

**Food Security Research Findings
and Recommendations**

Kiambu County

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Zero Tolerance to Hunger
Kenya Constitution Article 43 (1)(C)

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List of Abbreviations and Acronyms

AEZs	Agro-Ecological Zones
AGRA	Alliance for a Green Revolution in Africa
AIDS	Acquired Immuno-Deficiency Syndrome
ASDS	Agriculture Sector Development Strategy
AWSC	African Women Studies Centre
CAADP	Comprehensive Africa Agriculture Development Program
CCF	Christian Children’s fund
CDOs	County Development Officers
CSO	County Statistical Officer
ERS	Economic Recovery Strategy
FAO	Food and Agriculture Organization
FGDs	Focus Group Discussions
FISP	Farm Inputs Subsidy Program
GDP	Gross Domestic Product
GOK	Government of Kenya
IDPs	Internally Displaced Persons
IFPRI	International Food Policy Research Institute
IFSS	Integrated Food Security Strategy
JICA	Japan International Cooperation Agency
KDHS	Kenya’s Demographic and Health Survey
KNBS	Kenya National Bureau of Statistics
Km²	Square Kilometers
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MOA	Ministry of Agriculture
M&E	Monitoring and Evaluation
MTEF	Medium Term Expenditure Framework
NACADA	National Authority for Campaign against Drug Abuse
NASSEP	National Sample Survey and Evaluation Program
NGOs	Non-governmental Organizations
NFSP	National Food and Nutrition Security Policy
NREGA	National Rural Employment Guarantee Act

NREGS	National Rural Employment Guarantee Scheme
OVCs	Orphans and Vulnerable Children
PRSP	Poverty Reduction Strategy Paper
PWD	Persons with Disabilities
UON	University of Nairobi
URTI	Urinary Tract Infections

Definition of Key Concepts

Access: “Access” in relation to food means the physical and economic access by a person or households to food through production or purchase.

Adequate food: Availability of food in sufficient quantity and quality to satisfy the dietary needs of individuals including being free from adverse substances.

Food of acceptable quality: Food whose value of quality is determined as fit for consumption based on the criteria of food safety, nutrition content, and standards specified by the Cabinet Secretary or under the Standard Act or any other written law.

Food preservation: Prevention of food from decay, decomposition, or spoilage.

Food production means an activity or process of producing, preparing, processing, making, preserving, packing or repackaging and or changing the form of food;

Food reserve: National food reserve established under section 43 of the Constitution of Kenya.

Food safety: Condition and efforts required to prevent food from possible biological or chemical contamination and contamination by other objects which may harm or endanger the human health.

Food security: A situation where all people, at all times, have regular and permanent physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food

preferences for an active and healthy life.

Food storage: Place where food or food items are stored.

Food: Everything that originates from biological sources and water, whether processed or not, and which is designated as an eatable or beverage for human consumption. It includes food additive materials, food raw material, and other materials used in the process of preparation, processing and or making an eatable or beverage.

Freedom from hunger: A situation where all persons have access to a level of food that is capable of meeting the recommended minimum dietary requirements as may be prescribed by the Cabinet Secretary from time to time.

Household head: The most responsible member of the household who makes key decisions of the household on a day-to-day basis and whose authority is recognized by all members of the household. A household head could be the father, the mother, a child, or any other responsible member of the household depending on the status of the household.

Household: A person or a group of persons residing in the same compound and who are answerable to the same head and share a common source of food. The three important ways of identifying a household are by ensuring that:

- Members share a common cooking arrangement (pool and share their resources for common provisions).
- People are answerable to the same head; and
- People reside in the same compound;

Malnutrition: Poor nutritional status caused by nutritional deficiency or excess.

Minimum amount of food: Amount of food required to meet the minimum nutritional needs of an individual according to age, sex, occupation and health status provided in kind, in equivalent monetary value, and in the form of vouchers or other prescribed manner.

Respondent: Any responsible member of the household who provides information to the enumerator.

Right to food: The right of every person to have regular, permanent and free access,

at all times, either directly or by means of financial purchases, to quantitatively and qualitatively adequate, sufficient and safe food, corresponding to his or her cultural traditions and which ensures a physical and mental, individual or collective fulfilling and dignified life free of fear of hunger or under-nutrition.

Vulnerable persons include infants, children, school going children, pregnant and nursing mothers, the elderly, refugees, internally displaced persons, people with disabilities, sick persons with chronic diseases such as HIV/AIDS, victims of conflict, rural people in precarious livelihood situations, marginalized populations in urban areas, groups at risk of social marginalization and discrimination and any other group that may be identified from time to time.

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This Kiambu research project is part of a larger project carried out by the African Women's Studies Centre, University of Nairobi, which included 19 other counties namely: Turkana, Kisii, Laikipia, Isiolo, Kwale, Mombasa, Nairobi, Elgeyo Marakwet, Trans-Nzoia, Nandi, Makueni, Bungoma, Taita Taveta, Baringo, Nakuru, Bomet, Kirinyaga, Migori. This research focuses on the implementation of article 43 (1) (c) of the Constitution of Kenya 2010 which states that *every Kenyan has a right to be free from hunger, and to have adequate food of acceptable quality.*

The successful implementation of the project was made possible by the support, encouragement and goodwill of the University of Nairobi administration led by the Vice-Chancellor Prof George Magoha and the Kenya National Bureau of Statistics led by the Director General, Mr. Zachary Mwangi. The technical team composed of experts from the University of Nairobi and KNBS carried out the research in the 20 counties. African Women Studies Centre is grateful to all of them.

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“Asanteni sana”.

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Executive Summary

The African Women's Studies Centre (AWSC), in collaboration with the Kenya National Bureau of Statistics (KNBS), undertook a countrywide household baseline survey on food security to establish the status of food security in Kenya. In addition to being a reflection of AWSC's recognition of the efforts made by the Government of Kenya towards implementation of food security for all, the study was in accordance with the mandate of AWSC to promote women's experiences, knowledge, needs and contributions towards influencing national and county policies.

The survey was part of a broader project, funded by the National Treasury, which included documenting women's experiences on food security in 20 counties, developing programmatic and policy proposals, and initiating lobbying and advocacy activities directed towards influencing policy makers to adopt these proposals and to make budgetary allocations to fund them. It was also in line with the efforts being put in place to implement the Constitution of Kenya 2010 with particular focus on Article 43 (1)(c) which states that *"every person has a right to be free from hunger and to have adequate food of acceptable quality"* (Republic of Kenya, 2010).

The broad project objectives¹ were to establish the status of food security in Kenya and, through a consultative process, come up

with proposals for ensuring food security in the country and share these proposals with policy makers.

This report outlines the research methodology, key findings, challenges, and recommendations thereof. The research was carried out in 20 counties selected from the country's six agro-ecological zones. The study covered 4,200 households in 440 clusters. In addition, the research teams held consultations with policy makers, including County Executive Officers, among them the Governors and the Members of the County Assemblies; representatives of civil society organizations (CSOs); representatives of institutions responsible for food security; and community opinion leaders, including religious leaders, women, and youth leaders. The research team was led by agricultural scientists and economists. Senior level management of the University of Nairobi and the Kenya National Bureau of Statistics participated in this research.

A key research finding at the national level was that, on average, 18 per cent of the population, which translates to 7.1 million Kenyans, are chronically food insecure suggesting that they are often or always hungry. The findings further indicate that the worst hit county, in terms of hunger, was Turkana County (54%) followed by Kisii County (41%), Migori County (34%), and Isiolo County (29%). Kirinyaga county was the least affected (3%) followed by Bomet (5%), Nakuru (6%), and Kiambu (7%).

Some of the factors found to contribute to food insecurity included high cost of farm

¹ Only objectives related to the household survey carried out by AWSC & KNBS are reflected in this report.

inputs; land fragmentation due to the cultural practice of land inheritance which makes agricultural land uneconomical among farming communities; large families particularly in the Arid and Semi-Arid Land areas; lack of storage and preservation facilities leading to post harvest losses; erratic climatic changes and lack of water for irrigation; insecurity; and poor infrastructure in the rural areas.

The findings show that Kiambu County is among the counties that are fairly food secure, but 8.4 per cent often and/or always have no food at all in their households owing to lack of adequate resources for sustenance while 6.0 per cent of the respondents or members of their HHs, often and/or always went to sleep at night hungry because there was not enough food, compared with 54 per cent in Turkana. On average only 7 per cent of the respondents were suffering from chronic food insecurity. Households headed by women were found to be more food insecure than those headed by men. This was the case as a result of various forms of discrimination such as, those seen in terms of labor input, decision-making, access to or control of production resources which may be reflected in the overall food production and security. According to the FGDs, most land is owned by men and few women own

land but it is controlled by men in most cases. They further said that men are the final decision makers with regard to what is planted, when and where.

Other factors found to contribute to food insecurity included: high cost of farm inputs, land fragmentation due to land inheritance cultural practices that divide land to tiny pieces that are uneconomical among farming communities, large families particularly in the ASAL areas, lack of storage and preservation facilities leading to post harvest losses, erratic climatic changes, lack of water for irrigation, insecurity, and poor infrastructure in the rural areas, among others.

To address the plight of the Kenyans experiencing chronic food insecurity in Kiambu County and the nation at large, AWSC has come up with policies and program proposals, based on the participants' recommendations. Adoption and implementation of the proposed interventions will ensure that every Kenyan is food secure which will go a long way towards the realization of the MDG 1, Kenya development blue print, Vision 2030 and above all, the Constitution of Kenya, article 43 (1) (c) that guarantees every person the "right to be free from hunger, and to have adequate food of acceptable quality".

Background and Context for the Kiambu County Report

1.1 Introduction

The African Women's Studies Centre (AWSC), which is based at the University of Nairobi, recognizes that the experiences of African women in almost all spheres of life have been invisible. This multi-disciplinary centre aims at bringing women's experiences, knowledge, needs, and contributions to mainstream knowledge and processes. The AWSC draws its membership from various colleges of the University of Nairobi, namely: Humanities and Social Sciences, Agriculture and Veterinary Sciences, Health Sciences, Biological and Physical sciences, Architecture and Engineering and Education and External Studies.

It has been acknowledged that women play a central role in ensuring food and nutrition security in Kenya and other sub-Saharan countries because it is central to the achievement of human dignity. In the last few years, the AWSC has consolidated studies, research findings, and policy issues from Kenya and the region in relation to food security. The present budget submission by the AWSC was part of a process directed towards the achievement of meaningful engagement and contribution to the current national discourse on the implementation of Article 43 (1)(c) of the Constitution of Kenya (2010), which states that *"every person has a right to be free from hunger and to have adequate food of acceptable quality"*. The right to food for all is of crucial importance to

the AWSC because the Centre appreciates the magnitude of the task and has a strategic interest in the achievement of equity among the genders, the very poor, and other vulnerable groups in society. The full implementation of the constitutional provision means that the government must put in place strategies and structures to realize and institutionalize the availability of food to all in a sustainable manner. Food security is an issue of dignity and hence no Kenyan should go to bed hungry for any reason.

The AWSC recognizes the efforts made by the Government of Kenya towards implementation of food security. However, given the poverty situation in the country and the food security vulnerability, more needs to be done towards enhancement of an all-inclusive countrywide food security policy and programming. The AWSC has, therefore, chosen to focus on working with Parliament, county assemblies, the national and county governments, and other policy makers in order to ensure the implementation of Article 43 (1)(c) that guarantees Kenyans the right to food.

The Centre also plans to complement and support the implementation of the Food Security and Nutrition Policy and other initiatives such as the National Social Protection Policy and the Agriculture, Fisheries and Food Authority Act, among other policy documents, aimed at ensuring

food and nutrition security. The Project also takes cognizance of Schedule Four of the Constitution that devolves some of the activities related to food security to the county governments.

