor

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17/11/2011

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DEDICATION

This project is dedicated to my parents who educated and instilled in me the value of hard work.

To my mother and friend, Jamila Hashi, your encouragement and morale building have seen me through my education.

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I take this opportunity to sincerely thank several people who offered me invaluable support towards the successful completion of this work.

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ABSTRACT

The study focuses on the dynamics of food insecurity in urban informal settlement households in Kibera, Nairobi. Food security in urban areas is linked to the urban dwellers purchasing power as the urban population is highly dependent on the market for all their needs including food.

The objectives of the study were to assess food security in the urban informal settlement households; to identify socio-economic factors affecting food security in the urban informal settlement households; to establish the patterns of decision making on matters regarding food security in urban household; to identify coping strategies employed in addressing food security in urban informal settlement households.

The study used both quantitative and qualitative techniques to collect both primary data and secondary data. The primary data was collected using personal interviews from the household head or one who makes key decision on matters pertaining food and from key informants. The secondary data was obtained through desk research and review of documents related to food insecurity.

Findings from the study show that households in the urban informal settlements are food insecure. The factors contributing to food insecurity include low and irregular incomes, the high increase in the prices of basic food items and increase in other necessary non-food expenditures. To address food insecurity, households adopted a number of strategies including skipping of meals, reducing the quantities and diversity of meals, purchasing food on credit, and reliance on assistance from relatives in the rural areas.

The recommendations arising from this study are; the need for inclusion of urban vulnerable groups in efforts for mitigating the effect of famine/drought; government should subsidize food in informal settlement areas and fast track the implementation of the recently enacted price control legislation; and finally the need for instituting measures that aim at providing safety nets for poor and vulnerable households that are unable to participate actively in the economy to enable them meet their basic needs.

Table of Contents

Declaration.....	ii
Dedication.....	iii
Acknowledgements.....	iv
Abstract.....	v
Table of Contents.....	vii
List of Tables	x
List of Figures.....	xi
List of Abbreviations	xii
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background to the study	1
1.2 Statement of the problem.....	4
1.3 Overall objective.....	9
1.3.1 Specific Objectives:	9
1.4 Justification of the study	9
1.5 Scope and limitation of the study	10
CHAPTER TWO: LITERATURE REVIEW.....	11
2.1 Introduction.....	11
2.2 Extent of Food Insecurity	12
2.2.1 The people most affected by food insecurity.....	12
2.3 Socio-Economic Factors and Food Insecurity	13
2.3.1 Food Insecurity and Poverty	15
2.3.2 Food Insecurity and Urbanization	17
2.3.3 Informal Settlements.....	19
2.4 Coping mechanism	20
2.5 Food Security Polices	22
2.5.1 Food Security Policies in Kenya.....	23
2.5.1.1 Legal Framework	23
2.5.1.2 Policy Framework.....	24
2.5.1.3 Institutional Arrangements for Implementation Food Security Policies in Kenya.....	27

2.6 Theoretical framework.....	29
2.6.1 Rational choice theory	29
2.6.2 Social action theory	31
2.7 Conceptual Framework.....	32
CHAPTER THREE: RESEARCH METHODOLOGY	35
3.1 Introduction.....	35
3.2 Site selection and description	35
3.2.1 Site selection.....	35
3.2.2 Site selection.....	36
3.3 Research design	36
3.3.1 Units of analysis and observation.....	37
3.4 Sampling design and sampling techniques	37
3.5 Types and sources of data.....	40
3.5.1 Primary sources	40
3.5.2 Secondary data.....	41
3.5.3 Methods and Tools for Data Collection.....	41
3.6 Data Analysis.....	42
CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION	44
4.1 Introduction.....	44
4.2 Socio-demographic characteristics of respondents.....	44
4.2.1 Gender.....	44
4.2.2 Age Distribution	44
4.2.3 Educational Attainment	45
4.2.4 Marital status	46
4.2.5 Household size.....	48
4.2.6 Children under the age of 5 years	49
4.2.7 Type of the housing	49
4.2.8. Employment Status.....	50
4.2.8.1 The Kenyan economy and employment.....	51
4.2.9 Type of Occupation	52
4.2.10 Income Level	53

4.3 Extent of food insecurity in Kibera informal settlement	54
4.3.1. Ability to meet food needs.....	54
4.3.2 Frequency of meals.....	56
4.3.3 Source of Food.....	56
4.4. Socio-economic factors affecting food security	58
4.4.1 Rent expenditure.....	58
4.4.2 Cost of toilets.....	61
4.4.3 Cost of water.....	63
4.4.4 Cost of fuel	64
4.4.5 Household Livelihood Status and Food security.....	69
4.4.6 Availability of financial resources in the household to meet food needs.....	70
4.5 Decision making patterns on food in Kibera informal settlement households.....	72
4.6 Coping strategies employed to address food insecurity in urban informal settlement	74
4.6.1 Preference versus resources.....	74
4.6.2 Skipping meals.....	75
4.6.3 Dietary Diversity	75
4.6.4 Quantity of Meals	78
4.6.5 Child Labour.....	79
4.6.6 Trading sex for food or money	79
4.7 Measures to deal with food insecurity	80
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS...83	
5.1 Introduction.....	83
5.2 Summary.....	83
5.3 Conclusion	87
5.4 Recommendations.....	89
5.5 Suggestions for further research	89
REFERENCES	90
ANNEXES	97
Annex A: Household Questionnaire for Urban Informal Settlements Food Security	97
Annex B: Key Informant Guide	106

LIST OF TABLES

Table 2.1: Poverty index in constituencies in Nairobi.....	15
Table 2.2: Mean monthly food and non-food expenditure per adult.....	16
Table 3.1: Sampling household.....	39
Table 4.1 The number of people including children living in the household.....	48
Table 4.2: The age bracket of children living in the household.....	49
Table 4.3: Type of Occupation.....	52
Table 4.4: Rent expenditure.....	59
Table 4.5 Percentage Increase in Rent Expenditure.....	60
Table 4.6: Cost of accessing Toilet.....	61
Table 4.8 Monthly fuel expenditure.....	65
Table 4.9: Monthly Expenditure on Charcoal.....	66
Table 4.10: Monthly expenditure on kerosene.....	67
Table 4.11 Food security in relation to livelihood status.....	69
Table 4.12: Lack of food due to limited financial resources.....	70
Table 4.13: Role of the household head on matters pertaining food.....	73
Table 4.14: Types of foods frequently consumed at the household level.....	77

LIST OF FIGURES

Figure 2.1: The Food Security and Nutrition Strategy Implementation Structure	29
Figure 2.2: Conceptual framework on food insecurity	34
Figure 3.1: Map of Kibera informal settlement	43
Figure 4.1: Age distribution of respondents	45
Figure 4.2: Level of education	46
Figure 4.3: Marital status	47
Figure 4.4: Occupation	51
Figure 4.5: Monthly income of households	53
Figure 4.6: If the respondent had enough money to cater for their basic food needs	54
Figure 4.7 Purchase of food on credit	58
Figure 4.8: Ability to provide food for the household in the next 6 months	72
Figure 4.9: Kind of decision made on matters pertaining food	74
Figure 4.10: Variety of foods consumed at household level	76
Figure 4.11: Quantity of meals consumed at the household level	78

LIST OF ABBREVIATIONS

ACK	Anglican Church of Kenya
CPI	Consumer Price Indices
FAO	Food and Agricultural Organization
FFW	Food for Work
KFSM	Kenya Food Security Meeting
KFSSG SRA	Kenya Food Security Steering Group Short Rains Assessment
KIHBS	Kenya Integrated Household Budget Survey
KNBS	Kenya National Bureau of Statistics
NFNS	National Food and Nutrition Secretariat
NFSNEC	National Food Security and Nutrition Executive Committee
NFSNSC	National Food Security and Nutrition Steering Committee
NGO	Non Governmental Organization
PRSP	Poverty Reduction Strategy Paper
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

The Food and Agriculture Organization (FAO) defines food security as a “situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2002). “More than one billion people—nearly a sixth of the world’s population—suffer from chronic hunger; a crisis with devastating and far-reaching effects as it weakens the immune systems and stunts child development contributing to half of all child deaths in the developing¹”.

Globally, food security depends on our ability to minimize/manage/react to climate change and disruptions to food production by holding suitable stock levels and having emergency distribution arrangements. Further, food security depend on ensuring new technologies change this capacity and avoiding increasing the risk of major disruptions in food supply as a result of unforeseen ecological consequences of current production systems (Tansey and Rajotte 2008).

In 2010, around 925 million people are chronically hungry due to extreme poverty of which 578 million are from Asia and the Pacific, 239 million from Sub-Saharan Africa, 53 million from Latin America and the Caribbean, Near East and North Africa 37 million while 19 million from developed countries²; an indication that food security is a worldwide concern for many countries that have been experiencing perpetual food shortages and distribution problems.

¹ <http://www.state.gov/s/globalfoodsecurity/129952.htm>

² <http://www.fao.org/hunger/en>

With 239 million chronically hungry, Africa is a net importer of food and has the highest percentage of undernourished people with chronic food insecurity affecting 28% of the population. In 2003, acute food insecurity affected 38 million people in Africa facing the outright risk of famine, with 24,000 dying from hunger daily³; an indication that Africa is far from becoming food sufficient. This food shortage was attributed to failure of production to keep pace with the population growth (Salih, 1994).

Salih (1994) argues that the Africa is plagued by an increasingly alarming number of poor who are not able to feed themselves. Serious food shortages are also looming in several countries in the Horn of Africa where at least 17.5 million are without sufficient food. According to Salih large sectors of populations of Eastern and Southern Africa have experienced chronic and transitory food insecurity. According to a food security outlook based on an assessment undertaken in March 2010 in Kenya, an estimated 1.6 million persons, of which, 1.18 million are pastoralists and 420,000 marginal agricultural farmers in the southeastern and coastal lowlands, required humanitarian assistance of which, 1.2 million were under general food distribution and supplementary feeding programs, while 400,000 were under the Food for Assets program (<http://www.kenyafoodsecurity.org>); a clear indication of food insecurity in the country.

The frequent droughts experienced in Kenya have seen a resultant increase in price for food and non-food commodities across the country. In 2009 for example, prices of basic food items in urban areas escalated with maize meal up by 133%, beans by 96%, vegetables by 55%, and oils and fats by 77% (KFSSG SRA, 2009). This has not only affected the poor people living in the rural areas whose food security is pegged on their ability to produce but also the poor people in

³ <http://www.iss.co.za>

urban areas where approximately 4 million people were classified as food insecure in 2009 (KFSSG SRA, 2009). This study is designed to address food insecurity in urban informal settlements, an issue that has not yet received adequate attention.

In Kenya, as is in most parts of developing countries, urbanization is increasing at a rapid pace. A UN Habitat (2008) report showed that urban growth rates in Kenya are 1.2% and cites the case of Nairobi whose population in 2008 was estimated to be 3,125,000 up from 1,380,000 in 1990. Kenya's urban poor currently constitute over 4 million people and this number is set only to increase in the coming years as 50% of the country's population is expected to reside in urban centres by 2020 (Oxfam GB, 2009). Recent surveys have shown that between 70-75% of informal settlement dwellers are poor (World Bank, 2006) with limited access to water and sanitation, compared to 46% of the national population as a whole (KIHBS 2005/06).

Dependence on markets for sustenance contributes to specific deprivations among the urban poor who are required to buy essential goods that are free or cheaper in rural areas. Urban dwellers may benefit from services such as electricity and health that may not be available in rural areas, but need to pay for these, increasing the pressure to earn (more) money. With no other asset to sell other than semi-skilled labour, the vulnerability of urban poor households to changes in the demand for labour and the price of basic goods is high. Labour is intimately linked to good health. Urban poor have limited access to health care with public services being non-existent, private services too expensive, and casual employment offering no health insurance benefits burdening them further with the high costs of ill health. This makes them highly vulnerable to shocks and stresses as a result of changes in the environment and economy including food insecurity.

1.2 Statement of the problem

In today's world, access to food is highly and unacceptably uneven (Tansey and Rajotte 2008). The issue of food security has been on discussion as researchers try to establish how it can be resolved. Issues of starvation especially in urban informal settlements and malnutrition have been raised in different perspectives. According to Tansey and Rajotte (2008), food security depends on ensuring both rural and urban dwellers are able to secure their livelihoods and so have access to the food they need from direct production, purchase or barter.

Vulnerabilities of urban poor differs from those living in the rural areas due to their dependence on a money economy, high cost of food and basic services, a range of environmental and health hazards, substandard housing and tenure insecurity, and exposure to crime and violence. In addition to this, they are faced with a number of social problems such as unemployment, school drop-out, illicit brewing leading to drunkenness, sexual exploitation of women and girls, child abuse, and a high prevalence of HIV and AIDS (Oxfam GB, 2009). Unlike the rural areas where people produce food through practising agriculture, in urban areas, the usual source food for the household is by purchasing. This depends on the income which the urban dwellers get.

Food insecurity has become a perennial problem in Kenya due to a number of factors with top of the list being climate change that has resulted in constant rain failures, recurrent and prolonged drought adversely affecting the agricultural and livestock sectors. The prohibitive cost of agricultural inputs and technologies as well as poor infrastructure and services to enhance agricultural and livestock producers' access to markets have hampered greatly the performance of the agriculture and livestock sectors contributing immensely to food insecurity. Numerous studies have been undertaken in relation to food insecurity and several programmes initiated to

address the same (Kuria, 1999; Wanyonyi, 2001; Wambua, 2008; Odingo, 2006; Mumbua, 2010).

Wanyonyi (2001) focused on the changes that took place due to the liberalization of Kenya's maize market. The study analyzed the structural adjustment programmes (SAPs) and its effect on the food security situation in the country. In particular the study examined the effects of SAPs on maize as a staple food in the country's food security in rural areas basing his study on domestic maize.

Odingo (2006) discusses food security and poverty issues with a special reference to small scale farmers in Nyando district. The area suffers from problem of drought and frequent flooding that have effect on agricultural activities. It dwells on the effects of food security among small scale farmer which arise as a result of flooding and drought in the area.

Musyoka's (2005) study on the other hand adapted the sustainable livelihoods framework with an emphasis on the integrated view of people's livelihoods and the factors that hinder them or help them to construct routes of poverty, hence providing us with a dynamic understanding of the operating environment within which impact of development assistance on livelihood can be evaluated accurately. The study focused on the relationship between GTZ interventions and enhanced capacity for food security, its weaknesses/strengths and establishing ways of self-sustaining food security among inhabitants of Mwingi district.

The study carried out by Mumbua (2010) in Makindu District explored on women's indigenous knowledge in household food security; identified women's past and present traditional knowledge in household food production, traditional coping and adaptation strategies and

challenges in using and passing their traditional knowledge in household food production. The study established that indigenous farmers are adaptive and experimental problem solvers and experts at devising innovative survival strategies.

All these studies approached food security from the perspective of production and accessibility in rural areas. Whilst studies and initiatives like these mostly focused on rural areas though this is not to say that food insecurity is not an issue in urban areas. Food security studies have historically been dealt with from the perspective of agriculture hence leaving a gap on the issue with regards to urban populations more so those living in the slum where agricultural practices are non-existent or insufficient to make households food secure.

Food security in household units depends on the income the urban dwellers receive, the saving and other assets they have, and to what cost of food is, but for small children that depend on the food they are given (Hubbard, 1995). This indicates that urban dwellers usually depend on their income and savings which may be a problem especially to the urban informal settlement households whose income is relatively low in comparison to other people living in well to do estates which are a sign of having more income and better savings. Hubbard (1995) notes that food security is a big problem where there is concentration of poor people seeking work, earning little or living on very small plots of land and with greater risk of disease; a characteristic of informal settlement in the urban areas of Kenya; a big population with low income.

Given their high dependence on markets and income to meet the basic needs, urban dwellers especially the poor have been highly affected by the food price increase globally that was experienced in 2008/2009 with riots and demonstrations taking place in a number of cities around the globe. The rise in global fuel prices at the beginning of 2011 as a result of the

political upheavals in North Africa and the Middle East have had a significant impact on the cost of basic commodities including food leading to an increase in the cost of living in many parts of the world with urban areas being the most affected. This has seen demonstrations in several countries including Uganda where the civil society has organized for walk to work demonstrations. In Kenya, the rise in the cost of living as a result of the increase in fuel prices has also seen demonstrations in the major cities with the civil society calling on the government to put in place mechanism to cushion the poor against the rising cost of living. The government has responded to this by increasing the minimum wage by 12.5%, removing the tax levied on diesel and kerosene, as well as excise duty on imported maize and wheat grain in a bid to reduce the cost of food and other basic commodities.