The AWSC conducted the research reported here in collaboration with the KNBS during the calendar year 2013. The research covered the six agro-ecological zones in Kenya and 20 counties, namely: Kisii, Nairobi, Kiambu, Nakuru, Elgeyo-Marakwet, Kirinyaga, Kajiado, Bomet, Makueni, Bungoma, Taita Taveta, Migori, Trans Nzoia, Turkana, Baringo, Isiolo, Kwale, Mombasa, Nandi, Laikipia.

1.2 Objectives of the Research

The objectives of the research were to:

- Establish the status of food security in the country;
- Review best practices in institutional, legal, and policy frameworks for implementation of Article 43 (1)(c) and make policy recommendations at the national and county levels;
- Involve citizens' participation in the development of food security initiatives;
- Use evidence-based advocacy for greater allocation of resources for food security initiatives;
- Establish whether the economic, social and political pillars of Vision 2030 take into consideration food security concerns.

In addition, using the research findings, the team was required to evaluate the Vision 2030 pillars to establish their capacity to ensure food security; share the research findings with food security stakeholders (policy makers, civil society organizations and the general public) at the county and national levels; generate proposals for ensuring full implementation of Article 43

(1)(c) of the Kenya Constitution 2010; and document women's experiences, knowledge, and perceptions in relation to food security and share the findings.

1.3 Efforts by the Kenya Government to Address Food Security

In 2011, Kenya government developed the National Food and Nutrition Security Policy (FNSP) with the aim of adding value, building synergies, and supporting the implementation of existing national and sectoral policies and strategies to effectively address issues of food insecurity and malnutrition in the country. The current efforts so far have been inadequate in addressing issues of malnutrition comprehensively, thus the need to have an overarching policy that integrates food and nutrition security initiatives.

The Kenya Vision 2030 is a significant government policy document that aims to boost food security in the country through various flagship projects such as improvement of infrastructure, creation of more employment opportunities, and development of irrigation schemes among others. The vision for the agricultural sector is to be "innovative, commercially-oriented and modern farm and livestock sector" (Republic of Kenya, 2007). If the Kenya Vision 2030 is properly implemented it will mitigate food insecurity in the country considerably.

The Kenya Agriculture, Fisheries and Food Authority (AFFA) Act provides for the establishment of the Agriculture, Fisheries and Food Authority to administer matters of agriculture, preservation, utilization and development of agricultural land and related matters (Parliament of Kenya, 2013). Among other functions, the Authority shall, in consultation with the county governments, among other things: (a) administer the Crops Act and the Fisheries Act; (b) promote best

practices in, and regulate, the production, processing, marketing, grading, storage, collection, transportation and warehousing of agricultural and aquatic products excluding livestock products; (c) collect data and maintain a database on agricultural and aquatic products excluding livestock products; (d) determine the research priorities in agriculture and aquaculture; (e) advise the national government and the county governments on agricultural and aquatic levies; (f) carry out such other functions as may be assigned to it by this Act, the Crops Act, the Fisheries Act and any other written law.

The Constitution of Kenya presents the boldest move by the Government of Kenya towards achievement of food security and places the responsibility of ensuring food security to the Government through its provision of the right to food (Republic of Kenya, 2010). The right to food, as mentioned earlier, means that the Government shall not take actions that result in increasing levels of hunger, food insecurity and malnutrition. Furthermore, the Government must use its available resources to eradicate hunger.

In the 2013/14 financial year, the number of beneficiaries of the cash transfer program for the orphans and vulnerable children (OVC) was doubled from 155,000 households to 310,000 households. Those receiving the Old People's Cash Transfer (OPCT) was also doubled from 59,000 to 118,000 households. The coverage of those with extreme disability was also increased from 14,700 to 29,400 households. The number of other disabled persons under coverage of cash transfer was also doubled. Further, about Ksh 400 million was set aside for the Presidential Secondary School Bursary Scheme for orphans, poor and bright students while Ksh 356 million was allocated for urban food subsidy. In addition,

the government has shown commendable efforts towards the provision of irrigation infrastructure including the largest irrigation scheme in the history of Kenya, the one-million-acre Galana-Kulalu in the Coast region.

1.4 Summary of the National Food Security Status

This section presents the results of the household baseline survey on food security in Kenya. Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Household food security means applying this concept to individuals within the household. Conversely, food insecurity exists when people do not have adequate physical, social or economic access to food (FAO, 2010).

The findings of the AWSC/KNBS National Food Security Baseline Survey indicate that food insecurity in the country at the moment is at worrying, alarming, and unacceptable levels, with a large proportion of the sampled counties experiencing high levels of food insufficiency. Food and nutrition insecurity is one of the challenges currently affecting development in Kenya and is closely linked to the high level of poverty in the country; a situation that has serious implications on food security as the chronically food insecure suffer from extreme poverty (Republic of Kenya, 2008). In recent years, it is estimated that at any one time about 2 million people require assistance to access food. Moreover, the level of food insecurity usually escalates significantly during periods of drought, heavy rains, and/or floods. Ensuring food security and nutrition in Kenya is, therefore, a critical challenge.

The Household Baseline Survey on Food Security was carried out in 20 counties that were scientifically sampled to represent the 47 counties in Kenya. Forty-five counties in Kenya (excluding Nairobi and Mombasa) were first classified into six Agro-ecological Zones (AEZs) of Kenya. The AEZs are Upper Highlands, Upper Midlands, Lowland Highlands, Lowland Midlands, Inland

Lowlands and Coastal Lowlands. An Agro-Ecological Zone is a land resource mapping unit, defined in terms of climate, landform and soils, and/or land cover and having a specific range of potentials and constraints for land use (FAO, 1996). Figure 1 is a map of Kenya showing the 20 counties visited during the baseline survey.

Figure 1: Map of Kenya Showing the 47 Counties



The red stars indicate the 20 counties visited

1.5 Methodology

The methodologies used by the researchers included a household survey where 4,200 households in the 20 counties were interviewed on their food security status using a hunger module to assess household experiences in the last 10 months before the study. The survey addressed the issues of availability, access, utilization and sustainability of food. In addition to the household survey, the views of opinion leaders were sought using key informant questionnaires, focus group discussions, and debriefing sessions. Further, institutional questionnaires were administered to the County Development Officers to obtain the opinions of government officials on food security in each of the visited counties. The

counties sampled for the survey were Kisii, Nairobi, Kiambu, Nakuru, Elgeyo-Marakwet, Kirinyaga, Kajiado, Bomet, Makueni, Bungoma, Taita Taveta, Migori, Trans Nzoia, Turkana, Baringo, Isiolo, Kwale, Mombasa, Nandi and Laikipia. Initial research findings were shared with county governments, members of the county assemblies and members of the Civil Society Organizations for further input.

Research findings from the 20 counties and desk review on institutional, policy and legal frameworks were shared at a national workshop with the chairpersons of the agriculture committees of the county assemblies. Table 1 below gives details of the Agro-Ecological Zones in which the sampled counties fall.

Table 1: Agro-ecological Zones in Kenya and Sampled Counties for the Baseline Survey

Agro-Ecological Zones	Counties	
Upper Highlands	Murang'a	Meru
	Nyandarua	Nyeri
	Nakuru	Elgeyo Marakwet
Upper Midlands	Machakos	Nyamira
	Narok	Vihiga
	Kisii	Kirinyaga
	Kiambu	Trans Nzoia
Lowland Highlands	Uasin Gishu	Nandi
	Kericho	Laikipia
Lowland Midlands	West Pokot	Kakamega
	Tharaka Nithi	Kisumu
	Homa Bay	Embu
	Siaya	Kitui
	Busia	
	Kajiado	Bungoma
	Bomet	Taita Taveta
	Makueni	Migori
Inland Lowlands	Mandera	Tana River

	Wajir	Marsabit
	Garissa	Samburu
	Turkana	Isiolo
	Baringo	
Coastal Lowlands	Lamu	Kilifi
	Kwale	
Urban	Nairobi	Mombasa

Source: AWSC/KNBS Baseline Survey on Food Security June 2013

1.6 Conceptual Framework

Conceptually, food security is based on three pillars: Availability, Accessibility and

Utilization. The three pillars rest on a fourth dimension of stability as illustrated in Figure 2.

Figure 2: Conceptual Framework of Food Security



Source: FAO, 1996

1.7 Rationale for Adopted Questions

The AWSC decided to focus on hunger as a major manifestation of food insecurity in the country. Hunger is usually understood to refer to the discomfort associated with lack of food. More specifically, the FAO (2010) defines hunger as consumption of fewer than about 1,800 kilocalories a day - the minimum

that most people require to live a healthy and productive life. Achieving adequate food security is a necessary first step towards improved human well-being, the alleviation of poverty, and sustainable broad-based economic growth. The study adopted eight questions to measure the four dimensions of food security as illustrated in Table 2.

Table 2: The 8 Study Questions Grouped According to Food Availability, Accessibility, Utilization and Sustainability

Food security Dimensions	Key Questions
Availability	E3: Did you or any household member eat a limited variety of foods due to lack of choices in the market? E6: Did you or any other household member eat fewer meals in a day because there was not enough food? E8: Did you or any household member go to sleep at night hungry because there was not enough food?
Sustainability	E1: Did you worry that your household would not have enough food?
Accessibility	E4: Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food? E5: Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough? E7: Was there a time when there was no food at all in your household because there were not enough resources to go around?
Utilization	E2: Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?

1.8 Key Research Findings

The research revealed that, on average, 30% of Kenyans are often and always worried about not having food at the household level. The most worried communities were from Turkana (70%), Kisii (59%), Migori (53%), Kwale (47%), Trans Nzoia (42%) and Isiolo (35%) counties. The observation that over 30% of Kenyans worry about hunger has a serious impact on their individual development and the health of their families and communities and ultimately on national

development as a whole. The researchers, therefore, proposed that measures should be put in place to ensure that at least 7.1 million Kenyans are removed from this dehumanizing situation of constantly facing the threat of hunger. Kenya must declare zero tolerance to both hunger and worrying about hunger. Table 3 below ranks the 20 sampled counties from the least to the most food insecure based on the average manifestation of food insecurity as derived from responses to the eight questions.

Table 3: Manifestation of Hunger in the Last Ten Months

County	E01: Did you worry that your household would not have enough food?	E02: Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	E03: Did you or any household member eat a limited variety of foods due to lack of choices in the market?	E04: Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food?	E05: Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough?	E06: Did you or any other household member eat fewer meals in a day because there was not enough food?	E07: Was there a time when there was no food at all in your household because there were not enough resources to go around?	E08: Did you or any household member go to sleep at night hungry because there was not enough food?	Average manifestation of food insecurity for the country
	%	%	%	%	%	%	%	%	%
Kirinyaga	8.3	7.8	6.8	9.4	6.3	4.7	3.1	2.1	6.1
Nakuru	14.0	18.1	7.7	14.0	14.9	14.0	7.2	4.5	11.8
Kiambu	15.9	18.6	6.0	18.6	13.0	11.2	8.4	6.0	12.2
Kajiado	17.6	18.6	22.0	15.5	15.4	12.6	11.0	5.3	14.8
Elgeyo Marakwet	16.7	14.8	11.9	14.3	19.0	18.3	13.8	11.0	15.0
Bomet	22.8	25.5	20.8	18.3	14.7	14.2	6.1	3.6	15.8
Baringo	20.8	18.4	21.2	22.6	19.4	20.4	18.9	15.6	19.7
Taita Taveta	23.3	25.2	18.9	22.6	21.7	20.2	15.7	15.1	20.3
Mombasa	26.0	26.5	20.5	27.4	26.0	25.1	24.3	16.1	24.0
Laikipia	23.1	27.6	23.7	39.2	31.9	25.9	17.2	7.5	24.5
Bungoma	31.0	33.8	18.8	28.3	29.7	25.6	20.2	12.7	25.0
Nairobi	25.7	30.4	18.7	33.6	29.0	26.2	19.6	20.1	25.4
Isiolo	35.8	41.7	27.8	33.0	38.7	36.3	32.5	25.5	33.9
Nandi	30.2	38.1	16.7	36.3	33.0	28.4	23.7	12.6	27.4
Makueni	28.2	37.3	21.4	33.6	33.6	31.5	21.0	17.9	28.1
Kwale	47.1	48.6	25.7	39.0	41.9	43.3	24.8	16.7	35.9
Trans Nzoia	41.7	54.5	35.3	47.6	41.7	35.3	22.0	17.2	36.9
Migori	53.5	55.9	31.2	51.8	47.1	45.8	35.9	31.8	44.1
Kisii	59.1	68.0	62.6	70.7	62.1	62.9	47.0	35.5	58.5
Turkana	70.3	70.9	70.9	73.4	71.5	74.1	59.5	48.1	67.3

Source: AWSC/KNBS Baseline Household Survey on Food Security June 2013

1.8.1 Manifestation of Hunger with Averages of E07 and E08

Table 4 combines the answers of respondents who said they were often hungry and those who said they were always hungry. According to the researchers in this study, the responses to these two questions have been aggregated because they indicate the highest manifestation of food insecurity.