Infrastructure is usually in deplorable conditions in the informal settlement. Food security entails improvement of the distribution system in the area; such improvement requires the development of adequate infrastructures like markets, roads, transport, storage, market intelligence information and provision of incentives to both producers and traders (Obasanjo and D'Orville 1992). This is the threshold which guarantees food security at the household level. The inadequacy of such infrastructure in urban informal settlements results in lack of enough resources to acquire food and water, hence, hindering the households from accessing enough food. Hubbard (1995) notes that food insecurity can exist even where there is national food security. This can be a reality when a household does not have means to acquire enough food even where it is available, resulting to malnutrition within the household.

A household that is food insecure is vulnerable to external shocks that reduce its income like drought, floods or that greatly raise the price of essential consumer goods (Hubbard, 1995). This

means that if a household experiences food insecurity it will be hard to cope with other calamity hence raising its vulnerability. Consumer Price Indices (CPI) and inflation rates provided by the Kenya National Bureau of Statistics pertaining to the month of January 2011, the food and non alcoholic drinks' index went up by 0.91 percent between the months of December 2010 and January 2011. This was attributed to cost increases recorded in respect of a number of food products including *sukumawiki*, fresh packeted milk, maize grain and potatoes. The prices of these items went up by 10.1, 2.2, 4.6 and 2.6 percent, respectively (<http://www.knbs.or.ke/>). Food security can result from short term fluctuations in production brought by fluctuations in household's incomes and food consumption (Obasanjo and D'Orville, 1992).

This raises the question on the ability of the urban poor and the disadvantaged classes of society to survive due to food insecurity (Salih, 1994). According to the Kenya National Bureau of Statistics, food poverty rate in Kenya are estimated at 15% and 21% for urban and rural areas respectively. Whilst these figures indicate a higher level of food poverty in rural areas compared to urban areas alluding to food security in urban areas, this data obscures the vulnerable households in urban areas.

The study was therefore guided by the following research questions:

- (i) Are urban informal settlement households food insecure?
- (ii) What are the factors that contribute to food insecurity in the urban informal settlement households?
- (iii) How do households in urban informal settlements cope with food security?

1.3 Overall objective

The general objective of this research was to study and establish food security in urban informal settlement households.

1.3.1 Specific Objectives:

- (i) To assess the extent of food insecurity in the urban informal settlement households.
- (ii) To identify socio-economic factors affecting food security in the urban informal settlement households.
- (iii) To establish the patterns of decision making on matters regarding food security in urban informal settlement households.
- (iv) To identify coping strategies employed in addressing food security in urban informal settlement households.

1.4 Justification of the study

Most of the studies carried out in the informal settlements have been focusing on HIV and AIDS, sanitation and crime and therefore, this study will shed light on issues of food security. The issue of food security is vital to the government more particularly the Ministry of Special programs which deals with drought and other human issues that require special attention.

The issue of food security in urban informal settlements had not been addressed in the earlier studies as most of the studies have dwelt on food security in rural areas where agricultural practices were brought on board as one of the strategies employed to cope with food insecurity. In this regard, the study was vital in an urban informal settlement context, where agricultural strategies may not be practiced, as it looked into other strategies which are oriented towards

accessing food. This study offers more knowledge on issues of food insecurity in urban informal settlements where most of the urban poor population resides.

1.5 Scope and limitation of the study

The study was carried in Kibera informal settlement, a informal settlement located 5 kilometres South East of Nairobi city centre. The informal settlement is estimated to be home to more than two hundred thousand inhabitants and sits within an area of roughly 2 km². It is considered to be the largest informal settlement not only in Kenya but in Africa and one of the biggest in the world (<http://www.Kibera.org.uk/Facts.htm>).

This study concentrated on the urban informal settlement in Kibera as the characteristics of the households in this informal settlement can be found in households in other informal settlements within Kenya hence can be considered representative enough to generalize the findings of this study to other informal settlements in Kenya.

Food security is a very wide topic, this study will therefore focus on the extent of food insecurity by looking at the number of food insecure households as measured through the number of meals consumed and the diversity of their diets; detail the socio-economic factors that affect food security at the household level as well as the coping strategies households employ to address food insecurity. Issues outside the objectives therefore were strictly not be dealt with.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Food is one of the most basic human needs for survival, health, and productivity making it a critical requirement for human and economic development (Smith et al, 2006). Food security is seen to exist when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs in order to achieve an active and healthy life (FAO, 2001). This can therefore be seen as the availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports; and access by households and individuals to food for a nutritious diet either through production, purchase or transfer (UNEP, 2002). Being food secure means that people are confident that adequate food required for a healthy life will be available at all times (Hubbard, 1995; Braun, 1995).

Globally food insecurity is becoming a perennial problem as a result of an increase in the use of grains and oilseeds overtaking the rate at which production takes place caused in part by poor policies (especially in developing countries where focus for many years has been put on export crops) but also extreme weather conditions. Whilst food is available at the global level and countries that have production shortfalls can import from other parts of the world, though stock levels have diminished rapidly since the turn of the century (Evans, 2009), the problem of food insecurity in the African context can be seen largely as one inability to buy food (Obasanjo, 1992).

2.2 Extent of Food Insecurity

2.2.1 The people most affected by food insecurity

According to the Food and Agriculture Organization (1986), children are the most affected by food insecurity which a large number (estimated at 15 million by 1986) dying from hunger related causes. This is attributed to their dependence on and vulnerability of their parents or guardians to hunger as a result of being food insecure. Given the gender disparities in developing countries, women, who are often active in food production as well as taking care of a family, are more likely than men to suffer from malnutrition (FAO, 1986; Hubbard, 1995; Clay and Shaw, 1987). As women are key decision makers in child nutrition, where they are affected by food insecurity, children especially infants tend to be affected too. In regions of the World where, on average, infant mortality of females is higher than males (South Asia, East Asia, Middle East) female infant malnutrition rates are also higher. Food insecurity and nutritional risk is often greater for females than for males, in infancy, in parenthood particularly during pregnancy, nursing as single parents and in old age (Hubbard, 1995).

Rural inhabitants in the developing countries compose the largest masses of the poor. Though the rural inhabitants are involved in farming activities at times they are hard hit by food shortage due to long period of drought, poor farming methods and lack of income to buy seeds. At such time of shortage or crisis, rural areas are usually the hardest to reach with food and supplies (FAO: 1986).

FAO (1986) further argues that people who live in crowded shanty towns and informal settlements are affected by food shortages. There has been an increase in the number of people migrating to large cities in third world countries leaving the rural areas empty and unproductive.

Households in the shanty towns/informal settlements within urban areas tend to be very much dependent on the market for their basic needs making food insecurity in this context an issue of access as a result of the purchasing power of their income rather than availability of food (USAID, 2008) mostly attributed to poverty affecting groups in society that have very weak food entitlements as a result of limited social networks and productive assets. It is estimated that roughly one quarter of the people in developing countries with market economies suffer from some degree of under nourishment (FAO, 1986).

2.3 Socio-Economic Factors and Food Insecurity

The major cause of food insecurity in developing countries is the inability for people to access food due to poverty which has its roots in economic, social and political factors (FAO, 1986). In Africa, the biggest cause of food insecurity is “its under-developed agricultural sector characterized by over-reliance on primary agriculture, low fertility soils, minimal use of external farm inputs, environmental degradation, significant food crop loss both pre- and post- harvest, minimal value addition and product differentiation, and inadequate food storage and preservation that result in significant commodity price fluctuation” (Mwaniki, 2006).

Salih (1994) argues that food security cannot merely depend on the availability of food per head in the community but on numbers of other socio cultural and environmental factors. These factors includes distributional considerations, person’s age and sex, metabolic rates and body size, activity levels, medical conditions, climatic conditions, social relations, education and medical knowledge and access to medical services. Food security is usually affected by the above enumerated factors and limitations of these will have adverse effect on household food security.

Poor infrastructural investments in developing countries have major implications in furthering food insecurity not just in terms of production but also link to markets which provide an incentive for productivity in the agricultural sector as it promotes the competitiveness of produce prices by reducing the cost of inputs as well as distribution. The state of infrastructure has a great effect on the distributional channels of food produced within a country and in turn the prices of commodities hampering access to food in certain parts of a country.

Population growth is another important factor contributing food insecurity with Africa being the world's fastest growing region as its population growth is estimated at 2.4 % annually (UNEP, 2011). The characteristics of these demographics are also changing with a huge proportion of the population with over 43% of the population being below 15 years of age

Disease and infection continue to plague the African continent. Diseases such as malaria, tuberculosis and HIV/AIDS not only reduce the man-hours available to agriculture and household food acquisition, but also increase the burden of household in acquiring food (Mwaniki, 2006).

The problem of urbanization where many of rural people moves to urban areas has brought about food insecurity in the urban areas. People who usually move to the urban areas tend to be the most productive lot from the rural areas who prior to their movement were involved in agricultural production but due to limitations and non-viability of the sector as a result of structural, policy and climatic factors, they find themselves having to move into urban areas in search of employment which is not easily available as the market (particularly in the developing countries) does not have the capacity to absorb all the people who move from the rural to urban areas; leaving these migrants with no means of support to meet their basic needs requirements of

which food is at the top of the list. This raises the question on the ability of the urban poor and the disadvantaged classes of society to survive due to food insecurity (Salih, M. 1994).

2.3.1 Food Insecurity and Poverty

Another factor that causes food insecurity is poverty among people. Overall poverty in Nairobi Province is estimated at 22% with over a fifth (approximately 600,000) of the province's population is currently living in poverty and contributing to almost 4% of the total national poverty. With an estimated 600,000 poor people, Westlands constituency contributing the least to provincial poverty whereas Langata constituency contributes 20 percent of the provincial mean of 22 percent (Kenya National Bureau of Statistics, 2008). The table below shows poverty index in constituencies in Nairobi.

Table 2.1: Poverty index in constituencies in Nairobi

Constituency	Percentage of poor (%)
Langata	20
Westlands	14
Dagoretti	24
Kasarani	2
Makadara	30
Kamukunji	22

(Source: KNBS. 2008)

At the household level, food insecurity can be seen to persist due to lack of sufficient income to meet all its basic requirements for survival. FAO (1986) argues that the income of the person supporting the household affects quality and frequency of taking food in the household. According to a household budget survey carried out in Kenya, the percentage of hardcore poor in urban areas was estimated at 8.3 percent.

According to the study done by Kenya Bureau of Statistics (2007), the mean food expenditure for urban dweller was Kshs 2,642 per adult equivalent, with the major food categories being cereals, followed by food eaten in restaurants, meat, milk and eggs, vegetables, and bread. The mean urban non-food expenditure per adult equivalent was Kshs. 4,032 where the major categories were house rent, transportation, clothing, and footwear, education, household and personal goods and services and services and fuels. The mean monthly food and non-food expenditure for adult equivalent is however higher in Nairobi than other urban areas like in Mombasa, Kisumu and Nakuru (Kenya Bureau of Statistics, 2007) as shown on the table below.

Table 2.2: Mean monthly food and non-food expenditure per adult

Region	Mean expenditure			Shares %	
	Food	Non food	Total	Food	Non food
Kenya	1,754	1,678	3,432	51.1	48.9
Total rural	1,453	878	2,331	62.3	37.7
Total urban	2,642	4,032	6,673	39.6	60.4
Nairobi	3,010	5,696	8,706	34.6	65.4
Mombasa	2,285	3,218	5,503	41.5	58.5
Kisumu	2,172	3,539	5,711	38.0	62.0
Nakuru	2,302	1,708	4,010	57.4	42.6

(Source.KNBS:2008)

The table shows that people who live in Nairobi pay more than people living in other urban areas. This aspect of high cost of products in Nairobi can further be attributed to informal settlement dwellers.

2.3.2 Food Insecurity and Urbanization

Rural to urban migration is rampant in Kenya and is expected to continue. In 1999 the population living in urban areas was estimated at 26 percent and is projected to reach 60 percent by 2030 (Adam and Ndung'u 2010). This shows that the demand for food will continue to increase in the urban areas over the coming years with the supply not necessarily being able to match this. Currently, purchased food constitutes a large portion of food budget for most Kenyan households than in rural areas where it is estimated at 57% in rural areas compared to 80% in urban areas (Adam and Ndung'u, 2010).

As food makes up the largest expense in the household budget of the urban poor hence making access the main cause of food insecurity is food access due to a lack of sufficient income to meet these needs rather than the availability of food itself. This is exacerbated by the household's utilization of the food they purchase which is often impacted upon by poor water, sanitation and health conditions (USAID, 2008).

The nature of and cadre of jobs that the urban poor are engaged in contributes hugely to how food secure/insecure this group is. The urban poor are engaged in casual low-paying jobs mostly in the informal sector and the availability of these jobs are very much dependent on economic fluctuations hence making them very competitive hence widening the degree of inequality more than it is in the rural areas (USAID, 2008).

Climatic variations globally and in Kenya, manifested by recurrent drought over the past 10 years, have not spared the urban poor. Frequent drought has resulted in price increase for food and non-food commodities whilst wages have remained stagnant. In 2009, prices of basic food items in urban areas escalated maize meal by up to 133%, beans by 96%, vegetables by 55%, and oils and fats by 77% (KFSSG, SRA, 2009). The rising prices for maize (main staple) signified an increase of \$250 per year in household food expenses for the urban poor households; an increase that is equivalent to the total annual household income of a large part of the urban poor population. Food therefore makes up a major component of inflation and contributes on average to 55% of the monthly inflation rate (Adam and Ndung'u, 2010).

The increase in the price of certain key commodities in the global as well as local markets has an impact on food security particularly for the urban poor. The current (2011) increase in oil prices at the global level due to the political instability experienced in North Africa as well as the Middle East has contributed to the rise in food prices globally and even in Kenya particularly for the urban dweller due to an increase in the cost of transportation and the processing of other farm inputs; putting the poor urban dweller in a more precarious situation given their low wages and unstable jobs. Adam and Ndung'u argue that although price movements are necessary for trading, some stability is important for households to have confidence in the markets and move away from subsistence (2010).

The greater social diversity experienced in urban areas is often considered positive but for the poor it has contributed to fragmentation due to the heterogeneity of its populations. With social diversity, relationships become more impersonal and sharing and kinship networks less well

developed. Social capital is an essential coping strategy in attaining food security; a strategy that is weak or lacking amongst the urban poor.

2.3.3 Informal Settlements

An informal settlement, which is the context within which the study will look at food security, is defined as “densely populated settlements comprising communities housed in self-constructed shelters under conditions of informal or traditional land tenure. They are common features in developing countries and are typically the product of an urgent need for shelter by the urban poor. As such they are characterized by a dense proliferation of small, makeshift shelters built from diverse materials, degradation of the local ecosystem and by severe social problems” (Nabutola, 2004).

UN-Habitat defines informal settlements as settlements where inhabitants are characterized as insecure residential status, inadequate access to safe water, inadequate access to sanitation and other basic infrastructure and services, poor structural quality of housing, and overcrowding. These settlements are therefore characterized by temporary structures, poor or non-existent infrastructure for water, sanitation and electricity, lack of security tenure by the inhabitants and poor security from the authorities making violent crimes very common. Majority of its inhabitants are casual laborers in various industries, domestic workers or petty traders with very low incomes, no assets or limited with very low returns in the event that they do have assets living them very vulnerable to food insecurity due to their high dependence on markets for sustenance.

According to Giddens (2006), as the number of unskilled and agricultural workers migrating to urban areas increases, the formal economy is not able to absorb the influx into the workforce giving rise to the informal economy which offers employment opportunities to poor or unskilled workers. The informal sector has been a crucial aspect of the urban economy as it helps thousands of families to survive but are equally problematic as they are often unregulated, untaxed and less efficient/productive as compared to the formal economy.

As urban areas grow, so does the number of informal settlements due to the increase in demand for housing that is not commensurate to the government ability to meet the demand for housing particularly in developing countries (Giddens, 2006). In Kenya, Nairobi alone is estimated to have more than 200 informal settlements (or informal settlements) which are overcrowded, have poor sanitation and limited (or no access to basic services). These settlements tend to offer cheaper housing hence cater for the poor in urban areas.

With poverty being widespread in the informal settlements, existing social services are not able to meet the demands for healthcare, education and training (Giddens, 2006) resulting to a number of social ills in the informal settlements including crime, prostitution, child labour etc.

2.4 Coping mechanism

According to Obasanjo and O'orville (1992) the challenges of improving food security in Africa would include actions aimed at improving the procurement system and the food marketing system as well as actions aimed at providing the people a risk of hunger with income that would permit them to purchase the food they require. Improvement of procurement systems entails,

establishing food security stocks, prevention of loss of food after harvest which usually occur immediately after harvesting. Further it involves establishment of early warning system.