The key research finding is that, on average, 18 per cent of Kenyans reported that they were often or always hungry. The research findings further indicate that the worst hit county in terms of hunger was Turkana County (54%) while Kirinyaga was the least affected (3%). Kiambu County ranked seventeenth with 7% of the population being affected.

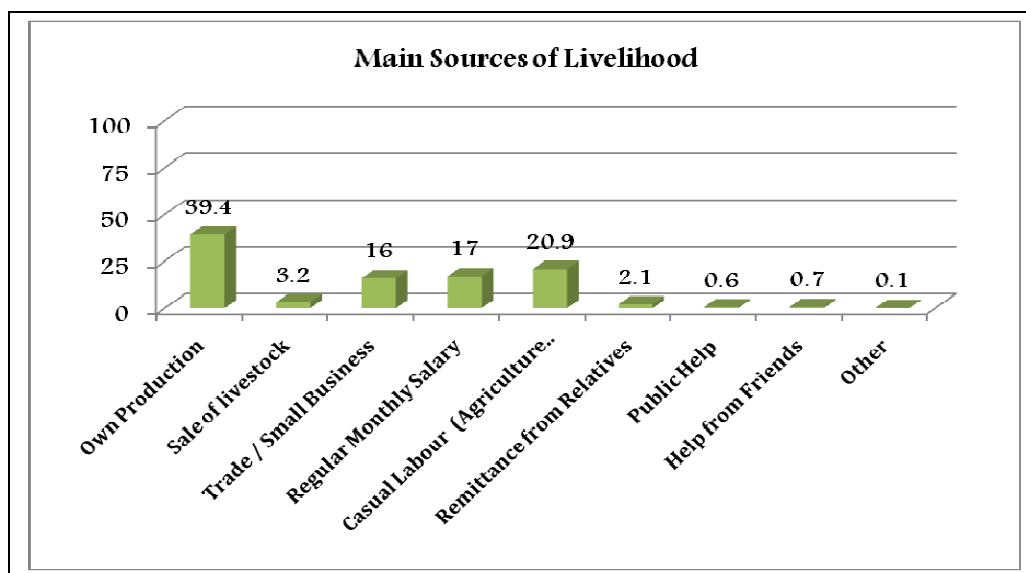
Table 4: Manifestation of Hunger with Averages of E07 and E08

County Name		E07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	E08. Did you or any household member go to sleep at night hungry because there was not enough food?	Average
1	Turkana	59.5	48.1	54
2	Kisii	47.0	35.5	41
3	Migori	35.9	31.8	34
4	Isiolo	32.5	25.5	29
5	Kwale	24.8	16.7	21
6	Mombasa	24.3	16.1	20
7	Nairobi	19.6	20.1	20
8	Trans Nzoia	22.0	17.2	20
9	Makueni	21.0	17.9	19
10	Nandi	23.7	12.6	18
11	Baringo	18.9	15.6	17
12	Bungoma	20.2	12.7	16
13	Taita Taveta	15.7	15.1	15
14	E. Marakwet	13.8	11.0	12
15	Laikipia	17.2	7.5	12
16	Kajiado	11.0	5.3	8
17	Kiambu	8.4	6.0	7
18	Nakuru	7.2	4.5	6
19	Bomet	6.1	3.6	5
20	Kirinyaga	3.1	2.1	3
Total		21.0	15.7	18

Source: AWSC/KNBS Baseline Household Survey on Food Security June 2013.

1.8.2 Main Sources of Livelihood

Figure 3: Shows the main sources of livelihood in the 20 counties visited



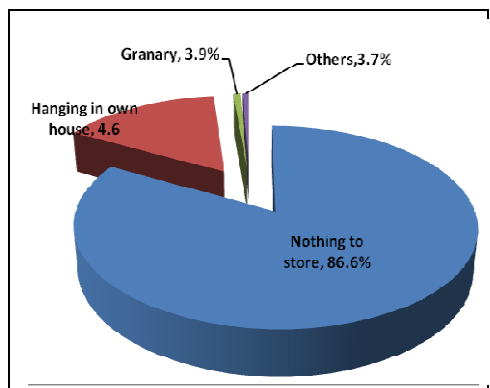
Source: AWSC/KNBS Baseline Survey on Food Security, June 2013

The findings also show that the sources of livelihood for the respondents in the 20 counties were mainly own production (39.4%); casual labor in agriculture and non-agriculture related activities (20.9%); regular monthly salary (17%); trade/small businesses (16%), sale of livestock (3.2%), remittance from relatives (2.1%); help from friends (0.7%) and public help (0.6%). It should, therefore, follow that interventions should centre on improving the output of own production, offer more employment opportunities, and improve infrastructure to enable expanded trade/small businesses. Given these findings, we have made proposals (Section 1.9) on how to improve food security in these three categories.

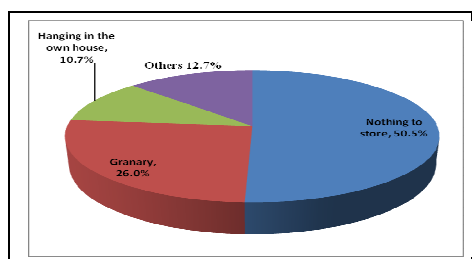
1.8.3 Preservation and Storage Methods

Figure 4 below shows the methods of storing perishable foods such as vegetables, fruits, meat and milk while Figure 5 illustrates the methods of storing non-perishable foods such as cereals, pulses, roots, and tubers.

Figures 4 and 5 reveal that the majority of the respondents indicated that they had nothing to store with 86.6 per cent saying they had nothing perishable to store while 50.5 per cent said they had no non-perishable foods (i.e., cereals and pulses including beans, cow peas, maize, rice and rice) to store.

Figure 4: Methods of food storage (perishable)

Source: AWSC/KNBS Baseline Survey on Food Security Baseline June 2013

Figure 5: Methods of food storage (non-perishable)

Source: AWSC/KNBS Baseline Survey on Food Security Baseline June 2013

1.9 Key Policy and Program Recommendations for the National Food Security

The research findings indicate that at least 7.1 million Kenyans (18%) Kenyans are often or always hungry. These figures have great implications, especially for the development of the potential of children. Therefore, the implementation of Article 43 (1)(c) must be regarded as a priority for Kenyans. Among the key recommendations emanating from the research carried out in the 20 counties, the AWSC has prioritized seven critical areas

that need urgent attention. However, AWSC recognizes that some of these recommendations need long-term planning.

1.9.1 Water for Irrigation and Domestic Use

Over 80 per cent of the land area in Kenya is classified as Arid and Semi-Arid Land (ASAL) because it is affected by moderate to severe land degradation and desertification. About 10 million people (30 per cent of Kenya's population) live in the ASALs with over half of this population living below the poverty line. From our study, most of the respondents from the ASAL areas which included Kwale, Isiolo, Elgeyo Marakwet, Laikipia, Taita Taveta, Makueni, Kajiado, Turkana, and Baringo proposed the introduction or scaling up of irrigation. While appreciating the great effort by the Government, the AWSC proposes the following measure in order to meet the great demand for water by the counties in the ASAL region:

Rain water harvesting: Purchasing of materials and equipment for water harvesting such as tanks, pipes, water pumps, borehole drilling machinery, and gutters to ensure rain water harvesting in schools, health centers, urban centers.

1.9.2 Family Support Program

Given the level of food insecurity in all the counties visited, and the fact that at least 18% of Kenyans or 7.1 million people are often or always hungry, the national government (through the county governments) should establish a family support program for those severely affected by hunger. Following the example of India and Brazil, the Kenya government should focus directly on the affected households to ensure that they have access to food through either increased production (40 per cent produced their own food), creation of

employment for casual laborers (21%) and opportunities for markets and trade (16 per cent who engage in trade and small business).

As in the case of India, in order to ensure efficient and transparent targeting of the food poor households, we recommend the establishment of a clear legal framework to ensure the implementation of a family support program that will address this category of Kenyans and redeem them from the dehumanizing situation while also responding to Article 43 (1)(c) of the Kenyan Constitution. This action will demonstrate that Kenya is truly committed to zero tolerance to hunger and will set the pace for the entire region. We, therefore, propose that within the 2014/2015 budget the government should commit itself to reducing by 10 per cent the population of those who are often and always hungry by undertaking the following measures:

- i. **Targeting own producers** The national and county governments should target each of the households that produce their own food to ensure increased food production. The family support program could ensure that the 40 per cent of households in this category have access to farm inputs, information, and markets for their produce.
- ii. **Stabilizing farmer's income:** County governments should prioritize the buying of food directly from the farmers to ensure minimum guaranteed returns for them.
- iii. **Value addition and markets:** From the research 50.5 per cent of the respondents said they had no non-perishable food while 12.2 per cent stored perishable food. Poor storage and lack of markets were common problems faced by almost all the respondents. We, therefore, propose the allocation of

resources to set up processing plants in all the counties as per the needs assessment of each county. Baringo County, for instance, where a lot of tomatoes go to waste during periods of bumper harvest may require a tomato processing plant. Similarly, Nakuru and Makueni counties may require vegetable canning and mango processing plants respectively.

1.9.3 County Strategic Food and Water Storage

Wastages and losses incurred as a result of diseases and pests attacking the produce, poor weather, destruction of produce by wild animals, and lack of adequate storage facilities during surplus production contribute to the massive food insecurity reported during the survey. We estimate that on average the counties will require 850,000 bags of grain search, that is, about 40 million bags for the entire country. We recognize that Schedule IV of the Constitution gives the responsibilities of health, agriculture and social services among others to the county government. We therefore propose support for the establishment of county strategic food and water reserves in each county.

1.9.4 One Job for Every Poor Household

The government should develop a policy that allows the county and national governments to identify the hungry households and create employment for at least one person in the household for at least 200 days in a year. This arrangement will cater for 21 per cent of the respondents from our study who indicated that they are engaged in casual labor as a source of livelihood. The ultimate objective of this project is to create employment for at least 200 days per year for one person in a poor family for households that have no one with wage employment. In counties such as

Isiolo and Turkana where food insecurity is high, the government should identify and provide employment for two persons per household. The beneficiaries of this program will be engaged in green jobs which include water conservation and water harvesting; drought-proofing (including forestation and tree planting to increase forest cover to 10 per cent of the land mass of Kenya); construction of irrigation canals, including macro and minor irrigation works; and construction and maintenance of roads, government buildings, and other structures.