Unnecessary licenses or permits for retailing, milling and transporting which raises local food prices should be removed and much focus should be placed on local action to improve food security including the creation of incomes and employment opportunities, through providing access to productive assets for the needy and labour intensive employment projects; creating and protecting fall back assets and sources of income (Hubbard, M. 1995). These sources of income may include selling roasted maize by women on the street, washing vehicles among others. Salih (1994) notes that the major threats to food security are more related to low and unstable incomes and unemployment than the food production deficits.

There is also need to improve the functioning of local markets for food and other essentials such as water, fuel, livestock and drugs but also to improve and encourage central government and NGO initiatives in the locality by providing better project planning and management while encouraging community participation in food security initiatives including malnutrition projects (1995). He further notes that there is need to increase urban nutrition programmes to focus on nutrition education, and subsidization of food prices to the poor and further improve the food quality (Hubbard, M. 1995).

The government should provide good social services and infrastructure such as education (schools, teachers), healthcare (clinics, personnel, and drugs), water and road maintenances but also reduce its taxes on key commodities and other user charges for services (Hubbard, 1995). All these will reduce the cost of expenditure by the producers hence reducing the cost of food.

Reduction of the cost of food in a household argues Hubbard (1995), improves their food security.

Food security depends on ensuring both rural and urban dwellers are able to secure their livelihoods and so have access to food they need, either from direct production, purchase or barter. At the household level, food security is pegged to a household's continued ability to maintain livelihoods that allow production/procurement of food needs in an appropriate manner (Tansey and Rajotte, 2008). It also requires putting in place risks management strategies suitable to local needs and customs to prevent impoverishment; these can at times be considered negative as a result of their negative impact on the household's health, well-being or future prospects for advancement within a society.

As most of the food insecure households are low income earners, some households especially in the urban informal settlement depend on wages which are not regular leaving them vulnerable to hunger. Braun (1995) argues that Food for Work (FFW) programme can be beneficial to these types of households as it will provide employment to households and individuals especially those that are in the lowest income groups which in turn results in an increase in real income and participation of low-income households.

2.5 Food Security Policies

According to Salih, M. (1994) there is need for revision of the current food policies in Eastern and Southern Africa as the common features of these policies can be traced back to colonial policies designed to integrate colonies into metropolitan trading networks and to protect settler populations. As there has been no change over the years in the trade patterns which were shaped

during the colonial era, there has been export of primary commodities leading to lack of technological investments in Eastern and Southern African countries to improve production within the food sector in order to address food insecurity.

According to the World Bank (1986), Eastern and Southern African countries, as well as countries in Asia that are considered to have high levels of food insecurity, need to look at three major interventions to improve food security. This entails influencing food supply through changes in the volumes of domestic production, imports, or exports without affecting the domestic price of food. The other initiative is aimed at lowering the prices of key food commodities without affecting the prices at the producers' level using government resources to support a subsidy scheme; and the third intervention will look at income supplementation either through subsidies for non-food commodities or by providing food or income transfers.

2.5.1 Food Security Policies in Kenya

2.5.1.1 Legal Framework

Food security is enshrined in the Constitution of Kenya, the highest law of the land, under the Bill of Rights (economic and social rights section) where it states that “every person has the right to be free from hunger, and to have adequate food of acceptable quality” (Constitution of Kenya, 2010). Given that the state has the fundamental duty of respecting, protecting, promoting and fulfilling the fundamental freedoms in the Bill of Rights, the Government of Kenya is responsible for having all measures (including financial, technical and human resources) in place to ensure that every Kenyan has adequate food.

2.5.1.2 Policy Framework

a) Poverty Reduction Strategy Paper (2001-2004)

Food security in Kenya is outlined as a key issue to address within the agricultural sector in a number of its development policies and strategies as it has in the past been viewed mostly as an issue of there not being enough food produced. In the Poverty Reduction Strategy Paper (2001-2004), food security was addressed under Agriculture and Rural Development sector. Within this sector, crop and livestock development were identified as the priority areas due to poor extension services, inefficient rural financial systems, the poor state of rural infrastructure and poor marketing and distribution systems being identified as the main constraints in addressing food security. Though these policies have a huge bias on rural areas, their impact on the urban dwellers is substantial due to the impact in pricing of commodities in the urban markets. The challenge for the Government has and continues to be the mobilization of the necessary resources and building the institutional capacity to implement the above measures outline in the PRSP (Gitu, 2004).

b) Strategy for Revitalizing Agriculture (2004-2014)

The Strategy for Revitalizing Agriculture (2004-2014) is joint strategy for the Ministries of Agriculture, Livestock and Fisheries development and recognizes that low productivity is the main constraint in the agricultural sector hence affecting food security. According to the strategy, the low productivity is as a result of poor extension services, limited research into appropriate productivity enhancing technology, and limited financial services for farmers to access

productivity enhancing technology; issues that the strategy seeks to address in revitalizing the agricultural sector (Gitu, 2004).

The strategy is therefore the agricultural sector's contribution to the Economic Recovery Strategy whose priorities were:

- To review and formulate the legal and regulatory framework
- Improve the delivery of research, extension and advisory support services to marginal farmers
- Restructure and privatize non-core functions of parastatals and ministries to bring about efficiency, accountability, and effectiveness
- Increase access to quality farm inputs and financial services,
- Formulate National Food Security Policy and Programmes
- Improve access to markets, e.g. rural roads and internal taxes

c) First Medium Term Plan (2008-2012)

Under the First Medium Term Plan (2008-2012), which is Kenya's national development master plan for achieving the Kenya Vision 2030, the government is seeking to address food security as part of its agricultural development priorities by focusing on the improvement of productivity through reducing the cost of farm inputs, investing in appropriate productivity enhancing technologies (including investment in irrigation projects), investment in value addition including small-scale processing of fruits and honey; detergent making and household manufacture of body lotion and body oil, livestock development (including investment in processing facilities) and promotion of production of traditional food crops.

d) National Food Security and Nutrition Policy

The National Food Security and Nutrition Policy (2007) identifies food security as a basic human right with the overall goal of the policy being to ensure that all Kenyans throughout their lifecycle have safe food in the required quantities and quality to meet their nutritional needs for optimal health. The policy moves away from the past policies and strategies that looked at food security mostly from the point of food availability addresses food security from four dimensions i.e. availability (looking at production), accessibility (distribution chain and purchasing power), stability (cushioning against shocks that affect availability, accessibility) and meeting nutritional requirements (Republic of Kenya, 2008) .

In order to achieve this the government, through this policy, aims to among others, ensure that funding of the food and agriculture sector increases to the minimum target of 10% of the national budget, and support and promote farming systems that enhance sustainable food production. This will be coupled with support measures that improve security and access to land and water, especially by women, pastoralists and child-headed households, and provide the legal and institutional support to small rural businesses. The government also aims to regularly review minimum wages to take account of food and nutrition needs, inflation rates and labour productivity. Through this policy, there are plans to turn the Strategic Grain Reserve into a Strategic Food Reserve that will include other critical foodstuffs in the form of physical stock and cash to ensure that the country has enough food stocks (Republic of Kenya, 2008).

e) The Food Security and Nutrition Strategy

This strategy was developed in 2008 based on the food security and nutrition policy (2007) and is a plan that intends to provide a mechanism through which the government will facilitate the implementation of strategic actions to improve the food security and nutrition of the Kenyan population in a comprehensive and coordinated manner. The strategy identifies key programme areas that the government should focus on in order to deliver the food security and nutrition policy. These programme areas include household resource productivity, national food availability, food accessibility, food safety and quality control, nutrition improvement in public institutions (and among partners, consumers) and food and nutrition in schools. The strategy looks at food and nutrition security from a multi-sectoral approach and recognizes the need for an approach that integrates the economy, agriculture and other related sectors (Republic of Kenya, 2008).

2.5.1.3 Institutional Arrangements for Implementation Food Security Policies in Kenya

In the past, the implementation of the food security related policies were mostly carried out under the Ministries of Agriculture, Livestock Development and Fisheries, and the Ministry of State for Special Programmes when it came to emergency response. The current food security and nutrition strategy however provides for a multi-sectoral institutional framework that sees the responsibility of the implementation of food security policies going beyond the traditional food security ministries.

The strategy provides for 3 main structures that will oversee and roll out the various programme areas identified within the strategy as key to the implementation of the national food security and

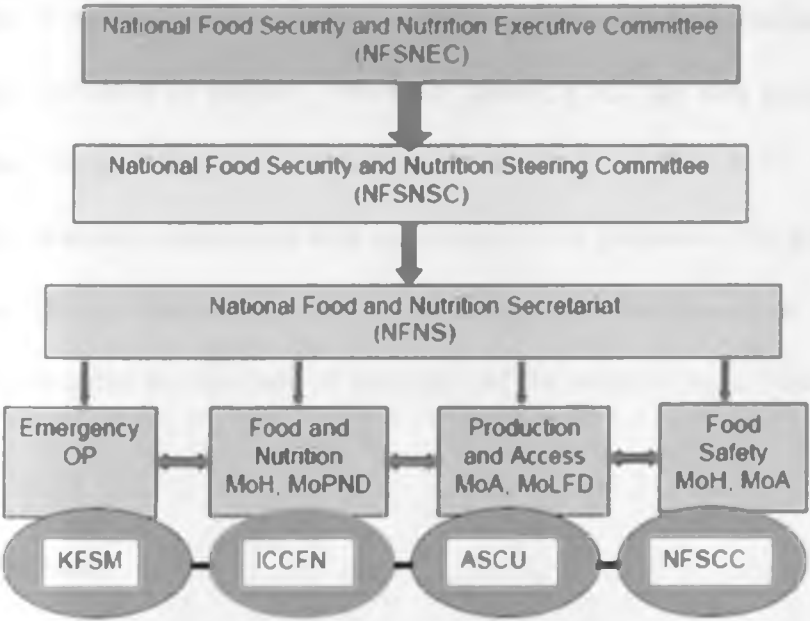
nutrition policy. These structures are the National Food Security and Nutrition Executive Committee (NFSNEC), the National Food Security and Nutrition Steering Committee (NFSNSC) and the National Food and Nutrition Secretariat (NFNS).

NFSNEC is a structure at the cabinet level and is chaired by the President whereas the NFSNSC which comes under the NFSNEC is chaired by the Head of Public Service and comprises of the permanent secretaries from implementing/line ministries and other technical personnel. The NFNS comes under the NFSNEC and is the structure that is involved in the actual implementation and coordination of the various programme areas of the strategy.

The NFNS is headed by a Permanent Secretary from an implementing ministry and comprises of four thematic areas/desks i.e. emergency which will be led by the Office of the President, food and nutrition-to be led by the Ministry of Public Health and the Ministry of Planning and National Development, food availability and access led by Ministries of Agriculture, Livestock and Fisheries Development, and food safety which is led by the Ministries of Agriculture and Public Health. These four thematic areas/desks also have a number of other technical ministries and institutions as members such as Ministries of Environment and Natural Resources (MoENR), Water and Irrigation (MoWI), Education (MoE), Trade and Industry (MoTI), Roads and Public Works (MoRPW), Local Government (MoLG), and Science and Technology (MoST)—CBS, KEPHIS, universities and research institutions, NGOs, consumer organizations, coalitions and alliances, UN bodies, among others (Republic of Kenya, 2008).

The figure 2.1 below summarizes the institutional arrangements for food security and nutrition strategy implementation in Kenya.

Figure 2.1: The Food Security and Nutrition Strategy Implementation Structure (Source: Republic of Kenya, 2008)



2.6 Theoretical framework

2.6.1 Rational choice theory

Rational choice theory was proposed by Homan (1961) and states that human beings are purposive and goal oriented in their preferences or utilities that are set hierarchically in the society. It begins with assumption that men have different wants, goals and values but live within the world of scarcity and therefore must select between alternative courses of action that leads towards the most preferred goal (Health, 1976). People examine and make calculations involving

various alternative actions open to them and compare amount of rewards associated with each course of action and likelihood of receiving it (Ritzer, 1992).

In rational choice theory the highly valued rewards will be devalued if the actor thinks that it will be impossible to attain it while enhancing the lesser valued reward in case the actor sees it as being attainable. In choosing lines of behavior people make rational calculations with respect to the use of alternative lines of conduct, preference hierarchy and the cost of each alternative in terms of utilities foregone and the best way to maximize utility. The theory asserts that such phenomena that arise from rational choices constitute a set of parameters for subsequent rational choices of individuals. This is because they determine the distribution of resources among individuals, opportunities for the lines of behavior and the nature of norms and obligations in a situation.

Relevance to the study

The rational choice theory explains the urban informal settlement household's decision making process on how best to deal with food security; how the household members come up with a strategy on the best way to access food for the household. The theory gives an understanding into household's choices in as far as food expenditures are concerned and their adoption of alternative ways of coping with food insecurity such as buying food on credit, sharing food with neighbors, borrowing money from friends, relatives and financial institutions (formal or informal), scavenging, begging and engagement in harmful work (e.g. child labour, commercial sex work).

2.6.2 Social action theory

George Mead (Ritzer, 1992) looks at social action as the ability of individuals to exert control over their own actions. According to this theory, human beings are capable of conscious thought that enables them to be aware of themselves and others as social beings; an approach that places more emphasis on freedom of individuals to direct their own actions. They have their own motives and beliefs, their own interpretation of the meaning of a situation, and that they control their own actions. This theory does not necessarily deny the existence of roles, norms and values but tend to see them as flexible guidelines rather than inflexible directives. The individual will interpret a situation according to the meaning given to a situation; not seen as fixed but as negotiated by the actors concerned.

This theory makes several assumptions regarding the individual or actor. These are:

- i. The actor has goals (or aims, or ends) and his actions are carried out in pursuit of these
- ii. Action often involves the selection of means to the attainment of goals
- iii. An act always occurs within situations which influence the course of action
- iv. The actor always makes certain assumptions concerning the nature of his goals and the possibility of their attainment.
- v. Action is influenced not only by the situation but by the actor's knowledge of it.
- vi. The actor has certain sentiments or effective dispositions which affect both his perception of situation and his choice of goods.
- vii. The actor has certain ideas or modes of cognition which affect his selective perception of situations.

viii. The actor has certain norm and values which govern his selection of goals and his ordering of them in some scheme of priorities.

Relevance to the study

In case of hunger in the household, the head of the household will pursue immediate strategies for getting food for that particular time and in taking the necessary actions draw upon his past experiences with the situation and will anticipate action to be taken in future like buying enough food when the prices are good.

Further the household head reflects at the action that he is about to take. For example if in the past he had tried to borrow from neighbor some food but was denied he will think of alternative like borrowing from the relatives or seeking assistance from the church especially if he has a knowledge of other people who got help from them. The household head after reflecting on the best way forward will employ the favorable means based on his/her analysis to get the food. The set of actions pursued by the household will be highly influenced by the values and norms of the household.