1.9.5 Cash Transfer

The government has shown commendable efforts towards the allocation of funds to the elderly, orphans and vulnerable children as well as the persons living with disabilities. However, many respondents (86%) registered their dissatisfaction with the management, allocation and distribution of the funds. We, therefore, recommend that the food security county committees proposed herein should be given the responsibility of overseeing the proper targeting of beneficiaries including monitoring and evaluation of the implementation process. In addition, exit strategies should be provided for the beneficiaries.

1.9.6 Drug and Alcohol Abuse

The abuse of drugs and alcohol was a major contributor to food insecurity in the counties visited such as Kiambu, Mombasa, and Kirinyaga. We propose increased support to NACADA to deal with this problem. We also propose the establishment of a fund to cater for the rehabilitation of the affected people, especially the youth.

1.9.7 Increased security

The 2014/2015 national budget allocation for security is high given the current security situation in the country. Research also showed that insecurity was a major contributor to food insecurity across the counties. According to the respondents, insecurity was caused by among other facts, village gangs who terrorize the owners of small businesses. These gangs also target the farmers by milking their cows and stealing their crops and livestock. Increased human-wildlife conflict was another problem raised by the respondents. We, therefore, propose that 15 per cent of the total budget for security should be allocated to initiatives aimed at combating insecurity and maintaining peace at the community level. This action could contribute to ensuring food security in counties such as Isiolo, Turkana, and Mombasa where many of the respondents indicated that insecurity was a threat to food security.

1.9.8 Implementation Mechanism for County Food Security Programs

Given the research findings discussed in detail in this report, we propose the establishment of County Food Security Committees comprising of the county executive officer in charge of agriculture; two social services persons of opposite gender with knowledge and experience in matters related to food security appointed by the Governor; and two persons of opposite gender to represent special interests also appointed by the Governor. These committees will monitor the food security and nutrition situation, evaluate the progress of implementation of the food security programs in the county and provide guidelines for the selection and appropriate targeting of food insecure families and

individuals in the county among other functions.

1.9.9 Economic Empowerment of Youth and Women

The Government's efforts to provide employment, especially for the youth and women, are indeed commendable. The various initiatives such as the Women Enterprise Fund, Youth Enterprise Fund and Uwezo Fund will contribute and make it possible for many youth and women to engage in gainful employment but still a lot more needs to be done. The majority of the youth remain unemployed and some even resort to social ills as a means of livelihood. Our research findings showed that 30.3 per cent of the respondents from our study were youth between the ages of 15-34 years and increased opportunities will make it possible for them to engage in meaningful employment. The Funds should be enhanced and more young people trained on how to

utilize the funds to avoid mismanagement and defaulting on repayment of money from the fund.

1.9.10 Enforcement Mechanism for Ensuring Food Security

The AWSC proposes that a legislative framework should be developed that will enforce food security programs including the family support program, cash transfer, and other initiatives aimed at the implementation of Article 43 (1) (c) of the Constitution. This is in line with best practices in other countries such as Columbia, Mauritius, South Africa and India.

More details of the findings of the research project on the 20 counties can be found in the National Report on Food Security that the counties will receive from the University of Nairobi. The chapters that follow will present the key findings of the research for Kiambu County.

Kiambu County Food Security Research Findings

2

2.1 Introduction and Context

Kiambu County is located in the Central region of Kenya and borders Murang'a County to the North and North East, Machakos County to the East, Nairobi and Kajiado Counties to the South, Nakuru County to the West and Nyandarua County to the North West. The County occupies an area of 2,543 km², has 8 constituencies and a total population of 1,623,282 composed of 49 per cent male and 52 per cent female.

The poverty level of Kiambu County is 25 per cent and some of the resources available in relation to provision of food include arable land, forests and water. The main economic activities include farming; food processing;

manufacturing; mining (Carbacid); textile (cotton); motor vehicle assembly; and trade. The main agricultural products available in the area include; pineapples, tea, coffee, wheat, macadamia nuts, poultry, horticulture, dairy, pig and fish farming.

One main advantage of this county is its proximity to the capital city of Nairobi; a fact which guarantees a ready market for most of its products. Another advantage is that the County has many educational institutions at all levels, both public and private. There are 1,135 primary schools, 373 secondary schools and more than 15 tertiary institutions in this county. Further, by virtue of being near Nairobi, many residents benefit from the educational institutions in the city.

Figure 6: Kiambu County Map



Source: www.gabriellubale.com

2.2 Research Methodology

2.2.1 Research sample

Kiambu County was one of the counties selected from the Upper Midlands agro-ecological zone. The research was conducted in ten clusters from which 22 households per

cluster were sampled using the National Sample Survey and Evaluation Program (NASSEP) V frame by the KNBS. Table 5 details the ten clusters that were sampled using the NASSEP V frame by the KNBS.

The data was collected using household questionnaire that was administered to 218 household (HH) heads.

Table 5: Ten clusters where the household heads were interviewed in Kiambu County.

District Name	Division Name	Location Name	Sub-Location Name	EA Name
Kikuyu	Kikuyu	Kinoo	Kinoo	Muthiga Central
Limuru	Limuru	Limuru	Bibirioni	Gitogothi Upper
Thika West	Thika West	Makongeni	Kamenu	Lower Kiganjo 'B'
Ruiru	Ruiru	Ruiru	Ruiru	Matopeni 'B'
Lari	Lari	Kinale	Kinale	Block-10 "B"
Githunguri	Ikinu	Githiga	Githiha	Irikiya
Gatundu	Gatundu	Kiamwangi	Gathage	Ngaa 'B'
Gatundu	Mangu	Githombokoni	Njahi	Kierethwa
Kiambu	Municipality	Kiambaa	Kiamumbi	Chief B
Ruiru	Githurai	Githurai	Kiuu	Langata Phase 1'b'

2.2.2 Key Informant Questionnaire

The key informant questionnaire was used in interviewing community leaders on food security issues in their locality. The community leaders were interviewed on a one-on-one basis. These comprised youth leaders, women leaders, religious leaders, political leaders and leaders of persons with disabilities. The ten (10) key informants' questionnaires were drawn from the constituencies of Kiambu, Githunguri, Lari, Thika Town, Juja, Ruiru, Limuru, Gatundu North and Gatundu South.

2.2.3 Institutional Questionnaire

The institutional questionnaire sought to gather secondary data on food security from County Development Officers (CDOs),

formally referred to as District Development Officers. One detailed institutional questionnaire was completed by the County Development Officer.

2.2.4 Focus Group Discussion (FGD)

The FGDs were used as a tool for gathering the collective knowledge on food security. A total of 2 focus groups discussions, with participants drawn from community leaders who included women, men, youth, and persons with disabilities, were conducted at the Northern and Southern side of the County. The attendance for the two FGDs in Kiambu North and South was eleven (N=11) and ten (N=10) participants, respectively.

2.2.5 Debriefing Meeting

The debriefing meeting took place in Thika Town after gathering of data using the various tools. The participants comprised key stakeholders, among them county and central government officials, Ministry of Agriculture officials, community and opinion leaders, civil society organizations and community and opinion leaders selected from participants of focus group discussions and key informant interviews. The purpose of the meeting was to share the preliminary findings with the participants and to give them an opportunity to review, input and validate the preliminary research findings on the status of food security in Kiambu County.

The following section presents the data collected, in Kiambu County, using the different tools and methodologies.

2.3 Key Research Findings

The key findings are organized along the following areas of interest: demographic characteristics of respondents; manifestation of food insecurity in the county; main sources of livelihood; food preservation and storage methods; government and donor support programs in Kiambu County.

2.3.1 Demographic Characteristics of Respondents

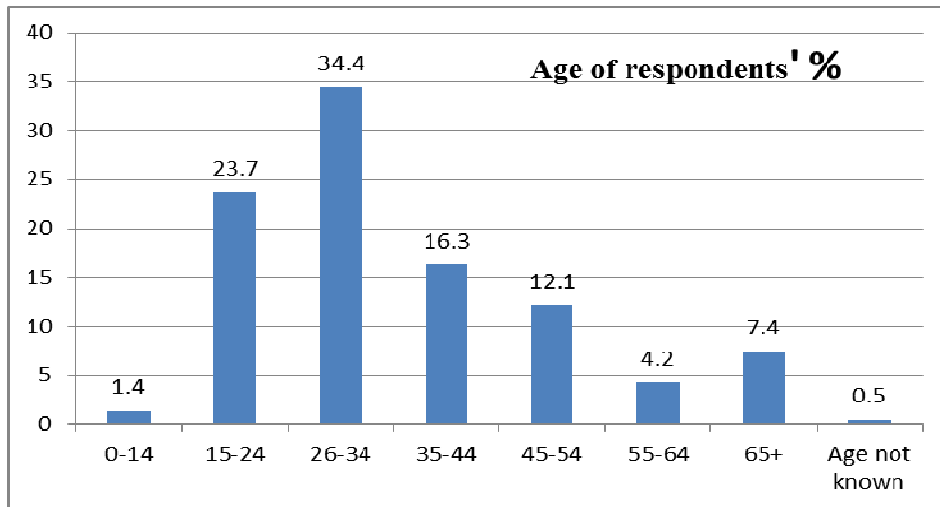
A summary of demographic characteristics of the respondents interviewed during the Food Security Baseline Survey is illustrated by age, marital status and levels of education of the informants as outlined in the following sub-sections.

i. Age of the respondents

The age of the head of the HH was considered to be an important variable in determining the status of the HH's food security. The age of the HH head was documented and the results cross-tabulated and put into broad age groups, starting with children of the age of 14 years and below, the other groups are spaced at a 10 year interval up to 64 years. The last group, representing the elderly comprised of HHHs above 65 years of age.

As illustrated in figure 7, most of the respondents interviewed in Kiambu County were in the age brackets of 25-34 at 34.4 per cent and 16-24 years at 23.7 per cent, followed by 35-44 years (16.3%) then 45-54 (12.1%) more than 65 years (7.4%), and 55-64 years (4.2%). Representation in the age bracket below 14 years was 1.4 per cent.

Figure 7: Age of the respondents



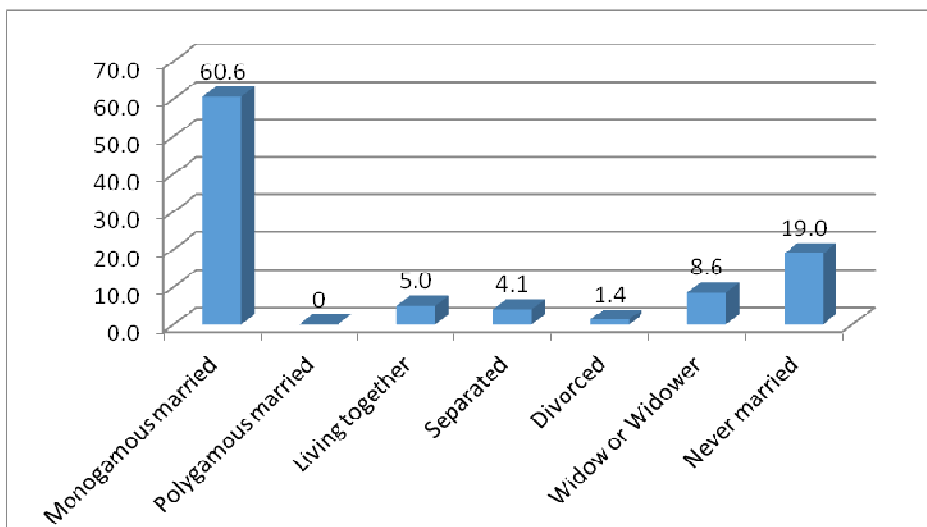
Source: AWSC Food Security Survey, June 2013

ii. Respondents' Marital Status

The study adopted the conventional socially accepted marriage categories among the target communities. The various categories

included monogamy, polygamy, separation, divorce, staying together and never married. The marital status of the HHHs is presented in Figure 8.