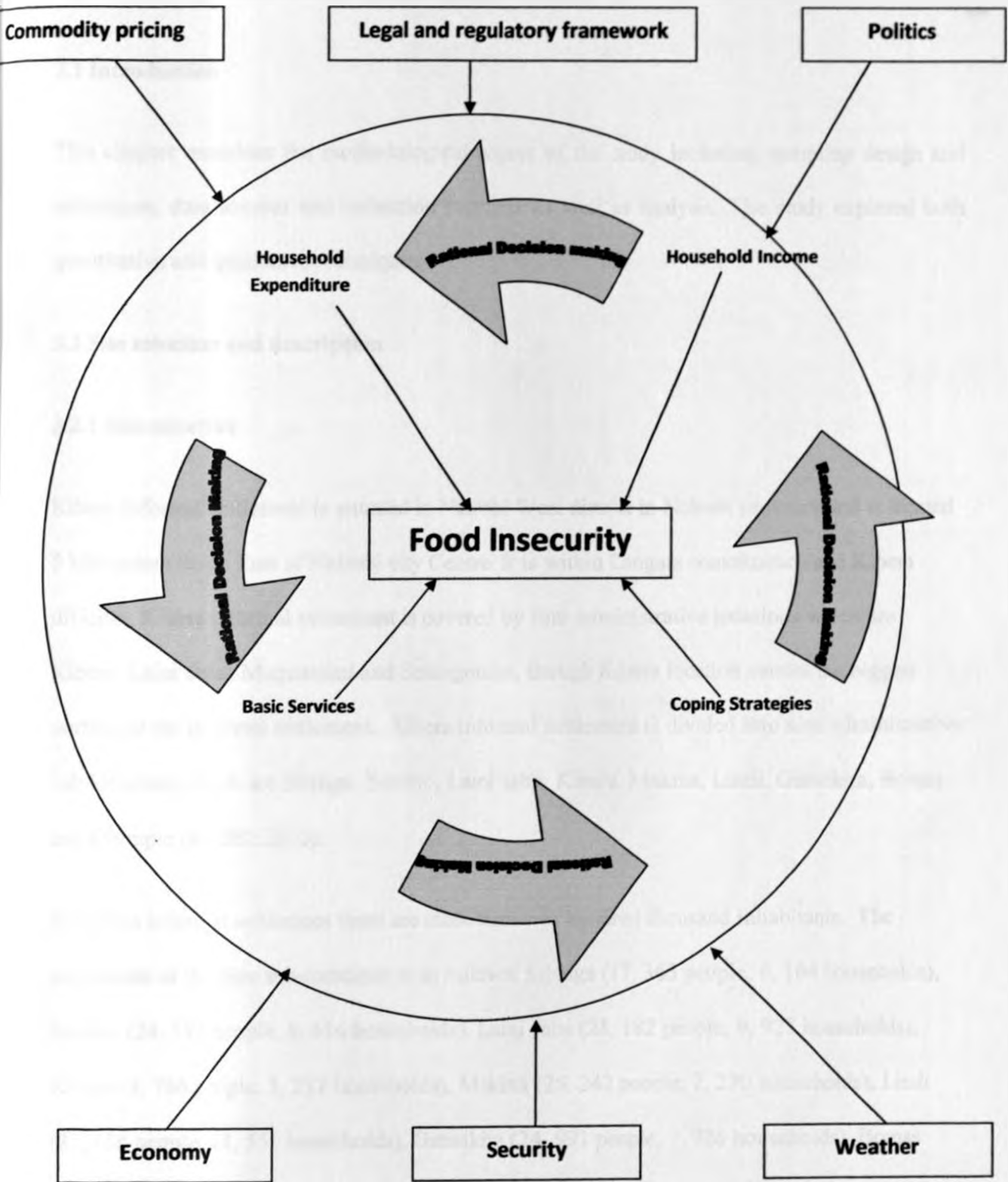
2.7 Conceptual Framework

Food security in a poor urban household is very much dependent on the household's income, their expenditures as well as access to basic services. The income is normally low and very erratic and obtained mostly through employment either in the formal or non-formal sector. On the other hand there is household expenditure in form of food and non-food items and that the household income's ability to meet these expenditures contributes to food security. Access to basic services impacts on the household food security as it not only contributes to the

household's expenditures but also the well-being. Where the household's income is unable to meet all these expenses, the household then makes certain trade-offs as well as adopts numerous strategies for it to cope with the situation and enable it to meet its bare minimum needs. These trade-offs will often involve cutting back on certain items which include the quantity and quality of meals. Other mechanisms that a household may employ to cope with food insecurity include sharing food with neighbours/friends/relatives, purchasing food on credit, scavenging, begging and stealing among others which will lead to realization of food security needs in the household as shown on the figure 2.2.

The choice of which coping strategy to be employed by the household is one that is arrived at through a rational process of looking at the various options available to the household and the risk of hunger and weighing each option against that particularly risk. The choice is often made drawing upon the household's past experience with the situation, the values and norms of the community that the household is part of. The household's ability to cope and choice of strategy is often affected by external factors such as commodity prices, weather, security, legal and regulatory framework, politics and the economy, which households have no control over.

Figure 2.2: Conceptual framework on food insecurity



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter examines the methodological aspect of the study including sampling design and techniques, data sources and collection methods as well as analysis. The study explored both quantitative and qualitative techniques.

3.2 Site selection and description

3.2.1 Site selection

Kibera informal settlement is situated in Nairobi West district in Nairobi province and is located 5 kilometers South East of Nairobi city Centre. It is within Langata constituency and Kibera division. Kibera informal settlement is covered by four administrative locations which are Kibera, Laini Saba, Mugumoini and Serangombe, though Kibera location carries the biggest portion of the informal settlement. Kibera informal settlement is divided into nine administrative sub-locations which are Silanga, Soweto, Laini saba, Kibera, Makina, Lindi, Gatwikira, Bomas and Olympic (KNBS: 2010).

In Kibera informal settlement there are more than two hundred thousand inhabitants. The population of the nine sub-locations is as follows; Silanga (17, 363 people, 6, 164 households), Soweto (24, 191 people, 8, 414 households), Laini saba (28, 182 people, 9, 927 households), Kibera (9, 786 people, 3, 237 households), Makina (25, 242 people, 7, 270 households), Lindi (35, 158 people, 11, 551 households), Gatwikira (24, 991 people, 7, 926 households), Bomas

(16, 646 people, 4, 601 households) and Olympic (29, 356 people, 8, 327 households) (KNBS: 2010).

3.2.2 Site selection

The suitability of Kibera informal settlement in this study was based on its accessibility and uniqueness of the informal settlement. Kibera informal settlement is the biggest informal settlement in Africa and is closely connected with Nairobi city's phenomenal growth. Further it reflects the typical example of a informal settlement, informal settlement life, informal settlement livelihood, and the struggle informal settlement dweller undergo in their quest for livelihood. Life in Kibera informal settlement is a daily struggle with poverty, crime, and disease where its residents work in Nairobi's industrial sector for wages less than € 2per day (Karanja, et al. 2002).

With these meager incomes, people have to pay rent, even though Kibera is not an official settlement, which often collides with the decision of rather buying food for that money. For the mud houses, depending on the sizes, people pay in average 500 to 1000 KSH (5,50 – 11€) per month rent. For a number of the residents, (5€) 500KSH per month can become a big problem (Mulumba, et al 2004).

3.3 Research design

According to Kothari (2004), a research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure hence a blueprint for collection, measurement and analysis of data. The research design used in this research is survey and a case study where deeper insight on food

security on urban informal settlement households was explored by focusing on Kibera informal settlement.

3.3.1 Units of analysis and observation

According to Babbie (1994: 5), a unit of analysis is the object of attention. The unit of analysis in this study was food security, while the units of observation were sampled households in Kibera informal settlements.

3.4 Sampling design and sampling techniques

The study involved conducting a sample survey in Kibera informal settlement where data was collected in order to analyze the study objectives and provide research findings. The target population of study for purpose of this research was households located in Kibera informal settlements. The sample survey of 120 households was conducted in order to get information on socio economic characteristics of food security, socio economic factors and how the informal settlement copes with food insecurity.

Some households are in shanty structures where in one structure there can be more than one household. According to Kothari (2004), in case the cluster sampling units do not have the same number or approximately the same number of elements, it is considered appropriate to use a random selection process where the probability of each cluster being included in the sample is proportional to the size of the cluster. The researcher using simple random sampling selected three clusters out of the nine by printing nine pieces of paper of the same size and colour each with a number representing a cluster. The clusters were numbered as follows;

1. Silanga
2. Laini Saba
3. Kibera
4. Makina
5. Lindi
6. Olympic
7. Bomas
8. Gatwikira and
9. Soweto.

The papers were tossed in a basket and three papers were picked in order to sample the clusters where the sample will be drawn from. This was to ensure that each cluster had the same chances of being selected hence eliminating bias from the sample. The following numbers were therefore picked; 4 (Makina), 5 (Lindi) and 8 (Gatwikira). The sample was hence drawn from these 3 clusters out of the nine clusters that form the area administrative units. The households were sampled randomly as per the total of household for each cluster at an interval of 222.89 which was calculated as follows:

$$\frac{\text{Total number of households}}{\text{Expected number of accessible household}} = K^{\text{th}} \text{ Household}$$

Expected number of accessible household

$$\frac{26.747}{120} = 222.89$$

120

The K^{th} household was then 222.89th household which was rounded up to 223rd household. This was realized after dividing the total number of households in each selected cluster and the K^{th} value to get the number of households to be interviewed per cluster as shown in table 3.1

Table 3.1: Sampling household

Cluster/Sub location	No. of households	Number of households to be Sampled
Makina	7, 926	36
Lindi	11, 551	52
Gatwikira	7, 270	32
Total	26,747	120

Source: KNBS: 2010

Cluster sampling was used because of the following advantages;

- (i) The approach makes the sampling procedure easier and increases the efficiency of fieldwork, especially when the personal interviews are conducted in a study. It is less costly as the cost of obtaining a frame that list all population elements is very high as Kibera informal settlements households are 67, 417 though the cluster which were sampled had 27, 804 households according to Kenya Population and Housing Census (KNBS: 2010).
- (ii) The technique is best applicable in a population that does not have a defined sampling frame or complete list of elements of a population under investigation. Since the households at Kibera are not registered, constructing a sampling frame will be expensive and time consuming.

Respondents for Key Informant Interviews were purposively selected based on their experience and perception to provide useful information for the subject under study. Purposive samples are designed to provide maximum amount of information possible for study subjects (Kombo, D and Tromph, D .2006).

3.5 Types and sources of data

Primary and secondary sources of data were used to gather information for qualitative and quantitative analysis. These sources were used to generate information useful in the explanation of the study problem.

3.5.1 Primary sources

Primary data is information gathered directly from respondents (Kombo and Tromph, 2006). The source of information for this was the household head or one who makes key decision on matters pertaining food. Primary data was collected through face to face interviews which involved administration of 120 structured questionnaires to get quantitative data on food security. Key informants interviews were conducted to obtain qualitative information.

The key informant interview is a standard anthropological method that is widely used in health related and other social development inquiry. This is one method used in rapid assessment for gathering (Whitman, C. et al. 1996) information from the affected community. The term “key informant “refers to anyone who can provide detailed information and opinion based on his or her knowledge of a particular issue. Key informant interviews will be conducted using unstructured questions but which will contain the themes of the study. The key informants for this study included the headteachers from Calvary, Stalla, St. Juliet, Tumaini, Olyimpic, Old

Kibera and YMCA primary schools as these schools run a school feeding programme for its pupils; chiefs at Kibera, Laini Saba, Mugumoini and Serangombe location as people usually gather at the chief's office to collect food; and the Priest at the Kibera Catholic Parish because the informal settlement dwellers get food assistance from the church as well.

3.5.2 Secondary data

Secondary data was collected from a variety of published and unpublished sources and was used to back some of the findings from the primary data as well as make a comparison between the primary data and existing knowledge on food security.

3.5.3 Methods and Tools for Data Collection

Data collection refers to the gathering of specific information aimed at proving or refuting some facts (Kombo, D and Tromph, D .2006:100). For this study, personal interviews and key informant interviewing were used as the main methods of data collection for primary data.

Personal interview

This is a face to face interview on both household heads and key informants. This method was used with household heads or persons who make vital decision regarding matters of food. The advantage of using this method is that the researcher has an opportunity to establish rapport and explain the purpose of the study to the respondents. Questionnaires, which are the main tool of collecting data for this study, were administered to 120 household heads for quantitative data. The questionnaire had both open and closed questions.

Key informant interviewing

A key informant is anyone who has special knowledge regarding the research problem. They were selected purposively by virtue of their knowledge and understanding of the study topic. They included four area chiefs; the head teachers in Kibera and Olympic primary schools, and the parish priest at Kibera Catholic parish and the priest in charge at ACK. The study used key informant interview guide to collect qualitative data which was used to enhance the quantitative data.

3.6 Data Analysis

The data collected was subjected to descriptive statistics in order to summarize and organize them in a simplified statistical representation for easy understanding. The descriptive statistics include frequency distribution tables for coded variables, graphics and charts.

Figure 3.1: Map of Kibera informal settlement



CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter is organized into 5 sections: socio-demographic characteristics of the respondents; status of food security; decision making patterns on food security; coping strategies employed to address food security; and measures to deal with food insecurity.

4.2 Socio-demographic characteristics of respondents

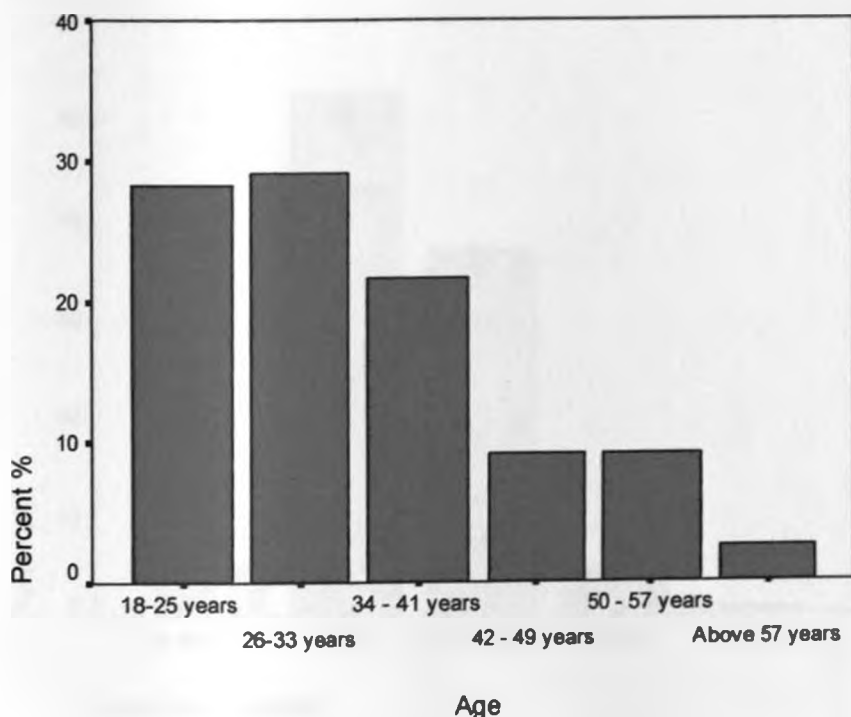
4.2.1 Gender

Most of the respondents 72 (60%) were female while 48 (40%) were male. The dominance of women in the sample is most probably attributed to the role played by the African man where he is the bread winner in the household; most men had therefore gone to work or left the house in search of work during the time of the study while most women remained in the house.

4.2.2 Age Distribution

The age bracket for most of the respondents 35 (29.2%) was between 26-33 years; 18-25 years were 34 (28.3%) and 3 (2.5%) were above 57 years. This is shown in figure 4.1.

Figure 4.1: Age distribution of respondents

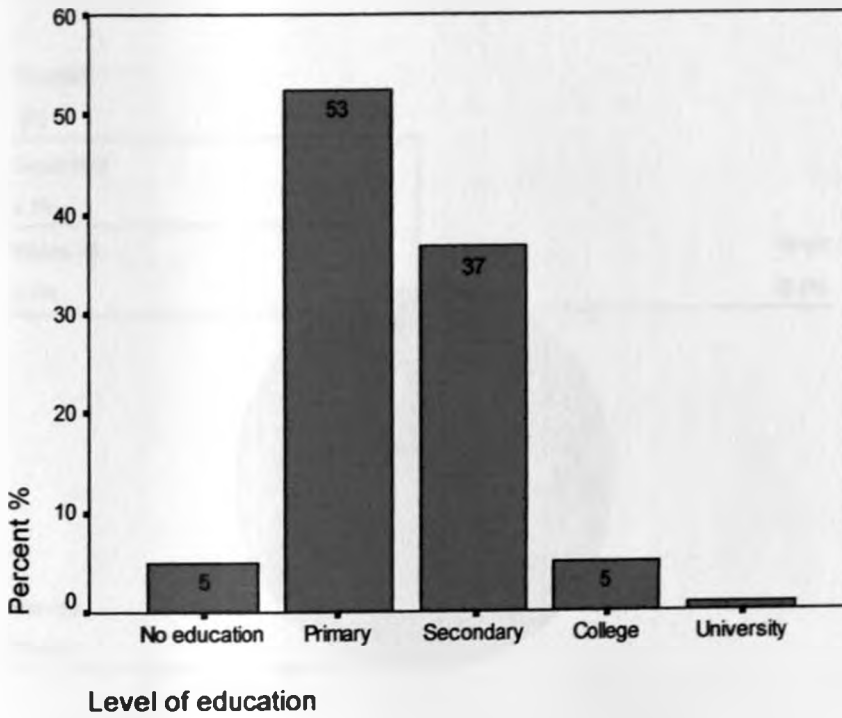


The population of respondents above 57 years old is generally low in Kibera informal settlement most probably because people tend to move back to the rural areas upon reaching retirement age leaving their younger daughters and sons in the urban environment. This finding is consistent with existing knowledge that when Africans age they retire to the rural villages since they do not consider town as home.

4.2.3 Educational Attainment

Respondents with no education were 6 (5%), 63 (53%) had primary level education, 6 (5%) had college level of education and 1 (1%) had attained university education. Figure 4.2 shows that the numbers of respondents decreases as the level of education rises.