Figure 8: Respondents' Marital Status



Source: AWSC Food Security Survey, June 2013

As shown in the figure, 60.6 per cent of the respondents in Kiambu County were in monogamous marriage while none of the respondent said he/she was in a polygamous marriage. The figure also shows that 5.0 per cent were living together, 4.1 per cent were separated, 1.4 per cent were divorced and 8.6 per cent were either widowers/widows while 19.0 per cent were never married.

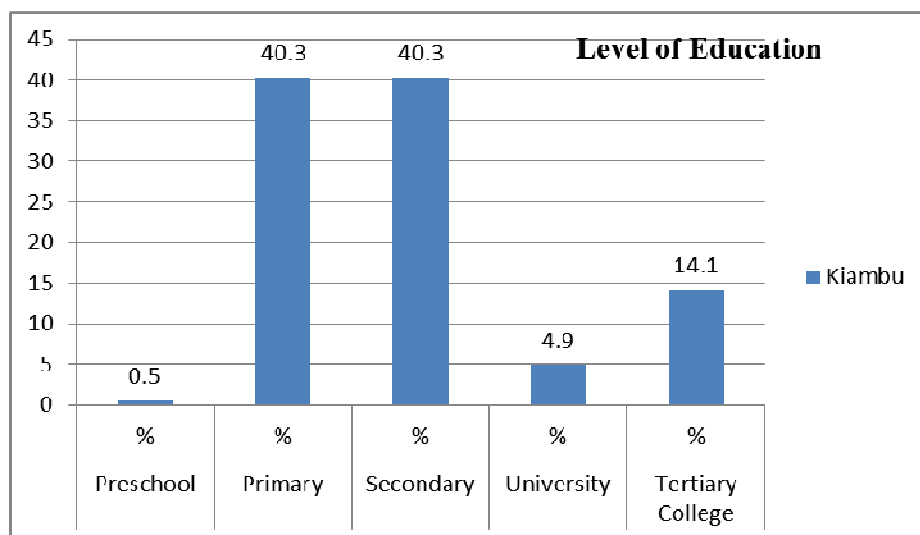
iii Respondents' Education Levels

The study looked at the education level of the HH head because it is an important variable in food security. Education improves

an individual's opportunities and access to information. The findings on the level of education of respondents from Kiambu County are presented in Figure 9.

According to the findings from the respondents, most of the household heads were literate with 99.6 having received some form of formal education. Forty per cent of the respondents had attained primary level of education and another 40.3 per cent secondary level. Only 4.9 per cent and 14.1 per cent had attained university and tertiary level of education, respectively.

Figure 9: Respondents' level of education



Source: AWSC Food Security Survey, June 2013

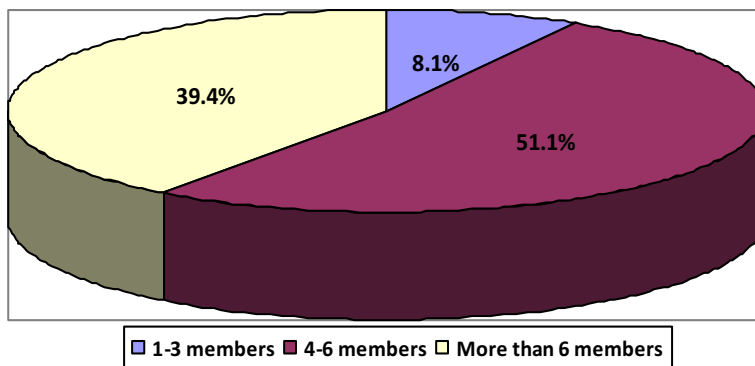
iv Household sizes

The size of the HH based on the number of members was considered an important determinant of HH food security. The HHs were classified into three groups those with 1-3 members, 4-6 members and the largest HH size being considered as having more

than 6 members. The study findings of HH sizes in Kiambu County are presented in Figure 10.

The findings show that majority of the HHs, at 51.1 per cent had 4-6 members, 39.4 per cent with more than 6 HH members and only 8.1 per cent had 1-3 HH members.

Figure10: Respondent's Household Sizes



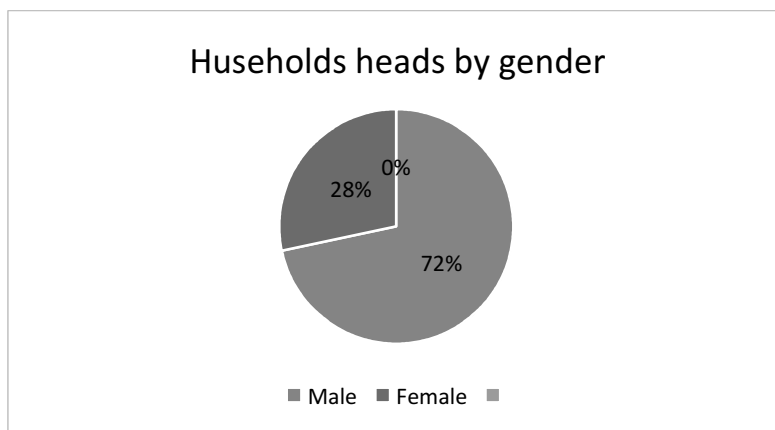
Source: AWSC/KNBS Baseline Survey on Food Security June 2013

v. Respondents' Gender

The gender of the household head looked at the biological sex, male or female, of the household head and the findings are presented in Figure 11.

The analysis of data collected shows that out of the 218 households heads interviewed in Kiambu County, 72 per cent were male and 28 per cent were female.

Figure 11: Respondents' Gender



Source: AWSC/KNBS Food Security Survey, June 2013

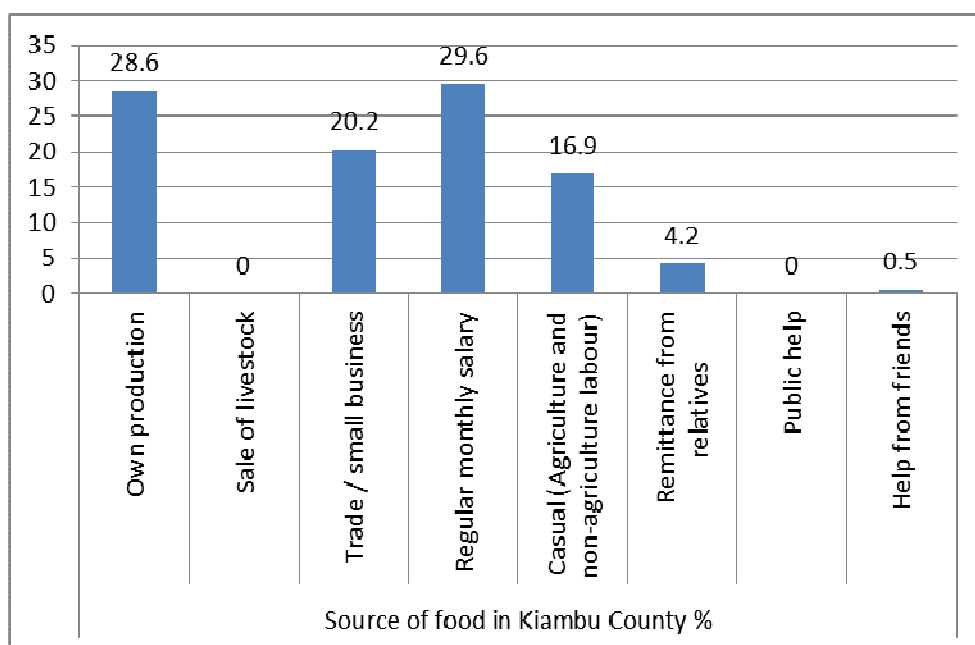
2.3.2 Main Sources of Accessing Food

Households have sustainable livelihoods when they can cope with and recover from shocks and stress (high and low food surplus) and can maintain their capabilities and assets without undermining their natural environment. Sustainable livelihood refers to people's capacity to generate and maintain their means of living, enhance their well-being and that of future generations (International Federation of Red Cross and Red Crescent Societies, 2006). Figure 12

shows the main sources of accessing food for the HHHs interviewed in Kiambu County.

The results in Figure 12 shows that the main sources of accessing food for the majority of respondents of Kiambu county are regular monthly salary (29.6%), farming/own production (28.6%), trade/small businesses (20.2%) and casual labor employment (16.9%). The rest (4.7%) of the respondents get remittance from relatives and help from friends in accessing food.

Figure 12: Source of Food in Kiambu County



Source: AWSC Food Security Survey, June 2013

2.4 Food Security Situational Analysis in Kiambu County

This section shows the findings on the situation of HH food security in Kiambu County in the last 10 months prior to the Baseline Survey.

2.4.1 Hunger Indicators in Kiambu County in the Last Ten Months

The hunger module was used to determine the status of food security at the household level, in the county in the last 10 months before the survey was done. The respondents were asked to rate the status of

food security in their households based on eight questions in the hunger module that assesses the four dimensions of food security namely availability, accessibility, utilization and sustainability. The hunger module was used to measure the household's food security using a scale of never, sometimes, often and always which gauge the extent of food security. Never illustrated food security, sometimes a low manifestation of food insecurity, often indicated a moderate manifestation of food insecurity and always indicates a high manifestation of food insecurity. Therefore, in each of the eight questions, a high percentage score in the scale of never shows that a household is

more food secure. On the other hand, high percentages in the scales of sometimes, often and always indicate high level of food insecurity.

Table 6 shows that 7.4 per cent and 0.9 per cent of the respondents said that often and always, respectively, there was no food at all in the household because there were not enough resources to go around. About 6 per cent per cent and 0.5 per cent, of the respondents said often and always, respectively, go to sleep at night hungry because there was not enough food. These are the categories that are said to be experiencing chronic food insecurity in Kiambu County.

Table 6: Hunger Indicators in Kiambu County in the Last 10 Months prior to the survey

Hunger indicators	Never	Sometimes	Often	Always
	%	%	%	%
E1: Did you worry that your household would not have enough food?	55.6	28.5	13.1	2.8
E2. Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?`	40.5	40.9	15.3	3.3
E3. Did you or any household member eat a limited variety of foods due to lack of choices in the market?	68.4	25.6	5.6	0.5
E4. Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food?	38.1	43.3	17.2	1.4
E05. Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough?	48.8	38.1	10.7	2.3
E06. Did you or any other household member eat fewer meals in a day because there was not enough Food?	51.2	37.7	9.3	1.9
E07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	65.1	26.5	7.4	0.9
E08. Did you or any household member go to sleep at night hungry because there was not enough food?	74.0	20.0	5.6	0.5

Source: AWSC Food Security Survey, June 2013

2.4.2 Chronic Hunger Module for the Last Ten Months (with often and always scale combined)

The study investigated the extent of chronic hunger in Kiambu County by combining and getting the average of the HHs said that often and always there were times when there was no food at all in their household because there were not enough resources to go around and often and/or always they or members of their HHs went to sleep at night hungry because there was not enough food.

The combined results, from Kiambu County, are shown in Table 7.

The findings show that on average, 8.4 per cent of the respondents often/always had no food at all in the household because there were not enough resources to go around while 6.0 per cent of the respondents said they or members of their HHs often/always went to sleep at night hungry because there was not enough food. The mean of those experiencing chronic food insecurity in Kiambu County was 7.0 per cent.

Table 7: Hunger Module with Often and Always

E07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	E08. Did you or any household member go to sleep at night hungry because there was not enough food?	Average
Often and Always	Often and Always	Often and Always
%	%	%
8.4	6.0	7

Source: AWSC/KNBS Baseline Survey on Food Security June 2013

i. Hunger indicators by Age group of the Household Head

The study investigated hunger by the age of the HHHs. The results of the hunger indicators by age of the head, in Kiambu County, are presented in Table 8.