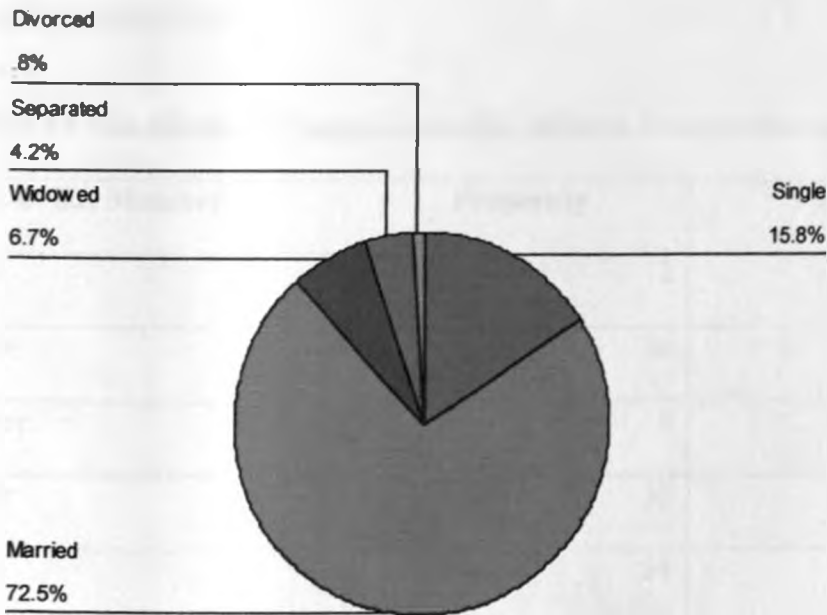
Figure 4.2: Level of education



4.2.4 Marital status

Most of the respondents 87 (72.5%) were married, 19 (15.8%) single, 8 (6.7%) widowed, 5 (4.2%) separated and 1 (0.8%) divorced. See figure 4.3

Figure 4.3: Marital status



According to one key informant, the rate of separation in the informal settlement area was high due to what was attributed to hard economic times since on average about 6 cases of separation are reported weekly compared to 3 years ago when a month could elapse without a report over such a case. In one particular case, the area chief said;

Almost daily I preside over cases of separations with women claiming their husbands have abandoned their responsibility for providing for the family and therefore they do not see the need for him to keep living in the household. Sometime it is about domestic violence where the husband beats up the wife for having asked for money to prepare a meal for the family and the man in his

frustration for not being able to provide decides to become violent. These cases are very common these days.

4.2.5 Household size

Table 4.1 The number of people including children living in the household

No. of HH Members	Frequency	Percent
One	12	10.0
Two	16	13.3
Three	8	6.7
Four	30	25.0
Five	54	45.0
Total	120	100.0

The study established that most of the household of the respondents interviewed 54 (45%) had five members; 30 (25%) had four members, 16 (13.3%) had two members, 12 (10%) had one member, while the least 8 (6.7%) had three members. There was no household which had more than five members as shown on table 4.1. The average size of the household in Kibera informal settlement is therefore 4 members. When they were asked why there was no household which had more than five members one of the household female respondents said;

One cannot manage to provide for a large family because of the current hard economic times. Even to have more than three members of the household is a problem. I tell you, things are difficult. Besides feeding them, where will they sleep if you have such a big household?

4.2.6 Children under the age of 5 years

The findings show that most of the households 37 (40.2%) had children below five years, 22 (23.9%) were within the age bracket 9-12 years, 16 (17.4%) had 5-8 years , 15 (16.3%) had 13-16 years while the least 2 (2.2%) were those above 17 years as shown on table 4.2. This shows a high dependency ratio for households in Kibera informal settlement that affects the ability of these households to meet their basic food needs. This finding is consistent with existing knowledge that most urban dwellers are children.

Table 4.2: The age bracket of children living in the household

Age	Frequency	Percent
Less than 5 years	37	40.2
Between 5-8 years	16	17.4
Between 9-12 years	22	23.9
Between 13-16 years	15	16.3
17 and above years	2	2.2
Total	92	100.0

4.2.7 Type of the housing

Most housing structures in the informal settlements are temporary: made of mud walls and rusty iron sheet roofs, or tins and dusty floor. In fact less than 3% were permanent with concrete walls but all have no formal approval from the city planning department. As I found out, the city authorities could not approve them since Kibera informal settlement in its entirety is illegal.

Many houses are not connected to the power grid (and where there is electricity, it is often through illegal connection), no piped water in the house, but perhaps a stand pipe serving a larger area. No tarmac roads, open sewage and drainage. There were a few latrines (most of which were located at communal sanitation blocks) and contraptions used as bathrooms. Many respondents indicated they wait for the sun to set then have a bath in the open ground or alley under the watchful eyes of husband or fellow bathers. Wastewater is spilt somewhere nearby, in the open drainage or in the house, or in the open sewer or directly into the river. Such a description mirrors Engels (1845) vivid description of industrializing Manchester City or Dickens description of informal settlement life in the *Adventures of Oliver Twist* (1846)⁴.

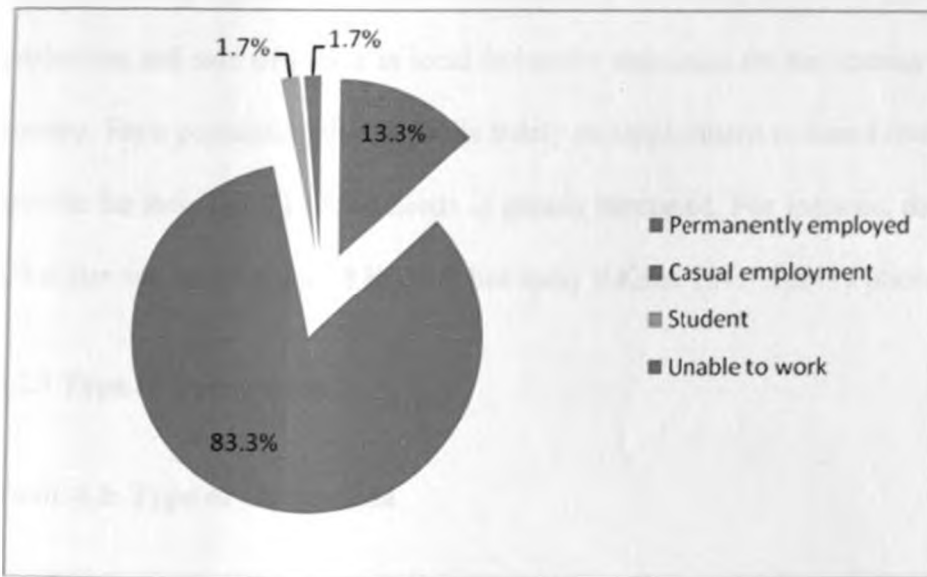
The study shows that 102 (85%) of the households in Kibera informal settlement lived in mud houses, 12 (10%) in block/concrete houses while 6 (5%) lived in iron sheet houses. The iron sheet houses had rusty corrugated iron sheets with muddy floors, not painted with very small windows and in some cases did not have windows at all. Most of the respondents in the informal settlement could not manage to pay for the permanent houses which they found expensive.

4.2.8. Employment Status

The findings show that 116 (96.6%) respondents were employed and 4 (3.4%) unemployed. Further 100 (83.3%) were in casual employment; 16 (13.3%) permanent; 2(1.7%) were students and 2 (1.7%) were unable to work as shown in figure 4.4.

⁴ http://www.mdudde.net/pdf/study_material_DDE/

Figure 4.4: Occupation



The above figure shows that most of the people in the informal settlement do not have a regular income and a slight shock in the economy, as experienced by the current high cost of living due to increase in food and fuel prices, has severe effects on their ability to meet their basic needs which include food.

4.2.8.1 The Kenyan economy and employment

According to several key informants, a key contributor to the inability of the informal settlement dwellers to meet their basic needs is the poor performance of the Kenyan economy. To them, the economy had not fully recovered from the effects of the post-election violence in early 2008. Ever since then, the degree of political instability in the country has had ramifications on the economy in as far as food insecurity is concerned. This has affected most informal settlement dwellers ability to earn a decent income as there are no jobs being created due to limited foreign investments. For existing businesses, the terms of trade have not been very favorable with the

Kenya shilling having dropped by 15 percent against the dollar over the last 12 months reducing the profits made against exports and increasing the costs of imported goods. This has hampered production and sale of goods in local industries impacting on the number of jobs created in the country. For a population that depends solely on employment to earn a livelihood, their ability to provide for their families food needs is greatly hampered. For instance, the exchange rate to the US dollar was about Kshs 78 in 2008 but today it Kshs. 104. This is a phenomenal drop.

4.2.9 Type of Occupation

Table 4.3: Type of Occupation

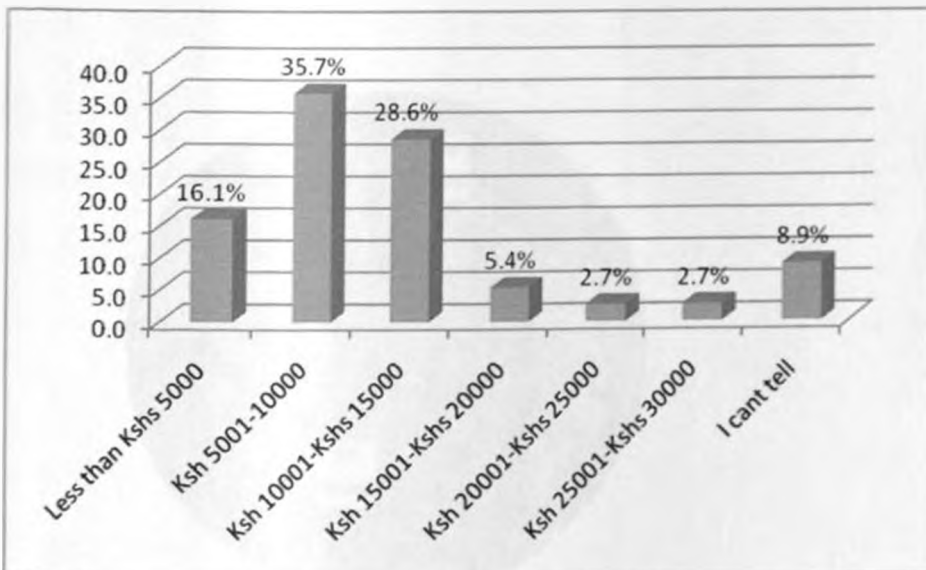
Type of occupation	Nature of Employment	Frequency	Percent
House help	Salaried employment	4	3.3%
Driver	Salaried employment	1	0.8%
Causal worker	Salaried employment	14	11.7%
Laundry	Self-employed	4	3.3%
Jua kali	Self-employed	10	8.3%
Tailor/Dressmaking	Self-employed	8	6.7%
Petty Businesses	Self-employed	60	50%
M-pesa attendant	Salaried employment	1	0.8%
Security guard	Salaried employment	7	5.8%
Masonry	Self-employed	1	0.8%
Carpentry	Self-employed	4	3.3%
Social worker	Salaried employment	2	1.7%
Nurse	Salaried employment	1	0.8%
Property manager	Salaried employment	1	0.8%
Catering	Self-employed	1	0.8%
Office Messenger	Salaried employment	1	0.8%
Total		120	100.0%

When the respondents were asked to specify the kind of occupation, 60 (23.3%) engage in petty business, 14 (11.7%) casual laborers, 1 driver (0.8%), 1 mpesa attendant (0.8%), 1 mason (0.8%), 1 nurse (0.8%), property manager 1 (0.8%), catering 1 (0.8%) and 1 office messenger (0.8%). The findings show that 88 (73.3%) are self-employed and 32 (26.7%) are employed as shown on table 4.3.

This shows that most of the people have low paying jobs which affect their capacity to meet food needs in their households. Besides that, the tasks they perform are not stable in themselves.

4.2.10 Income Level

Figure 4.5: Monthly income of households



As observed in figure 4.5 above, it is shown that the highest population of Kibera informal settlement residents 90 (80.4%) earns less than Kshs. 15,000 a month, 5.4% earn between Kshs 15001-20000, 2.7% earn in the range of Kshs. 20001-25000 and 25001 and 30000, and 8.9%

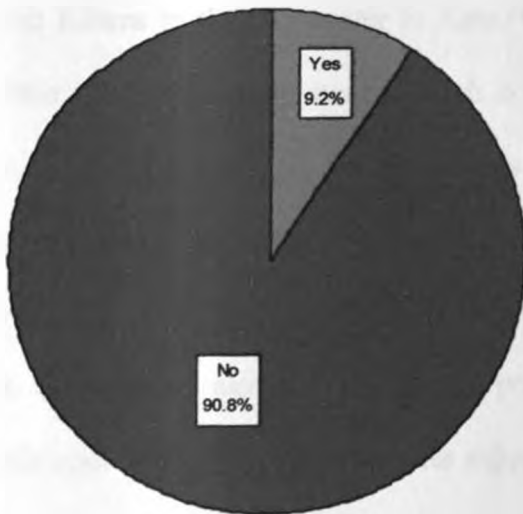
could not tell how much their income was on a monthly basis as it is very erratic. The average household income in Kibera informal settlement is Kshs.11, 078.43.

4.3 Extent of food insecurity in Kibera informal settlement

4.3.1. Ability to meet food needs

The study shows that most households 108 (90.8%) did not have enough money to cater for their basic food needs while the least, 11 (9.2%) had enough money to cater for their basic food needs as shown on figure 4.6

Figure 4.6: If the respondent had enough money to cater for their basic food needs



With an average income of Kshs. 11,078.43, majority of the households were struggling to meet their food needs due to the increase in the prices of food and other basic commodities. Kenya was recently ranked fourth highest (at 89%) in the world in terms of the increase maize prices. A

leading daily news paper ran this title *World Bank sounds alert on food prices* (Daily nation, August 17th 2011). This indicates a very precarious situation for people living in Kibera informal settlement as majority of the households (51.8%; see figure 4.4) earn less than Kshs. 10,000 with the food basket for a family of four being estimated at Kshs. 10,000 as of June 2011.

When the respondents were asked to give reason for not having enough money to cater for food, 34 (31.5%) cited low income as the main reason whereas 22 (20.4%) saw their inability to meet their basic food requirements being a result of inflation which has sky-rocketed over the last 7 months; and 26 (24.1%) lamented that it was due to lack of regular income in the household.

When the respondents were asked the reason, 16 (14.8%) attributed the lack of sufficient income to meet the food requirements to the need for paying other non-food items such as transport, fees and rent. They argued that most of their money went to increased transport which had risen from Kshs.20 from Kibera to the city center to Kshs. 40 for the same trip. This is a 100 percent increase within a period of seven months which is attributed to the high increase in fuel prices. This shows external factors like non-food items affected households access to food. This situation was felt most in households where the breadwinner had to constantly or commute daily to and from place of work, and even for those whose work was temporary the situation was even more grave. Respondents also showed that the price of transport was not constant as public motor vehicle operators constantly raise fares especially when it rains. Whenever that happens many are caught off guard and spend money meant for food on transport. The expenditure on public transport eats into resources meant for food therefore causing serious food insecurity for the vulnerable informal settlement families.

4.3.2 Frequency of meals

When asked about the number of meals which they had consumed the previous day, though most respondents 67 (55.8%) had three meals, 47 (39.2%) had two meals, 5(4.2%) had one meal with 1 (0.8%) reporting having had no meal.

According to a key informant in one of the schools, some schools have a feeding programme supported by the World Food Programme where all the children in the school are fed. In some of these schools children do not pay any fee since the money charged for payment of cooks is catered for by some NGOs. Some schools also identify children from very vulnerable households who are given food to take home.

Generally, Kibera informal settlement residents have on average two meals in a day. This was confirmed by 58 (48.3%) respondents reporting that a household member had taken a meal away from home the previous day, 57(47.5%) said they had not while 5 (4.2%) were not sure. This was an indication that the household members usually take at least 1 meal away from home. When respondents were asked the time which they had taken the meal, most (82.8%) reported was lunch, 10.2% had taken breakfast while the 6.9% had taken supper. Therefore, supper which is the main meal that brings the family together has become a rarity.

4.3.3 Source of Food

Although there may be food from suppliers, it is difficult to buy due to lack of income. Food insecurity in the urban informal settlements therefore goes hand in hand with income making access to food (determined by the purchasing power of individuals) more of an issue than the

availability of food itself given that 99 (84.2%) respondents depend on the market as their main source of food as shown in table 4.13.

Table 4.13: Source of food in the household

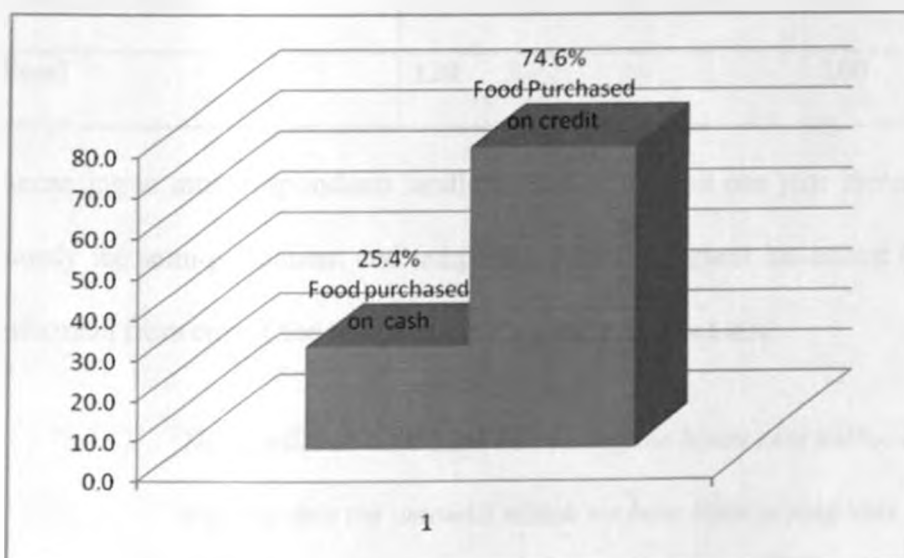
Source of food	Frequency	Percent
Purchase in cash	99	84.2
Purchase on credit	2	1.7
Borrowing from friends and neighbors	7	5.8
Donations	4	3.3
Assistance from family in rural areas	8	6.7
Total	120	100.0

Previously, the food security situation was manageable but has deteriorated over the last 6 months and households have opted for other coping strategies. The traditional sources of food for the households are no longer reliable and as a result, new ones like purchase on credit, donations have been adopted.

Most respondents, 88 (74.6%), had over the last four weeks purchased food or other essential household goods on credit because they did not have money to buy them outright as shown on figure 4.7. Purchasing food or other essential items on credit is a very common practice amongst informal settlement residents and the extension of credit lines to households is highly dependent upon their ability to either clear or reduce the amounts of debts they have with shopkeepers even if this meant borrowing from friends or relatives in order to settle an existing debt with the local shopkeepers.

As a response to the food insecurity, a considerable proportion of respondents had found solace in their rural relatives who frequently more than ever before sent maize, sorghum, millet, potatoes and cassava to their urban relatives. In about 30% of the respondents who received assistance from family in rural areas, they had increased dependence on their rural relatives for food today compared to four years ago.

Figure 4.7 Purchase of food on credit



4.4. Socio-economic factors affecting food security

4.4.1 Rent expenditure

The study found that 45 (37.5%) spent Kshs. 1001-1500 a month, 32 (26.7%) were spending Kshs. 501-1000 per month; 15 (12.5%) spend Kshs. 100-500 per month; 15 (12.5%) spent kshs. 1501-2000 per month, 10 (8.3%) were spending Kshs. 201-2500 and 3 (2.5%) were paying Kshs. 2501-3000 per month on house rent as shown on table 4.4.

Table 4.4: Rent expenditure

Amount spent per month	Frequency	Percent
Kshs.101-500	15	12.5
Kshs.501-1000	32	26.7
Kshs.1001-1500	45	37.5
Kshs.1501-2000	15	12.5
Kshs.2001-2500	10	8.3
Kshs.2501-3000	3	2.5
Total	120	100

According to most respondents landlords had in the past one year increased rent for the houses mostly the semi-permanent and temporary with the highest increment being Kshs. 500. A key informant from one of the religious institutions in the area said;

The landlords have been increasing the house rent without even consulting us arguing that the amounts which we have been paying was not sufficient and that they are equally faced by the high increase in the cost of living and maintaining the houses. Infact, ever since post-election violence rent rose rapidly.

Table 4.5 Percentage Increase in Rent Expenditure

Rent Increase between 2009 and 2011		
Rent payable in 2009	Rent payable in 2011	Percentage increase in rent
300.00	400.00	33
500.00	500.00	0
500.00	600.00	20
600.00	700.00	17
700.00	800.00	14
800.00	1,000.00	25
1,000.00	1,200.00	20
1,200.00	1,300.00	8
1,300.00	1,800.00	38
1,500.00	2,000.00	33
2,500.00	3,000.00	20

The increase in rent for Kibera informal settlement dwellers over the past two years has ranged between 8% and 38%. The highest increase was 38% experience by households who were currently paying Kshs. 1800 from an earlier rate of Kshs. 1300. The lowest rate as shown of increase was by 8% was experienced by households who were currently paying Kshs. 1300 from an earlier rate of Kshs. 1200. Some households did not experience household rent increase over the last two years. These were households that were currently paying Kshs. 500 per month as

shown on table 4.5. Generally there was increase in household rent in Kibera informal settlement which was attributed to the increase in cost of living.

Households that pay monthly rent of Ksh. 2000 and below live in semi-permanent structures and temporary structure which are common in the informal settlement. These structures are built by mud or iron sheets. Most of the people in Kibera informal settlement cannot afford to pay for permanent building due to their low and irregular income. Therefore recent increments in rent have negatively impacted on the households food security as their expenditure on housing increased.

4.4.2 Cost of toilets

The informal settlement area is characterized by lack of toilets which turns to be a major environment hazard. The Kibera informal settlement is impassable because of unmanaged human wastes especially in the areas like Gatwikira, Lindi and Soweto. The route from Lindi to Makina is the most affected by open defecation and “flying toilets” (refers to the defecation in plastic bags that are disposed off on the roof tops of the houses).

Table 4.6: Cost of accessing Toilet

Amount spent per month	Frequency	Percentage
Kshs.101-400	45	37.5
Kshs.401-600	9	7.5
Kshs.601-900	6	5
Kshs.901-1200	0	0
Kshs.1201-1500	3	2.5
As part of rent	57	47.5
Total	120	100

The findings show that expenditure on the use of toilet for most of the respondents 57 (47.5%) was included in the house rent. They however had to incur additional costs of Kshs. 400 after every two months to facilitate the emptying of the latrines. In the event that this did not happen in time, they would be forced to use other communal sanitation blocks at an additional cost or revert to the use of flying toilets. For households whose cost of toilet use was not included in their monthly house rent, most 45 (37.5%) spent Kshs. 100-400 to pay for toilet services which they accessed through the several communal toilet blocks run by various entrepreneurs and community groups as shown on table 4.6. It was more challenging for the household members who pay for the toilet services separately from the household monthly rent as they had to pay according to the number of times used. The household which did not afford to raise the amount ended up using the flying toilets as a means for disposing their waste. Further it was the same issue for respondents who paid toilet fees on a monthly basis as they opted to skip payment given the current increase in the price of basic food commodities and use alternative ways (open defecation and flying toilets) of disposing their waste. One of the male household respondents said;

If I am to spend the whole day in the house and did not have the money to pay for the toilet, I would help myself in the house and wait until at night to dispose-off the waste.

Though the price of the toilets has not risen significantly over the last 12 months, respondents who pay this separately from their house rent felt the extra pressure as it means making a decision between eating less meals and using a latrine given the high cost of food prices. For

those who opt to utilize the latrines at a fee, this translates into less resources being available for meeting the household's basic food needs.

4.4.3 Cost of water

Another challenging commodity in Kibera informal settlement is water. Most of the households, 27(22.5%) spent Ksh 401-500, 24 (20%) spent Kshs.301-400 and Kshs. 501-600 each, 15 (12.5%) spent Kshs. 201-300 and Kshs. 701-800, 12 (10%) spent Kshs. 101-200 and 3 (2.5%) spent Kshs. 601-700 as shown on table 4.7.

Table 4.7: Monthly expenditure on water

Amount in Kshs. spent per month	Frequency	Percent
Kshs. 101-200	12	10
Kshs. 201-300	15	12.5
Kshs. 301-400	24	20
Kshs. 401-500	27	22.5
Kshs. 501-600	24	20
Kshs. 601-700	3	2.5
Kshs. 701-800	15	12.5
Total	120	100

This shows that the households in the Kibera informal settlement had to pay extra amount of money to cater for water. A female household respondent said that;

My household uses the water we buy with due care because we cannot manage to add any extra coin in our budget. Some members have to skip taking a bath while in the kitchen, the water which is used for washing utensils has to be recycled for washing the children's feet and pouring on the floor to reduce the dust.

Another female household respondent said;

I recycle the water used in washing utensils to mop the floor of my house.

This has been exacerbated further by the scarcity of the same commodity over the past few months due to rationing as a result of poor rainfalls in the country. Consequently, the price of water has more than doubled in the informal settlement from Kshs 2 per 20 litre jerrican to Kshs. 5 per 20 litre jerrican over the last 6 months which at times goes upto Kshs. 10 whenever there is a water shortage; an increase that eats into the household's resources meant for food. Although the figures may appear low for middle income earners, it is a real measure of increase for informal settlement dwellers.

4.4.4 Cost of fuel

The study found that most of the respondents 54 (45%) were spending amounts ranging between Ksh 1001- Ksh 2000 on kerosene and charcoal which are the main source of fuel for lighting and cooking in the households of Kibera informal settlement. 1 (0.8%) household was paying more than Kshs 4000 as shown on table 4.8

Table 4.8 Monthly fuel expenditure

Amount spent per month	Frequency	Percent
Less than 1000	33	27.5
Kshs.1001 - 2000	54	45.0
Kshs.2001 - 3000	28	23.3
Kshs.3001 - 4000	3	2.5
Pay more than Kshs.4000	1	0.8
Don't use fuel in the house	1	0.8
Total	120	100.0

i) Charcoal

Charcoal is usually used for cooking food such as ugali and githeri with 75 (62.5%) respondents stating that it was cheap and convenient for them to use charcoal. According to the key informants, people in the area including children are used to drinking water that is not boiled.

One of the female household respondents said,

With the limited resources that we have, we can't manage to boil water for drinking as it will increase the household expenditure which is already on the higher side.

The findings show that most of the respondents, 57 (47.5%), were spending Kshs.701-900 per month on charcoal as shown in table 4.9. A tin of charcoal used to cost Kshs. 15 in early 2008 but today in 2011 the prize in Kshs 30 though the amount is not sufficient to be used to prepare

two meals. Therefore many respondents dig deeper into their pockets to buy charcoal which undermines money available to buy food.

Table 4.9: Monthly Expenditure on Charcoal

Amount spent per month	Frequency	Percent
Kshs.101-300	6	5
Kshs.301-500	9	7.5
Kshs.501-700	18	14.5
Kshs.701-900	57	47.5
Kshs.901-1100	0	0
Kshs.1101-1300	9	7.5
Kshs.1301-1500	15	12.5
Not using charcoal	6	5
Total	120	100

ii) Kerosene

The study revealed that most of the respondents, 15 (15.3%), while the least, 1 (1.0%), were using kerosene for cooking and lighting as shown on table 4.10.

Table 4.10: Monthly expenditure on kerosene

Amount spent per month.	Frequency	Percent
Kshs.101-300	16	13.3
Kshs.301-500	15	12.5
Kshs.501-700	24	20
Kshs.701-900	20	16.7
Kshs.901-1100	20	16.7
Kshs.1101-1300	0	0
Kshs.1301-1500	0	0
Kshs.1501-1700	0	0
Kshs.1701-1900	3	2.5
Not using kerosene	22	18.3
Total	120	100

Though most households, 24 (20%) spent Kshs.501-700 per month on kerosene, respondents reported to have reduced their kerosene consumption over the past 8 months as a result of the increase in fuel prices. The households that reported not using kerosene, 22 (18.3%) complained of high prices which they could not afford.

Kerosene prices increased from Kshs. 80 per litre in December 2010 to Kshs. 90 per litre at the local kerosene shops. This is an increase of 12.5%; an increase that eats into the household food budget.

iii) Electricity

Electricity is another cost that most of the households in Kibera informal settlement have to factor in their monthly budget. Those who were not connected to the electricity grid used to pay Kshs. 200 to cartels that provide electricity through illegal connections. This was enough for lighting the house during the night only. Currently the rate has increased to Kshs. 300 per month, a 50% increase which is also dependent on the number of rooms one has, with the cartels claiming that the risks are now higher since the Kenya Power and Lighting Company has intensified its crackdown on illegal connections in informal settlement residents. Further the cartels have also been claiming that they are equally faced with the high increase in the cost of living. Others used improvised kerosene lamps to light their houses which are a health hazard given the carbon monoxide produced by these lamps that often caused fires.

iv) Firewood

Firewood is equally used as a source of fuel in several households in Kibera informal settlement. However, only a few households (2%) used it. Respondents cited several reasons for this including the size of the houses and the smoke emitted by the use of firewood citing the risk of suffocation. The landlords are also said not to allow the tenants to use firewood due to the risk of fire. According to key informants firewood is most used for preparing food in kiosks and eateries in the area. Although it is assumed that firewood would be the cheapest source of fuel for informal settlement households, this study found that firewood was the most expensive. A bundle of firewood used to cost Kshs.400 in 2008 but now it is averaging at Kshs.500. This is beyond the reach of most informal settlement dwellers.

4.4.5 Household Livelihood Status and Food security

In cases where the household head had permanent or more regular income, the meals were regular. This was contrasted with households where the head of the household depended on casual labour where the meals were less frequent and irregular. Hence there was a direct relationship between the livelihood status of the breadwinner and a household's food security.

Table 4.11 Food security in relation to livelihood status

Employment status	Frequency	Percentage	Average No. of meals consumed	Food security status
Permanently employed	16	13.3	2.38	Medium
Self-employed	88	73.3	1.9	Low
Casual employment	12	10	1	Very low
Unemployed	4	3.3	1.5	Low

As shown on table 4.11, the households where the head of the household/breadwinner is permanently employed are the most food secure with an average of 2.38 meals consumed per day and the most food insecure group being those in casual employments who consumed on average 1 meal per day due to the unpredictable nature of their employment and income. Although the unemployed seemed to be in a better position than those in casual employment as far as food security is concerned (consuming an average of 1.5 meals per day), half of the respondents in

this group were college students who were receiving support from their parents and had at least one meal in school/college.

4.4.6 Availability of financial resources in the household to meet food needs

Though most of the respondent, 65 (54.2%), said that they had never experienced lack of resources to buy food to eat in the household in the last four weeks, 55 (45.8%) had times where they no food at all in the same period.

Table 4.12: Lack of food due to limited financial resources

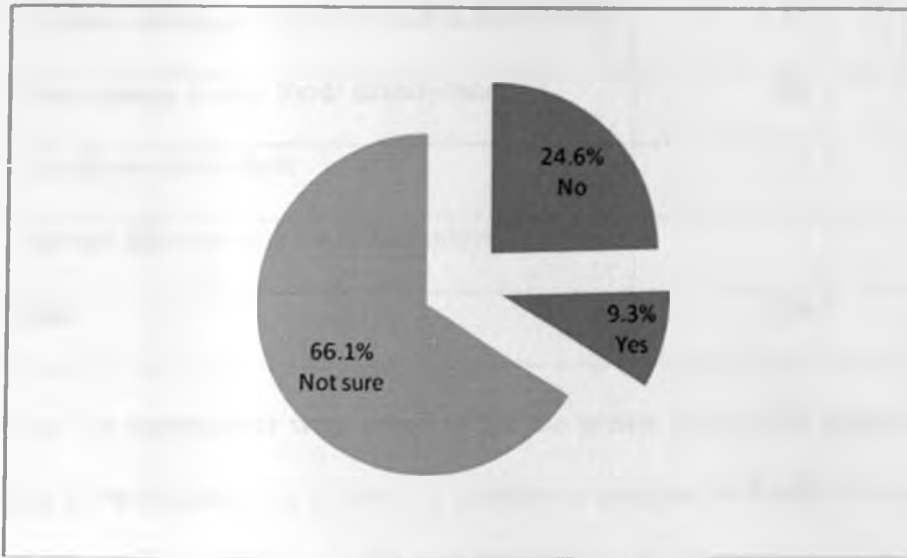
Response	Frequency	Percent
No	65	54.2
Yes	55	45.8
Total	120	100.0

Among those household which did not have food, for 26 (46.4%) respondents this happened once or twice in the last four weeks, 24 (42.9%) had experienced this three to ten times during the same period while 6 (10.7%) were faced with this situation more than ten times in the four weeks. The study found that 45 (37.5%) respondents have had some members of their households go to sleep hungry at night because there was no enough food and 18 (15%) reporting having had to go for a whole day and night without anything due to lack of enough food. The story of one woman about how she managed the situation when there is absolutely no food in the house depicts the hopelessness that household heads endure to manage the situation. She said;

At times I had to send the children to sleep without food because my husband did not make any money on that day so there was nothing to buy food with. When this happens, I cannot send him away because he didn't make any money, the only option is to lie to the children to go to sleep as I prepare the meal and when they wake up it is already morning. At times if I have Kshs.20 I will buy four mandazis and we each have one.