Table 8 shows hunger manifestation by age group of the household head. It shows that households headed by heads in the age group 15-24 (26.0%) and those above 64 years (23.1%) were more worried that their households do not have enough food as compared to households headed by other age groups i.e. 25-64 years. Results show

that households headed by those who are in the age group 35-44 (21.1) ate fewer meals in a day as compared to households headed by those who are between 15-24 (8.7%) and those who are over 64 (11.5%) years. This may be because this is the age (35-44) of raising children. The table also shows that households headed by older heads 55-64 years (18.8%) often and always had their household with no food at all more than households headed by those who are 15-24 years (8.7%). The elderly, 55-64 and 65+ also slept hungry more than households headed by those who are 15-24 years.

Table 8 Hunger indicators by Age of household head

Hunger indicators	Years	14 yrs & below	15-24	25-34	35-44	45-54	55-64	>64	Mean
E1: Did you worry that your household would not have enough food?	Often & Always	0.0	26.0	15.8	10.5	17.9	0.0	23.1	15.9
E2: Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	Often & Always	0.0	26.1	16.9	18.5	17.9	25.1	15.4	18.7
E3: Did you or any household member eat a limited variety of foods due to lack of choices in the market?	Often & Always	0.0	17.3	4.2	7.9	5.1	0.0	3.8	6.1
E4: Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food?	often & Always	0.0	26.0	19.7	13.2	20.5	18.8	15.4	18.7
E05: Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough?	often & always	0.0	13.0	11.3	21.0	12.9	6.3	7.7	13.0
E06: Did you or any other household member eat fewer meals in a day because there was not enough Food?	often & Always	0.0	8.7	5.6	21.1	12.8	12.6	11.5	11.2
E07: Was there a time when there was no food at all in your household because there were not enough resources to go around?	often & Always	0.0	8.7	5.6	7.9	5.1	18.8	11.5	7.9
E08: Did you or any household member go to sleep at night hungry because there was not enough food?	often & Always	0.0	8.7	4.2	5.3	2.6	12.5	7.7	5.6

Source: AWSC Food Security Survey, June 2013

ii. Hunger Indicators by Marital Status of the Household Head

Household food security was analyzed in terms of marital status of the household head. Table 9, presents the findings from Kiambu County on household food security based on the marital status of HH head. Table 9 shows that households with heads living together with their spouses have relatively higher percentage of the households that are food insecure as compared to those who have never married. The results show that 13.7 per cent of the respondents living together were worried

that their households will not have enough food as compared to 4.8 per cent of respondents who have never married. The results also show that 7.2 per cent of the respondent who have never married often and always ate what they did not prefer due to lack of resources as compared to 28.4 per cent of those who are living together with their spouses. The table further shows that none of the households whose respondents are living together ever had a time when there was no food at all in the households nor slept hungry because there was not enough food in their households.

Table 9: Hunger indicators by Marital Status of the household head

Hunger indicators		Monogamous married	Living together	Separated	Divorced	Widow or Widower	Never married
E1: Did you worry that your household would not have enough food?	Often and Always	7.7	13.7	16.7	0.0	7.9	4.8
E2. Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	Often and Always	28.4	27.3	16.7	16.7	7.9	7.2
E3. Did you or any household member eat a limited variety of foods due to lack of choices in the market?	Often and Always	2.3	18.2	0.0	0.0	2.7	2.4
E4. Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food?	Often and Always	8.4	18.2	16.7	0.0	10.5	8.9
E05. Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough?	Often and Always	5.0	13.2	16.7	16.7	7.9	5.0
E06. Did you or any other household member eat fewer meals in a day because there was not enough Food?	Often and Always	5.7	9.2	11.1	16.7	7.9	2.4
E07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	Often and Always	4.6	0.0	11.1	16.7	10.5	2.4
E08. Did you or any household member go to sleep at night hungry because there was not enough food?	Often and Always	2.7	0.0	11.1	16.7	2.7	3.6

Source: AWSC Food Security Survey, June 2013

iii. Hunger Indicators by level of education of household head

Education was considered a key variable in determining HH food security due to the opportunities it provides, including access to information, among others. The study set out to investigate the relationship between the

level of education of the HH head and the status of HH food security. The findings for Kiambu County are presented in Table 10.

Results in table 10 shows that households headed by heads who are more educated are less food insecure than those with low education. The table generally shows that food insecurity decreased with the increase

in the level of education. None of the respondents from household with university diploma/degree and postgraduate education head was worried that their household will not have enough food as compared to 12.5 per cent household heads with preschool level of education.

The study shows a significant positive correlation between the level of education of a HHH and food security. Households headed

by persons with university/degree and postgraduate level of education were the most food secure with none of them experiencing chronic food insecurity. Among HHs headed by persons with a formal education of primary or secondary or Non-university Diploma and certificate, the latter were the most food secure with the lowest percentages on all the 8 questions.

Table 10: Manifestation of Hunger by level of Education of the household heads

Hunger indicators		Pre-school	Primary	Secondary	Non-university Dipl. & certificate	University diploma & degree	Post graduate
		%	%	%	%	%	%
E1: Did you worry that your household would not have enough food?	often and Always	12.0	10.6	6.8	5.3	0.0	0.0
E2. Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	often and Always	14.0	9.9	10.5	5.3	0.0	0.0
E3. Did you or any household member eat a limited variety of foods due to lack of choices in the market?	often and Always	0.0	4.2	3.8	2.2	0.0	0.0
E4. Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food?	often and always	10.0	13.2	7.5	5.3	0.0	3.5
E05. Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough?	Always often	15.0	7.8	3.0	5.3	0.0	0.0
E06. Did you or any other household member eat fewer meals in a day because there was not enough Food?	often and Always	12.0	5.7	5.3	5.3	0.0	0.0
E07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	often and Always	8.0	3.5	5.3	0.0	0.0	0.0
E08. Did you or any household member go to sleep at night hungry because there was not enough food?	often and Always	0.0	3.5	3.0	2.7	0.0	0.0

Source: AWSC Food Security Survey, June 2013

iv. *Hunger Indicators by Gender of the Household Heads*

The study considered the gender of the HH head as a key determinant given the different roles played by men and women in regard to food security. Table 11 presents the findings of the status of HH food security based on the gender of the head of the household in Kiambu County.

The findings show that households headed by women are more vulnerable to food insecurity than those headed by men. The proportion of households headed by females who were worried that their household will not have enough food is greater than the proportion of the households headed by men at 10.7 per cent and 7.0 per cent respectively. The proportion of households

that ate limited variety of food due to lack of choices in the market is greater among households headed by women than those that are headed by men at 3.3 per cent and 3.0 per cent, respectively. The results further show that the proportion of the households headed by females that ate food they did not prefer due to lack of resources to obtain other kinds is higher compared to those that are headed by males, 13.9 per cent and 7.5 per cent, respectively.

Finally, the proportion of households that often and/or always slept at night hungry because there was not enough food in their households is greater among households headed by females compared to those head by males at 4.9 and 2.5 per cent, respectively.

Table 11: Hunger Indicators by Gender of the Household Head

Hunger indicators		Males	Females
E1: Did you worry that your household would not have enough food?	Often and Always	7.0	10.7
E2. Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	Often and Always	8.0	7.4
E3. Did you or any household member eat a limited variety of foods due to lack of choices in the market?	Often and Always	3.0	3.3
E4. Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food?	Often and Always	7.5	13.9
E05. Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough?	Often and Always	5.5	9.8
E06. Did you or any other household member eat fewer meals in a day because there was not enough Food?	Often and Always	5.0	7.4
E07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	Often and Always	3.0	7.4
E08. Did you or any household member go to sleep at night hungry because there was not enough food?	Often and Always	2.5	4.9

Source: AWSC Food Security Survey, June 2013

v. *Hunger Indicators by Household Size*

Table 12 shows that households with more than six persons are more food insecure as compared to those with 1-3 persons. The results shows that the proportion of households with 1-3 persons who were worried that their households will not have enough food is smaller compared to the proportion of the households with more than six persons 6.7 per cent and 19.5 per cent, respectively.

The proportion of the respondents who were not able to eat the kinds of food they preferred to eat because of lack of resources is greater in the households with more than six persons compared to those with 1-3 persons (13.9%) and (9.3%) respectively. The proportion of the respondents whose households ate limited variety of foods due

to lack of choices in the market is high in the households with more than six persons compared to households with 1-3 persons (5.6%) and (4.0%), respectively. The proportion that ate smaller meals in a day is three times in the households with more than six persons (13.9%) the proportion of households with 1-3 persons (4.9%).

The findings further indicate that at a time when there was no food at all in the households that had more than six persons is more than five times the proportion in the households with 1-3 persons (4.5%) and (25.0%) respectively. Finally, the proportion that often and always slept hungry because there was not enough food is also higher in the households with more than six persons compared to the households with 1-3 persons (5.6%) and (3.6%), respectively.

Table 12: Hunger indicators by household size

Hunger indicators		1-3 persons	4-6 Persons	more than 6 persons
E1: Did you worry that your household would not have enough food?	Often and Always	6.7	7.2	19.5
E2. Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	Often and Always	9.3	8.3	13.9
E3. Did you or any household member eat a limited variety of foods due to lack of choices in the market?	Often and Always	4.0	2.0	5.6
E4. Did you or any household member eat food that you preferred not to eat because of a lack of resources to obtain other types of food?	Often and Always	8.4	8.3	19.5
E05. Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough?	Often and Always	4.9	7.6	13.9
E06. Did you or any other household member eat fewer meals in a day because there was not enough Food?	Often and Always	3.1	7.7	11.2
E07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	Often and Always	4.5	3	25.0
E08. Did you or any household member go to sleep at night hungry because there was not enough food?	Often and Always	3.6	2.4	5.6

Source: AWSC Food Security Survey, June 2013

2.5 Food Preservation and Storage Methods

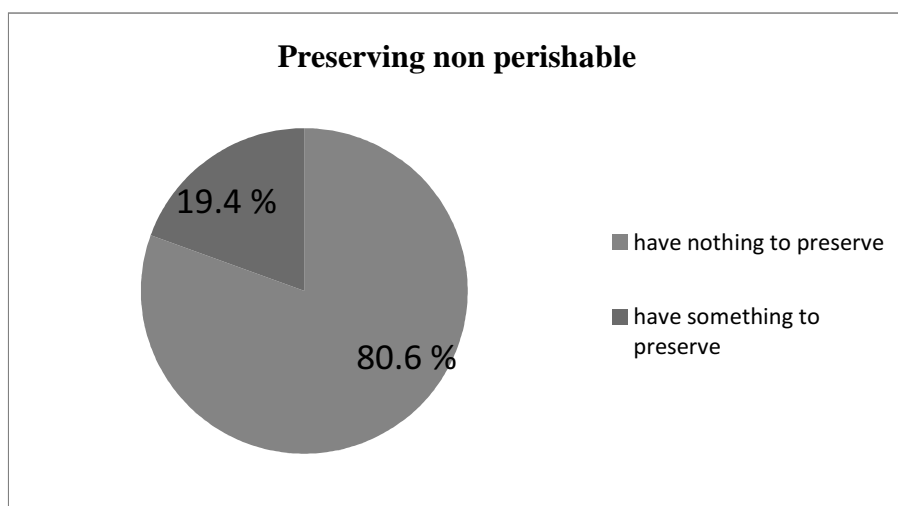
Preservation of post-harvest surpluses of seasonal food crops such as cereals, fruits and vegetables, is an important aspect of food security, because it makes them available and affordable during off season. According to FAO (1997), better home and community food processing, preservation and storage and access to marketing facilities can contribute to household food security by alleviating seasonal shortages in food supply and stabilizing market prices. Poor preservation and storage of post-harvest surpluses results in post-harvest wastage and food insecurity at the household level. The findings on preservation and storage of post

harvest surpluses in Kiambu County are presented in the following sub-section.