In Kibera informal settlement therefore, it is a reality that some households endure a day with no food. A total of 12 (60%) of the respondents indicated they had gone a day or two without food over the last four weeks and 8 (40%) had undergone a similar experience at least once in the last one week. These findings are an indication that food insecurity is indeed an issue in the informal settlements; one that is not very evident given the complexity of the livelihood strategies for the urban poor with most respondents, 78 (66.1%), being unsure of their ability to provide food for their families in the coming six months; 29 (24.6%) thought they will not be able to meet their households' food needs in the coming six months. The least, 11 (9.3%), felt that they are able to meet their households' food needs in the coming six months as shown on figure 4.8. Therefore, the problem of food insecurity in Kibera informal settlement is far from a relic but a contemporary social reality.

Figure 4.8: Ability to provide food for the household in the next 6 months



This can be attributed to the current prevailing market conditions (high food prices versus low employment opportunities), placing these households at high risk of food insecurity.

4.5 Decision making patterns on food in Kibera informal settlement households

Food matters are the primary function of household heads. For instance 102 (85%) reported that he/she brings money to buy food. Others are shown on table 4.13. This meant that the main role of the household head is to finance the buying but not making decision on the food which is supposed to be taken in the household.

Table 4.13: Role of the household head on matters pertaining food

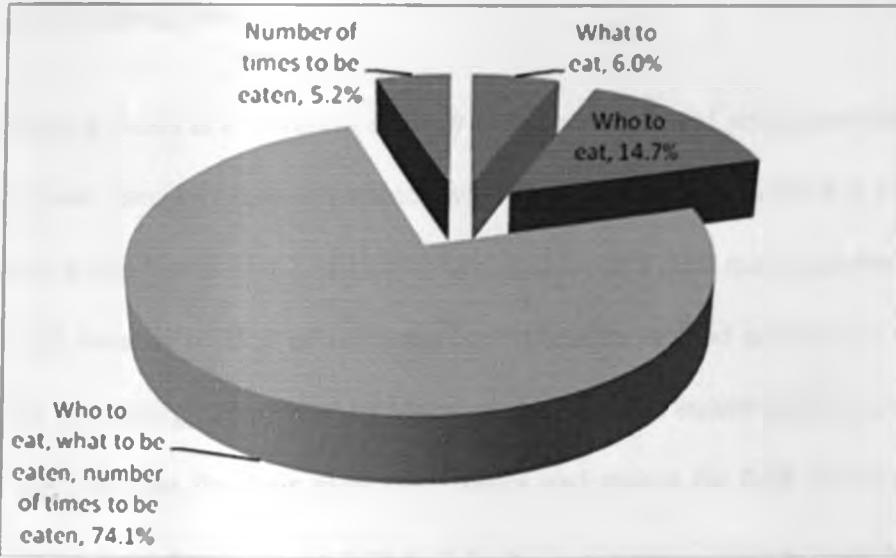
	Frequency	Percent
He makes decision regarding food to be prepared	14	11.7
Brings money to buy food/ Breadwinner	102	85.0
Coordinates the budget	3	2.5
Does not play any role he is unemployed	1	0.8
Total	120	100.0

When the respondents were asked to list the person who makes decision on matters regarding what to be cooked, how to buy (i.e. whether to purchase with cash or on credit), who to eat and the quantities to be eaten, 81 (68.1%) reported that it was their spouses (wife), 3 (2.5%) reported that it was the grandparents, 1 (0.8%) reported elder brother and 6(5%) reported that it was their husband. 14 (11.8%) reported that the decision is made by the family members.

Decisions relating to food are therefore mostly left to the women in the household. Women in the African cultural context make the decisions regarding food as the responsibility for preparing meals for the family traditionally rest with the women. Men usually make decision on food if they are leaving alone or when there is a financial crisis in the household.

The study found that the decisions made in the household relating to food includes, who to eat, what to be eaten and the number of times to be eaten with 86 (74.1 percent) reporting this as shown on figure 4.9

Figure 4.9: Kind of decision made on matters pertaining food



Most of the household's decisions concentrated on what to eat and who to eat, and that the households had to know how much resources were available in order to make this decision.

According to the key informants, it was noted that at the family level the husband and the wife make decisions on what food to be eaten each and every day. This decision is mainly about quantity since quality is not a priority, what the people need is just food for sustenance.

4.6 Coping strategies employed to address food insecurity in urban informal settlement

4.6.1 Preference versus resources

The study revealed that 99 (82.5%) of the household interviewed were not able to eat the kind of food they had preferred in the last four weeks because of lack of resources with only 21 (17.5%) reporting to have enough resources to cater for their preferred meals an indication that preference

is often at the bottom of the tier for factors to be considered when making decisions on food with the top most factor being sustenance for survival.

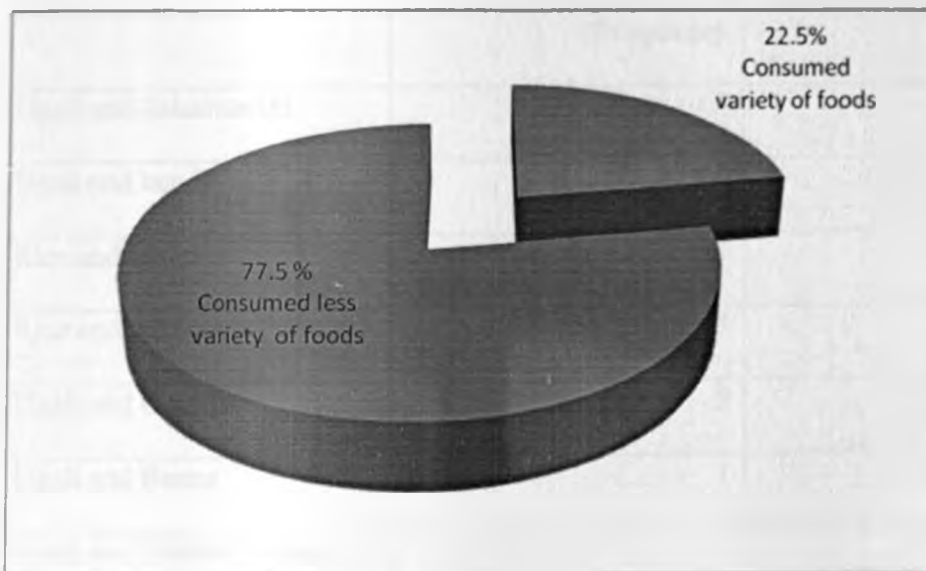
4.6.2 Skipping meals

Skipping meals is a common strategy for Kibera informal settlement households in coping with the food insecurity they experience with 42 (47.2%) having skipped a meal at least 3 times over the last four weeks and 23 (25.8%) having skipped a meal more than ten times over the last four weeks because of lack of resources; an indication of food insecurity due to lack of resources. This is a strategy employed by households in order to ensure that the meager incomes they earn is able to cater for their most basic needs and stretch the little income they get on a daily or monthly basis over a longer period of time than it would if they were to consume the number of meals required a day.

4.6.3 Dietary Diversity

The study found that households limited the variety of foods consumed and went for cheaper but less nutritious foods with most of their meals consisting of mainly carbohydrates. According to the study 93 (77.5%) respondents reported to have consumed less variety of foods as shown in figure 4.10. Whilst this strategy helps to ensure that these households are able to have at least one meal a day, lack of diversity in their diet has health and nutrition implications for its members particularly children under the age of five years who tend to be prone to malnutrition.

Figure 4.10: Variety of foods consumed at household level



Further the study found that most of the households, 65 (54.2%) consumed ugali and *sukumawiki (kales)* more often than before while the least consumed was ugali and beans as shown on Table 4.14. This reason cited for this was that although the price of ugali had risen considerably over the past months, the price of *sukumawiki* has remained relatively stable compared to the price of beans hence the preference among households to have ugali and *sukumawiki* compared to ugali and beans despite the latter being rich in proteins.

Table 4.14: Types of foods frequently consumed at the household level

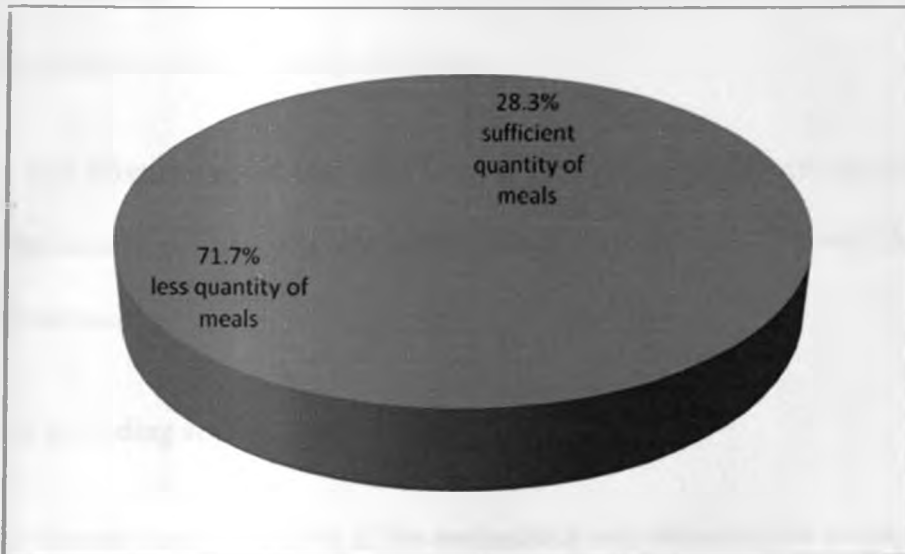
	Frequency	Percent
Ugali and <i>Sukumawiki</i>	65	54.2
Ugali and kunde	18	15.0
Rice and beans	3	2.5
Rice and potatoes	3	2.5
Ugali and Omena	9	7.5
Ugali and Beans	1	0.8
Ugali and Terere/Managu	5	4.2
Tea and chapati	4	3.3
Rice and cabbage	2	1.7
Githeri	7	5.8
Ugali and eggs	3	2.5
Total	120	100.0

The study found that the consumption of protein rich foods was extremely low due to high cost of protein foods. As a result, most respondents usually took energy giving food and vegetables which are readily and cheaply available; a choice that has fundamental developmental impact on children under the age of five years as it results in malnutrition. These kinds of foods had, in the opinion of respondents, lowered the esteem of their children.

4.6.4 Quantity of Meals

Due to lack of enough financial resources, households had to take smaller quantities of meals with 86 (71.7%) reporting to have had to make the decision to have lesser quantities of meals over the past four weeks as shown on figure 4.11.

Figure 4.11: Quantity of meals consumed at the household level



This is in addition to taking fewer meals in terms of frequency with 90 (75%) having less than the required number of meals due to limited resources available for purchase of food.

As the food security situation worsens, 60 households (50.8%) reported to have pulled their children out of school because of lack of food at the household level.

Although a situation where children are given beer or alcohol or medicine in order to sleep is rare, 6 (5%) of the households ascertained that they had given their children beer or alcohol to make them sleep so as not to feel the hunger pangs caused by lack of food while 114 (95%) had

not. This shows extreme cases where the parents' fear embarrassment which is caused by failure to provide food in the household and adopting measures that are dangerous and unacceptable least to say criminal.

4.6.5 Child Labour

Some 8 (6.7%) households had their children engage in income generating activities which included working at the dump site, working as house girls or selling items on the streets. Most of the household, 112 (93.3%) had not involved their children in any economic activity and this can be attributed to free primary education.

A key informant noted that child labor in the informal settlement area is common in households with elderly persons who are taking care of their orphaned grandchildren and in child headed households.

4.6.6 Trading sex for food or money

In extreme cases, 5 (4.2%) of the respondents had traded sex for money to buy food while 115 (95.8%) had not. Given the sensitivity of this information it is possible that most respondents could not reveal this information, the key informants however reported that most women especially those who are single mothers trade sex for money to buy food. One of the female respondents said;

If you have no income, then you will have to use whatever means at your disposable including trading sex for food or money. In cases where people pay for

the service, I would be paid Kshs.50 per encounter. However, there are those who refuse to pay after getting the service.

4.7 Measures to deal with food insecurity

According to the key informants, measures to deal with food insecurity in urban informal settlements should include measures of strengthening the livelihoods of people living in the informal settlements as well as generating employment in both the formal and informal sectors of the economy. Measures should also be put in place to support those who are not able to actively participate in the economy e.g. the elderly and child headed households. According to a key informant from one of the religious institutions in the area,

The government needs to come up with measures to assist the very poor particularly the elderly, the very sick and child headed households meet their basic needs other than watch them fall further into poverty and destitution.

One of the reasons why food security is an issue in the informal settlement other than lack of sufficient financial resources is the over reliance on maize as the main source of food for the households. Households need to be introduced to other foods that are easily available through out the year and unlike maize, are least affected by the erratic rainfalls experienced in the country over the last few years. This calls for a major shift in food consumption at the household levels.

The over-reliance on markets of urban informal settlement dwellers for all their food requirements contributes to their overall vulnerability in relation to food insecurity as the markets for food products tend to be affected by several factors including weather. Urban

informal settlement dwellers should be encouraged to produce some of their own foods as a means of enhancing food insecurity. According to one of the area chiefs,

Urban agriculture would be a good concept to introduce in Kibera. I have seen a project in Mathare that was being implemented by an NGO there where households were trained on how to grow vegetables in sack. It did not require any land at all for cultivation. As space is an issue in Kibera, I think this concept of farming will work in the long run to improve the food security of households

Given the population increase and the fact that the size of agricultural land has been decreasing over the past decade, there is need for the government to adopt policies that enhance greater production of food locally including the adoption of technologies that increase yield. The introduction of genetically modified crops needs to be looked in relation to meeting the food needs of the Kenyan population. There should be incentives to farmers to encourage production and these should include but not limited to subsidies for farm inputs, price information and market facilitation.

To ease burden on the households, the government should look at reducing the tax levied on staple foods to make it more accessible to the population. This will call for the reduction or waiver of the value added tax charged on these food commodities. A key informant respondent from one of the schools in the area said,

A key step that the government needs to consider with regards to price control/reduction is to look at the option of reducing the tax levied on staple food

to make it more accessible to the poor. This will call for the reduction or waiver of the value added tax charged on these food commodities.

According to key informants, a government that is not able to control its population growth will clearly not be able to plan for its citizens' basic needs and services. The government through the Ministry of Public Health should intensify its family planning campaign to curb the high population growth rate.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is divided into the following subheadings: summary, conclusion and recommendations.

5.2 Summary

There were more female respondents 60% than male 40% which can be attributed to the role played by the African man where he is the bread winner in the household as most men were at their work places or had left the house in search of work while most women remained in their houses. The age bracket of the respondents was between 18-57 years with most (57.9%) ranging between 18-33 years, a characteristic of urban areas where labour is in high demand to support the numerous industries found in urban areas. Further the finding shows the Africans mentality regarding urban and rural where the town is home to the young and energetic while the rural areas are for the elderly.

In the urban informal settlement most of the respondents (72.5%) are married though the rate of separation in the informal settlement area was high due to what respondents called hard economic times. The average size of a informal settlement household according to the study is four with a considerable proportion of household (40.2%) having children below five years. This is an indication of a high dependency ratio for households in Kibera informal settlement which affects the ability of these households to meet their basic food needs.

The study found that most housing structures in the informal settlements are temporary, made of mud walls and rusty iron sheet roofs, or tins and dusty floor while less than 3% being permanent.

Many housing structures were illegally connected with electricity, no piped water, no roads but mostly footpath, open sewage and drainage. They could not manage to pay for the permanent houses which they found expensive given their meagre and irregular incomes. The few communal latrines and contraptions were used as bathrooms.

Most urban informal settlement dwellers (96.6%) are employed though majority (83.3%) are in casual employment that are often low paying jobs; an indication that most people in the informal settlement lack a regular income and a slight shock in the economy, as had been witnessed in 2008 following the post-election violence and currently the weakened Kenya shilling, has had severe effects on their ability to meet their basic food needs. The overall food and commodity price increases are a testimony to this.

The study showed that the majority of Kibera informal settlement residents (80.4%) earns less than Kshs. 15,000 a month with an average household income of Kshs.11, 078.43. Most households 108 (90.8%) did not have enough money to cater for their basic food needs. The average income was Kshs. 11,078.43 though 51.8% earned less than Kshs. 10,000. This indicates that majority of the households were struggling to meet their food needs due to high prices of food hence food insecure.