2.5.1 Preservation of Non-Perishable and Perishable Foods

The study investigated the preservation, by the target HHs, of excess non-perishable and perishable foods. The non-perishable foods comprised of cereals such as maize and beans while the perishable foods comprised of fruits, vegetables, milk and meat product. The findings on those who had or did not have any Non-Perishable and Perishable Foods to preserve, is presented in Figures 13 and 14. Most of the people in this county have nothing to preserve given that 80.6 per cent of the respondents have nothing to preserve while 19.4 per cent are the only ones who have something to preserve.

Figure 13: Preservation of non-perishable foods

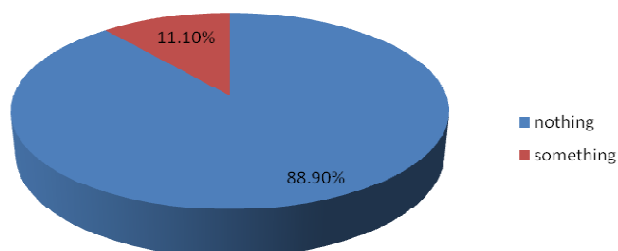


Preservation of perishable food

As shown in figure 14, most of the respondents (88.9%) had no perishable food

to store while those who had accounted for a paltry 11.10 per cent.

Figure 14: Preservation of perishable food



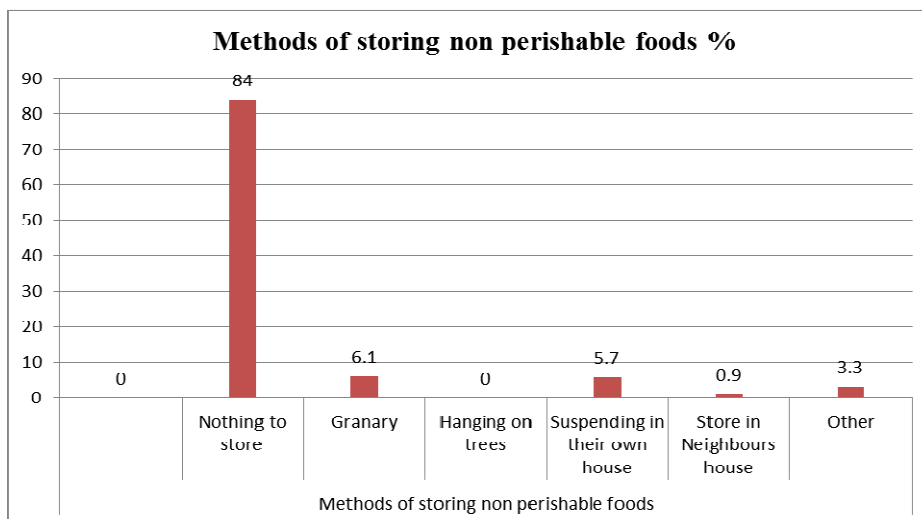
2.5.2 Storage of Non-Perishable and Perishable Foods

i. Storage methods of non perishable foods

16 per cent of those who have something to store, 6.1 per cent use the granary and 5.7 per cent suspend these foods in their own house, 0.9 per cent store in neighbor’s house and 3.3 per cent use other methods.

Results in figure 15 show that most people (84.0%) have nothing to store while for the

Figure 15: Methods of storing non perishable foods



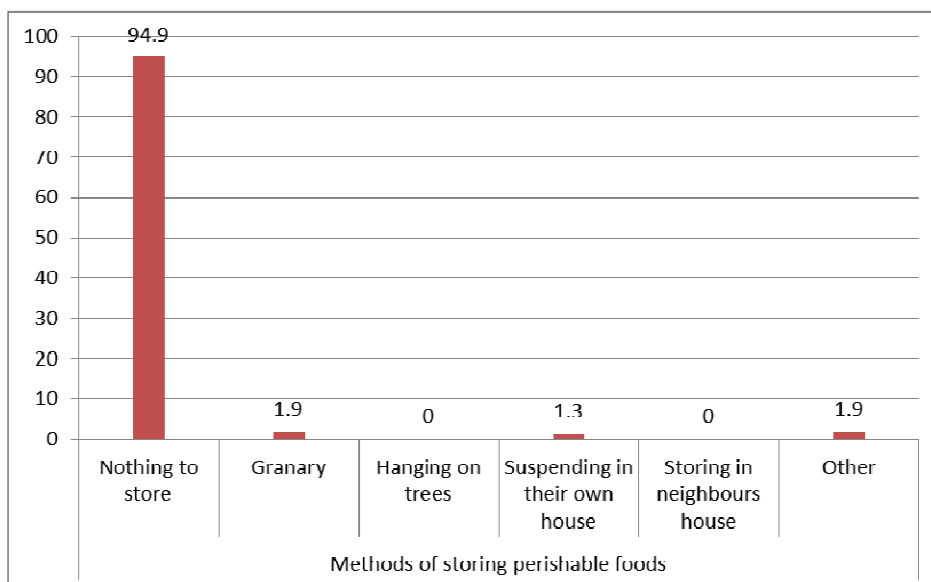
Source: AWSC Food Security Survey, June 2013

ii. Storage methods of perishable foods

Findings in figure 16 show that 94.9 per cent of the respondents have nothing to store.

About 2 per cent (1.9%) use the granary to store, 1.3 per cent hangs the foods in the houses and 1.9 per cent use other unspecified methods

Figure 16: Storage Methods of perishable foods



Source: AWSC Food Security Survey, June 2013

2.6 Government and Donor Support Programs in Kiambu County

There are various social protection programs by development agencies including the Kenya Government and local and international donors. These programs aim at promoting household resilience to food insecurity of people who lack access to sufficient food to meet their daily needs. The programs often target vulnerable categories of society, among them orphans and vulnerable children (OVCs), people living with HIV and AIDS, persons with disability and the vulnerable elderly. The program is implemented through relief food and/or through cash transfer. This section presents the findings on the various food support programs in Kiambu County.

2.6.1 Beneficiaries of the Available Food Support Programs

Table 13 presents findings on the available food Support Programs and the respective beneficiaries. As shown in Table 13 the largest proportion received constituency development fund support and Hunger Safety Net Support at 1.4 per cent each, this was followed by constituency bursary fund support at 1.1 per cent. Other sources of support were irrigated farming, food for work, seeds and fertilizer support programs where less than 1 per cent in total of respondents benefited. There was, however, no one who had received any support for orphans and vulnerable children, vulnerable elderly, food rations, HIV/AIDs, food for work, school feeding and national fund for the Persons with Disability (PWDs) in Kenya.

Table 13: Proportion of respondents that benefitted from the Support Programs

	Support	Received Help (%)
1.	Receive help from Orphan and Vulnerable Children cash transfer program	0.0
2.	Receive help from Vulnerable Elderly persons cash transfer program	0.0
3.	Receive Hunger Safety Net Support	1.4
4.	Receiving Food rations	0.0
5.	Receive help from HIV/AIDS Support Program	0.0
6.	Irrigated farming support	0.6
7.	Food for work program	0.9
8.	Seeds and fertilizer inputs support	0.5
9.	Constituency Development Fund support	1.4
10.	Constituency Bursary Fund support	1.1
11.	National Fund for the Disabled in Kenya support	0.0
12.	School Feeding Program	0.0

2.6.2 Rating of Available Support Food Security Support Programs

The proportion of those who received food security support programs in Kiambu county was negligible with highest proportion of only 1.4 respondents having received food rations same as the ones who received Constituency Bursary Support. This cannot be used to authoritatively rate the adequacy of food support programs in Kiambu County.

2.7 Challenges to Food Security in Kiambu

As shown in the research findings, Kiambu County faces food insecurity with 7 per cent of respondents always and often going to bed hungry. Women key informants cited general insecurity as the major challenge in engagement in livelihood activities with all the respondents indicating it as a challenge

while none of the male respondents indicated security as a challenge. Women also cited lack of access and high costs of farm inputs as a major challenge at 66.7 per cent while only 33.3 per cent male respondents indicated this as a challenge in engaging in livelihood activities. Drought and unreliable rainfall was cited as a challenge by 40 per cent women compared to 60 per cent men. Some challenges that hinder achievement of food security in Kiambu County as revealed by the study participants include the following:

- i. General poverty in the county, low purchasing power of the residents.
- ii. Lack of modern equipment for farming which led to low output and of low quality.
- iii. Small pieces of land due to subdivision.
- iv. Lack of adequate storage facilities.

- v. Disparity in access to land among men and women where the women had less access to land although they were more actively engaged in agriculture than men.
- vi. Minimal or lack of government support in agriculture and the general attainment of food security.
- vii. Low quality seeds.
- viii. Lack of education among farmers.
- ix. Alcoholism and drug abuse.
- x. Concentrating on vegetables rather than cereals in agriculture.
- xi. Irresponsiveness to the people's demands to improve agriculture.
- xii. Politicization of cooperative groups.
- xiii. Exploitation of farmers by the middle men.
- xiv. Lack of diversification in the agricultural products with most planting only the traditional foods like maize and beans.
- xv. High costs of inputs and lack of a profitable market for their produce.
- xvi. Poor infrastructure, particularly dilapidated roads.

2.8 Key Informant Information on Food Security Issues

2.8.1 Main livelihood activities

The major livelihood activities in Kiambu County were crop farming, small retail business, livestock keeping, and casual employment. In this county the proportion of women and men reporting to be involved in crop farming, livestock keeping, casual employment and small retail business was similar (50%).

2.8.2 Main food and consumption patterns

When the key informants in Kiambu were asked what their main food was, a similar proportion of men and women (50%)

indicated *ugali* as their main food. Also 33 per cent of women indicated *githeri* as the main food while 67 per cent men indicated *githeri* as their main food. When asked what they ate their main meal with, again a similar proportion indicated that they ate their main food with green vegetables. Other foods consumed in Kiambu included; meat, rice, legumes, tubers, chapatti, fruits, and bananas.

2.8.3 Challenges in engaging in livelihood activities

Thirty three per cent of women key informants cited lack of inputs as the major challenge in engagement in livelihood activities compared to 67 per cent male respondents. All women respondents cited dependency on unreliable rainfall, lack of markets and pests and diseases as major challenges. Men on the other hand cited lack of finances, poor infrastructure and lack of markets, pests and diseases as the major challenges.

2.8.4 Access to food

Forty three of female respondents indicated that they produced their own food while 57 per cent of the male respondents reported that they grow their own food. Less female respondents (33%) accessed food by purchasing compared to 67 per cent of the male respondents.

2.8.5 Opinion on food adequacy

When the respondents were asked if they considered the county, to have adequate food, 67 per cent female and 33 per cent male respondents considered that the county had adequate food.

2.8.6 Coping strategies

From the interviews with key informants, women and men used different coping strategies in different proportions to cope with food shortage. A similar proportion (50%) of female and male borrowed food as a coping strategy. Women also said they skipped meals (50%) and received food aid (40%). Men on the other hand said they bought food on credit (100%) and in extreme cases resorted to stealing.

2.8.7 Gender Equality in Access to Land

When the informants were asked if men and women had equal access to land, more men (60%) said yes compared to women (40%). Asked what they used land for if they had access, women and men informants mentioned crop farming, livestock keeping, building of rental houses and security for acquiring loans. More men than women used the land for crop farming at 80 per cent compared to 20 per cent. All female respondents used land for construction of rental houses while all men mostly used the land to acquire loans.

2.8.8 Availability and Access to Markets

The respondents were also asked if there were markets to buy food or sell their produce. 29 per cent of the women said markets to sell produce were available compared to 71 per cent men. On availability of markets to buy food, 44.4 per cent of women said yes compared to 55.6 per cent men.