The study revealed that the reason for not having enough money to cater for food were low income (31.5%), inflation (20.4%) and lack of a regular income in the household (24.1%). Further, the lack of sufficient funds to cater for food expenses was attributed to increase in cost of other non-food items such as transport, school fees and house rent; expenses which have to be met at the cost of not having enough food for vulnerable families. Therefore, increases in non-food commodities dented/undermined household ability to be food secure.

The study found that most households used charcoal for cooking food such as ugali and githeri because it is cheap and convenient while kerosene is mostly used for lighting and light cooking such as rice or tea. The urban informal settlement dwellers dig deeper into their pockets to buy charcoal which undermines money available to buy food there having been an increase in the price of charcoal by 100% from Kshs. 15 in 2008 to Kshs. 30 in 2011. However the quantities currently sold at Kshs. 30 looks a lot less than the quantities sold at Kshs. 15 in 2008 because the charcoal tins have been deliberately dented by the sellers to hold less charcoal. Electricity is used for lighting the house both during the day and at night though most of it is illegal.

Kibera informal settlement residents had on average two meals in a day of which one was taken outside the home. The meals were regular and frequent where the household head had permanent or more regular income in contrast with households where the head of the household depended on casual labour, indicating a direct relationship between the livelihood status of the breadwinner and household's food security.

According to the study, people in the informal settlement lack money to buy food hence access to food is determined by household income and not food availability. Households in the informal settlement now purchase more frequently on credit, get donations, borrow from friends and neighbors or get assistance from families in rural areas. Further most of the households (74.6%), purchased food or other essential household goods on credit due to lack of income to buy them in cash. This is a very common practice amongst informal settlement residents and the extension of credit lines to households is highly dependent upon their ability to either clear or reduce the amounts of debts they have from their creditors. These households have also over the last four years become more dependent on support from relatives in the rural areas. This support from

relatives is usually in form food supplies where relatives send maize, sorghum, millet, potatoes and cassava.

Food matters are not the primary function of household heads as their roles are limited to the provision of money to buy food but not making decision on what type of food to be eaten, how many meals to be prepared and how shall eat. These decisions are mostly taken by women in households where you have couples and in female headed households, the decisions as well as the resource provision becomes the role of the female head of the household. The decision is mainly about quantity but not quality since households look at food just for sustenance and are therefore not able to eat the kind of food they preferred due to lack of resources.

Households resort to a number of strategies to cope with the challenge of food insecurity. These strategies included skipping of meals with most respondents (47.2%) having skipped a meal at least 3 times over the last four weeks and some (25.8%) having skipped a meal more than ten times over the last four. This is a strategy employed by households to ensure that the meager incomes they earn is able to cater for their most basic needs and stretch the little income over a longer period of time. Households limited the variety of foods consumed and went for cheaper but less nutritious foods with most of their meals consisting of mainly carbohydrates. This strategy ensured existence of at least one meal a day ignoring the health and nutrition implications for its members.

People in the informal settlement consumed mostly energy giving food and vegetables which are readily and cheaply available against protein rich foods due to high cost of protein foods. Further due to lack of enough financial resources to purchase food, households had to take smaller quantities of meals.

Households (50.8%) reported to have pulled their children out of school because of lack of food at the household level and some (5%) had opted to give their children beer or alcohol to make them sleep due to lack of food to give them. Some households (6.7%) had engaged their children in income generating activities like working at the dump site, working as house girls or selling items on the streets. In extreme cases, some respondents (4.2%) had traded sex for money to buy food. This was common for households headed by women and who did not have regular income. The results of the study therefore demonstrate that food security in urban informal settlements has drastically reduced.

5.3 Conclusion

The study has established that households in the urban informal settlements are food insecure. The household are headed by people within the age bracket 18-33 years and most having only primary level education. Further most of the households in the informal settlement area comprise of five members of whom 75% are under the age of 16 years, indicating a high dependency ratio in the households.

It identifies that socio-economic factors affecting food security in the urban informal settlement households include employment, lack of basic social amenities such as, education, healthcare, piped water, sanitation facilities, legally connected electricity and roads. Further urban informal settlement dwellers are employed on casual basis in low paying jobs which affect their capacity to meet food needs in their households.

The high increase in the price of the staple food and other basic commodities had hit the informal settlement dwellers hard leading to the deepening of their food insecurity. This has been

exacerbated by the informal settlement dwellers low income and irregular income making it difficult for households to plan for the little available resources to meet their food needs in a context of constantly changing market prices for staple food and basic commodities. Further increase of cost of other non-food items such as transport and rent has affected the households' ability to meet their daily food requirement as the only adjustable item in their monthly household budget is food. With informal settlement households being heavily dependent on the markets for all their needs, there are other additional costs that affect the food security such as water, fuel, sanitation services that affect the resources allocated for food at the household level. Food security at the informal settlement household level is heavily determined by the households' purchasing power which is dependent on the type of livelihood activities they are engaged in. Food security in the urban informal settlements is therefore about access as a result of income or purchasing power rather than the availability of food itself.

Food security in Kenya is a problem that now affects many. Previously it used to be assumed that being food insecure was a problem of people living in rural areas particularly the arid and semi-arid lands. This notion is still prevalent as shown by the current food shortage/famine that affected this country from mid 2011. The drive of the Kenyans for Kenya initiative demonstrates this bias. Most efforts have been directed to Turkana and other pastoral areas. However urban areas were forgotten because they are assumed to be food secure which is not the case as the results of this study show. Therefore future efforts at mitigating food insecurity should also put in perspective urban informal settlement dwellers.

5.4 Recommendations

- i. There is need for inclusion of urban vulnerable groups, who haven't been addressed by any government programmes, under efforts for mitigating the effect of famine/drought.
- ii. The Government of Kenya should subsidize food in informal settlement areas to increase their accessibility and affordability.
- iii. The government should fast track the implementation of the recently enacted price control legislation in order to shield the vulnerable from frequent price increases.
- iv. The government in collaboration with the communities should strengthen the business environment by instituting policies and measures that will stimulate economic growth and create employment opportunities for vulnerable informal settlement dwellers.
- v. The feasibility of urban agriculture should be assessed as a longer term measure for enhancing food security for urban informal settlement dwellers.
- vi. Measures should be instituted that aim at providing safety nets for poor and vulnerable households that are unable to participate actively in the economy through trading their labour due to physical (disability), biological (age) or medical reasons (sickness) to enable them meet their basic needs including food and not fall deeper into poverty and destitution.

5.5 Suggestions for further research

- i. The role of women in matters relating to food security in urban informal settlements.
- ii. Local approaches/strategies used by vulnerable households to access food
- iii. The alternative methods that can be employed by urban informal settlement households cope with food insecurity perpetuated by rising of basic commodity prices.

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ANNEXES

Annex A: Household Questionnaire for Urban Informal Settlements Food Security

Date of Interview.....

Introduction

Good morning/afternoon Sir/Madam.

My name is Amina Ibrahim Sheikh Abdulla from the Department of Sociology, University of Nairobi. I am conducting a research on a study entitled; Dynamics of Food Insecurity in Urban Informal Settlement Households: A Case Study of Kibera Informal Settlement, Nairobi. You have been randomly selected to participate in this study and I shall be very grateful if you could give me 30 minutes of your time to answer some questions. I assure you that the information you give will be confidential and only used for the purpose of the above study.

Thank you very much for your co-operation.

Section I: Socio-demographic characteristics of respondent

1. a) Village b) Sub-location.....
c) Location d) Division
2. Gender Male [] Female []
3. Age.....
4. Level of education:
No education [] Nursery [] Primary [] Secondary [] College [] University []
Others (specify)
5. Marital status
Single [] Married [] Widowed [] Separated [] Divorced [] Others
(specify).....
6. Your occupation
Formal Employment [] Non-formal Employment [] Student []
7. If in formal or non-formal employment, specify.....
8. What is your estimated income per months?.....

9. How much do you spend on food items per month?

10. How much do you spend on non-food items per month?

Water..... Fuel..... Rent..... Toilet.....

11. How many people including children live in your household?

1. One 2. Two 3. Three 4. Four 5. More than four

12. Number of children if any

13. What are their ages

14. How many children <5yrs?

1. One 2. Two 3. Three 4. More than three

15. How many are in school now?

If there is a difference between children who are in school and the total number school going aged children in the household then ask Q16

16. Why are the rest not in school?

Sick [] Dropped out [] Lack of school fees []

Others [] specify.....
.....
.....

17. Do you have other dependants other than your children and how many?
.....

18. Are they in school? Yes [] No []

19. If no, why?

Sick [] Dropped out [] Lack of school fees []

Others [] specify.....

20. Do you work outside the home? 1. Yes 2. No (if No skip to question 22)

21. If YES, what do you do?

1. Salary position 2. Casual labor 3. Petty trading 4. Scavenging 5. Brewing

6. Laundry/cleaning 7. Others []

22. What is the role of the household head on matters pertaining food?

.....
.....
.....

23. Who makes decision regarding food?

.....

24. What does the decision involve?

1. Quality 2. Quantity 3. Quantity and Quality

4. Other [] specify.....

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.....

25. What is the number of household members who earn income in this household?

1. One 2. Two 3. Three 4. More than three

26. What is the main source of income for the household head?

1. Salary 2. Casual labor 3. Petty trading 4. Remittances

5. Scavenging

6. Safety nets 7. Brewing 8. Laundry/cleaning

9. Other [] specify.....

.....

27. At this time of the year, what is the main source of food?

1. Purchase in the market 2. Borrowing 3. Own production 4. Purchase on credit

5. Relief food/ safety nets 6. Other [] specify.....

.....

28. At this time of year, how many meals per day do the adults in your household usually consume?

1. None 2. One 3. Two 4. Three 5. Four

29. If it is less than three times per day what has been the underlying reason?

- 1. Rationing the food
- 2. Lack of money to buy food/ Lack of food
- 3. Lack of appetite/ Unwilling to eat
- 4. Being in work for long hours

30. Do you usually take a balanced diet? 1. Yes 2. No 3. Rarely

31. If yes, do you take energy giving food (carbohydrates), Body building food (Protein) and protective foods (Vitamins and minerals)? 1. Yes 2. No

32. Do you usually have enough money to cater for your food needs? 1. Yes 2. No

33. If no, explain why?

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Section II: Dietary Diversity

Now I would like to ask you about the foods and drinks you OR ANYONE ELSE IN THE HOUSEHOLD ate or drank yesterday during the day and at night IN THE HOME

34. How many meals did your household consume yesterday?

35. What did you eat for:

Breakfast/first thing in the morning?

For Lunch?

For supper?

36. Did you have any snacks between: breakfast and lunch? 1. Yes 2. NO

37. Did you have any snacks between: lunch and supper? 1. Yes 2. No

38. Did any member of the household eat a meal away from home yesterday? 1. Yes 2. No

39. If yes which meal(s)?.....

1=Breakfast/first thing in the morning?

2=Lunch?

3=Dinner?.....

40. Does your household receive food assistance from any source? 1. Yes 2. No

41. If yes, what is the source?.....

.....

42. Has any child in your household been enrolled in a feeding programme? (OTP, SFP, etc)

1. Yes 2. No

43. If yes, which feeding programme? 1. OTP 2. SFP

Section III: Household Food Security

Now I would like to ask you some questions about the food security in your household?

NO.	Question	Response	Code
44.	In the past 4 weeks, did you worry that your household would not have enough food?	Yes No (Yes=1) (No=0) (If No skip to q 46)	
45.	How often did this happen?	1=rarely (once or twice in the last 4 weeks) 2=Sometimes (3 to 10 times in the past 4 weeks) 3=often (more than 10 times in the past 4 weeks)	
46.	In the past 4 weeks, were you or any household member not able to eat the kinds of food you preferred because of a lack of resources?	Yes No (Yes=1) (No=0) (If No skip to q 48)	

NO.	Question	Response	Code
47.	How often did this happen?	1=rarely (once or twice in the last 4 weeks) 2=Sometimes (3 to 10 times in the past 4 weeks) 3=often (more than 10 times in the past 4 weeks)	
48.	In the past 4 weeks, did you or any household member have to eat a limited variety of foods due to lack of resources?	Yes No (Yes=1) (No=0) (If No skip to q 50)	
49.	How often did this happen?	1=rarely (once or twice in the last 4 weeks) 2=Sometimes (3 to 10 times in the past 4 weeks) 3=often (more than 10 times in the past 4 weeks)	
50.	In the past 4 weeks, did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	Yes No (Yes=1) (No=0) (If No skip to q 52)	
51.	How often did this happen?	1=rarely (once or twice in the last 4weeks) 2=Sometimes (3 to 10 times in the past 4 weeks) 3=often (more than 10 times in the past 4 weeks)	

NO.	Question	Response	Code
52.	In the past 4 weeks, did you or any household member have to eat fewer numbers of meals in a day because there was not enough food?	Yes No (Yes=1) (No=0) (If No skip to q 54)	
53.	How often did this happen?	1=rarely (once or twice in the last 4 weeks) 2=Sometimes (3 to 10 times in the past 4 weeks) 3=often (more than 10 times in the past 4 weeks)	
54.	In the past 4 weeks, was there ever no food of any kind to eat in your household because of lack of resources to get food?	Yes No (Yes=1) (No=0) (If No skip to q 56)	
55.	How often did this happen?	1=rarely (once or twice in the last 4 weeks) 2=Sometimes (3 to 10 times in the past 4 weeks) 3=often (more than 10 times in the past 4 weeks)	
56.	In the past 4 weeks, did you or any household member go to sleep at night hungry because there was not enough food?	Yes No (Yes=1) (No=0) (If No skip to q 58)	

NO.	Question	Response	Code
57.	How often did this happen?	1=rarely (once or twice in the last 4 weeks) 2=Sometimes (3 to 10 times in the past 4 weeks) 3=often (more than 10 times in the past 4 weeks)	
58.	In the past 4 weeks, did you or any household member go a whole day and night without eating anything because there was not enough food?	Yes No (Yes=1) (No=0) (If N skip to q 60)	
59.	How often did this happen?	1=rarely (once or twice in the last 4 weeks) 2=Sometimes (3 to 10 times in the past 4 weeks) 3=often (more than 10 times in the past 4 weeks)	
60.	Over the next 6 months do you think you will be able to get enough food for your family?	0= No 1= Yes 2= Not sure	
61.	In the last 4 weeks have you purchased food or other essential household goods on credit because you didn't have the money to buy them outright?	No=0 Yes=1	

Section IV: Coping strategies

No.	Question	Response	Code
62	In the last 4 weeks have you purchased food or other essential household goods on credit because you didn't have the money to buy them outright?	No=0 Yes=1	
63	In the last 4 weeks have you had to remove any of your children from school due to lack of school fees?	No=0 Yes=1	
64	In the last 4 weeks has any member of your household left/moved due to lack of resources to maintain them?	No=0 Yes=1	
65	In the last 4 weeks have you or any member of your household gone out begging for food or money?	No=0 Yes=1	
66	In the last 4 weeks have you given alcohol/beer or medicine to your children to make them sleep because you did not have food?	No=0 Yes=1	
67	In the last 4 weeks have any your children (less than 17 years) had to engage in income generating activities (working at the dump site, working as house girls, selling items etc)	No=0 Yes=1	
68	In the last 4 weeks have you traded sex for money or food?	No=0 Yes=1	
69	In the last 4 weeks have you had more than one sexual partner?	No=0 Yes=1	

Annex B: Key Informant Guide

Introduction

Good morning/afternoon Sir/Madam.

My name is Amina Ibrahim Sheikh Abdulla from the Department of Sociology, University of Nairobi. I am conducting research on a study entitled: Dynamics of Food Insecurity in Urban Informal settlement Households: A Case Study of Kibera Informal Settlement, Nairobi. I am interviewing persons who have a wide knowledge on status of food security in Kibera informal settlement and trying to get detailed information about the topic. I kindly request you to participate in this study. Thank you in advance.

Section 1: Demographic characteristics

Name

Village

Locations.....

Date of Interview.....

Section 2: Food security in urban informal settlements

1. What is the status of food security in Kibera informal settlement?

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2. What are the social factors which affects access of food in Kibera informal settlement?

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3. What are the political factors which affects access of food in Kibera informal settlement?

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4. What are the economic factors which affects access of food in Kibera informal settlement?

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5. What are effects of social factors on food security in Kibera informal settlement households?

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6. What are the effects of economic factors on food security in Kibera informal settlement households?

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7. What are the effects of political factors on food security in Kibera informal settlement households?

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8. Who makes decisions on matters of food in urban informal settlements?

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9. What kind of decisions on food security does that person makes?

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10. What are the measures put in place at the household level to address food insecurity in urban informal settlement households?

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11. What are the types of expenses incurred in the household that affect food security?

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12. Comment on what these households need to do to cope with food insecurity in urban informal settlement households.

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13. What should the government do to ensure food security in urban informal settlement households?

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