2.8.9 Opinion on community involvement

When the key informants in Kiambu were asked for their opinion on community involvement to address food insecurity, all men respondents rated the community as being *very actively involved*. Sixty per cent of

the women rated the community as being just *involved* with 40 per cent of the male respondents saying the same.

2.8.10 Socio-economic factors hindering attainment of food security

When the respondents were asked about economic and social related issues that hinder achievement of food security, the differences in magnitude of responses between men and women were evident. All women respondents indicated lack of markets, high costs of seeds and fertilizers, high cost of animal feeds, low yielding breeds, small and uneconomical pieces of land, and crop and livestock pests and diseases. Women also cited unemployment (50%), lack of income (25%), lack of credit facilities and lack of income as economic hindrances. Men on the other hand mentioned high cost of seeds (100%), low yielding breeds (100%), commercialization of land (100%), lack of income (75%) and unemployment (50%), as the major hindrances. On social issues, women cited lack of decision making on land, general insecurity and drug and alcohol abuse as hindrances to attainment of food security while men indicated poor planning, family disputes, and child labor as social issues that hinder attainment of food security.

2.8.11 Options that could be used to ensure attainment of food security

Most women respondents gave key suggestions as; provision of affordable inputs, provision of high yielding varieties, provision of irrigation, access to agricultural extension services, and proper storage facilities. Men on the other hand recommended better yielding crops, affordable seeds and fertilizers, irrigation and improved infrastructure.

2.8.12 Access to government food programs

Asked how they accessed government food support related programs, all men and women indicated that they accessed through capacity building of group members, with a similar proportion (50%) of men and women also saying they received financial help through loans. All men also mentioned that they accessed government programs through provision of farm inputs while none of the female respondents indicated that they received farm inputs.

2.8.13 Suggestions to improve government food support programs

When asked for suggestions on how to improve government support programs the women respondents mentioned provision of loans and financial assistance as the most important. Men on the other hand suggested the up-scaling of provision of farm inputs, capacity building of group members and sensitization of the programs through community leaders.

2.9 Summary of Research Findings

The research findings, in Kiambu County show that 8.4 per cent HH went all day without food while 6 per cent slept *at night*

hungry because there was not enough food.

On average, 7 per cent were severely affected by hunger in the county. Findings also show that their main Sources of Accessing Food or Sources of Livelihood were regular monthly salary with 29.6 per cent, own food production at 28.6 per cent, trade/small businesses (20.2%) and casual labor (Agriculture and non-agriculture) with 16.9 per cent. On storage of non-perishable food, most respondents (84.0%) said they had nothing to store while 6.1 per cent have something to store. Of the latter, 6.1 per cent use granary and 5.7 per cent suspend in their own house. As for perishable food, 94.9 per cent of the respondents said they have nothing to store while of the 5.1 per cent that have something to store, 1.9 per cent said they store the food in the granary, 1.3 per cent suspend in the houses and 1.9 per cent use other unspecified methods. The food preservation study shows that 80.6 per cent of the respondents have nothing to preserve while 19.4 per cent are the only ones who have something to preserve. To achieve county level food security, it will be important to address the various challenges to food security while at the same time, strategically targeting the individual needs of the food insecure households.

Discussions and Analysis

This chapter focuses on the discussions of key findings on food availability, access, sustainability and utilization of the Baseline Survey in Kiambu County. The discussions focus on the key areas that were addressed by the household survey namely: demographic data; sources of accessing food; and other general issues relating to food security such as availability, access, consumption and sustainability that were raised by participants from Kiambu County.

3.1 Demographic Data and Hunger

3.1.1 The relationship between Age and hunger

The age of the household head has an inverse relationship between the age of household head and food security. It indicates that an increase of years in the age of household head increases the chances of food insecurity. The research findings reveal that household heads in the age group of 15-24 and those in 64 and above are more food insecure than those in the age brackets of 25-34 years and those in 35-39 and those who are 40-44. This shows that households that are headed by very young heads and those who are very old are more food insecure than those that are headed by middle aged age groups. This may be so because those who are in their middle age are working and energetic as compared to those who are in age dependency age groups who are either in school or too old to work or they have retired.

3.1.2 Marital Status and Hunger

The relationship between marital status of respondents and status of household food security seems to follow the expected pattern. The research reveals that households headed by unmarried people are more likely to be food secure than those headed by married people because the married are likely to have larger families than the single household heads. Although households headed by divorced persons, separated and widowed household heads are expected to be more food insecure, households headed by heads who are living together with their spouses registered high levels of food insecurity.

3.1.3 Gender of head household and food Security

The research findings revealed that female headed households were more food insecure than the male headed ones, a situation that may be attributed to various forms of discrimination, which make female-headed households more vulnerable to food insecurity and poverty. Other surveys also reveal relatively similar demographic characteristics e.g. the Kenya Population and Housing Census 2009 indicate the population of females at 50.2 per cent and males 49.8 per cent; and additionally indicate that 70.2 per cent of households are headed by males against 29.8 per cent which are headed by women. This may be so because women are restricted to land ownership rights; an issue that came out in the focus group discussions

and in oral testimonies, inadequate education and outdated social traditions which usually limit their ability to improve food security status for their households and communities at large. They are also discriminated upon in terms of labor input, decision-making, access to or control of production resources which may be reflected in the overall food production and security.

In the FGDs, the participants said that though women perform most of the agricultural activities, most land is owned and controlled by men and few women own land but this same land is controlled by men. They further said that men are the decision makers of what is to be planted, when and where. Therefore, whether in terms of labor input, decision-making, access to and/or control of production resources, gender issues should be mainstreamed in food security programs aimed at resolving food insecurity.

3.1.4 Relationship between Level of Education of HHH and Food Security

The research findings show that education has a significant relationship with household food security. Results showed that food insecurity increased with a decrease in the level of education i.e. relatively better educated household heads are more food secure than those headed by uneducated or low educated household heads. Low literacy levels are associated with under utilization, inaccessibility of food since better educated people are able to use modern methods of farming and also have access to good jobs which in turn increases their purchasing power.

Food insecurity and under-education are closely linked and are widespread in many parts of the country, particularly in rural areas where food insecurity, poverty and educational deprivation often result in a

vicious circle. Moreover, there is low understanding of the linkage between national food security, basic education, water and sanitation strategies on one hand and nutrition on the other (Republic of Kenya, 2008). Therefore, improving access to education for all residents, is one of the key interventions that the county government should address since learning improves the ability of a people to diversify resources and activities, increase output and income, promote resilience and competitiveness, access information on agriculture, health and sanitation, and strengthen social cohesion since these are all essential elements to ensure food security in the county.

3.1.5 Relationship between Household Size and Food Security

The research findings show that household size has a direct relationship with food security. Households with more members were found to be more food insecure than household with few members. The results showed that the proportion of food insecurity increased with the increase in the size of the household. This may be attributed to high consumption level in the households with more members in the household than those with few household members.

3.2 Main Sources of Accessing Food

With Kiambu County being quite densely populated, the residents strive to make maximum use of the pieces of land they have access to. The major activities they are engaged in for the purpose of livelihood include: agricultural activities (crop cultivation, livestock keeping, bee farming, poultry farming, horticulture, and fishery), handicrafts, trading (small, medium and large scale), temporary and permanent employments, entertainment industry, and

transportation industry and rental houses, among others.

The views of opinion/community leaders in the integrated research from key informant interviews and focus group discussions in Kiambu County reveal that regular monthly salary crop farming, small scale businesses, casual labor and 4.9 per cent depended on help as sources of livelihood that would enable them to access food in the county.

The findings further indicated that majority of women were mainly involved in small-scale trade, where the return is very low.

Further, because of land inadequacy, small-scale farmers, majority of whom are women, resort to unproductive intercropping as captured in this photograph taken in Githunguri Constituency.



Trade: Women by the roadside selling different farm produce in Githunguri Constituency.



Examples of unproductive intercropping in Kiambu County

Even where farming was of a single crop, there is under production due to poor farming methods and poor soil due to over

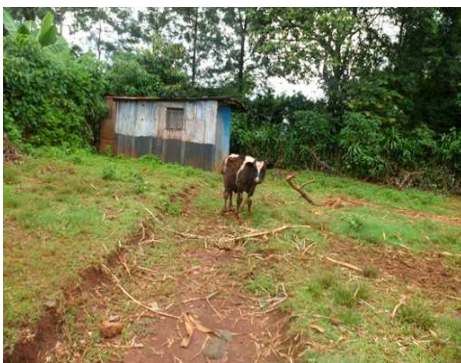
cropping as shown in the next photo, a banana plantation that has been left unattended as a supplement for food crops.



Bananas grown in small scale in Githunguri Constituency to supplement food crops

Livestock farming as a form of livelihood was found to be widely spread in the County. However, the yields were also found to be low because of the shortage of land and

expensive animal feeds. In most of the cases, livestock farming is done under zero grazing, as demonstrated in the photos below.



Examples of livestock farming: A heifer and milk goats.

Measures to improve food security in the county should aim at promoting crop production which most citizens depend on as a source of livelihood. Prevalence of animal and crop diseases, limited access to capital and credit facilities also lead to high post

harvest losses due to inappropriate handling of agricultural produce as well as livestock products. Underdeveloped infrastructure in most parts of the county affects distribution and marketing of farm inputs and agricultural produce, respectively.

The county government should borrow from India's National Rural Employment Guarantee Act (NREGA), a poverty alleviation program that has managed to make many of its poor people food secure by guaranteeing them a hundred days of employment per year in green jobs (Amita, 2005) for 23.3 per cent of its residents who derive their livelihood from casual labor in agriculture and non-agriculture ventures. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was enacted on 7 September 2005 to provide for the enhancement of livelihood security of the households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in every financial year to every household.

For the agriculture sector the county government could learn from Malawi's Fertilizer Subsidy Program, which aims to raise household and national food security through increased access to farm inputs. This would enhance the county's food security. Additionally, Brazil's Food Acquisition Program where food from smallholder farmers or their organizations is purchased by a government agency at market prices and distributed to local social organizations or to food-insecure people, could also be adopted by the county government.

3.3 Food Preservation and Storage

In the course of this study, food storage emerged as an important aspect of food security. The respondents were particularly concerned that during the seasons of bounty harvest, a lot of food goes to waste or is sold cheaply due to poor or insufficient storage facilities. Of particular concern on preservation was lack of knowledge or facilities to preserve perishable foods – cooked food, fruits, vegetables and animal products (milk, meat and eggs).

3.3.1 Non-perishables

The findings indicated that people in this county had challenges in storing non-perishable food especially grains. In most cases, these were being stored either in the sacks or on the floor in family houses. Only in a few cases did the respondents have storage rooms or granaries outside the family house. It was also noted that where the granaries existed, they were multi-purpose in that they were put to other use apart from food storage. This is because most of the times, the respondents had little to store. The photo below shows a granary that is used as a store due to lack of food to be stored in it.



A granary for storing agricultural produce for one of the study respondents

3.3.2 Perishables

Perishables include fruits; vegetables and animal produce especially meat and milk. The most common mode of preservation was refrigeration though this was a preserve of those with power supply and who could afford. Others dried vegetables. For those without refrigerator, the meat was preserved with salt though this was for a limited time period. The most challenging for preservation were fruits and milk where most of it would spoil.

3.3.3 Cooked food

Other than those who had refrigerators, majority did not have any method of storage. The maximum period that they preserved food was 48 hours.

3.3.4 Challenges faced in food storage

The following were the challenges faced with food storage across the County:

- Insecurity due to theft of produce especially from outside granaries.
- Pests (weevils) which destroyed stored produce especially grains and sweet potatoes.
- Some of the chemicals used for preservation were health hazards
- Poorly stored foods were a major cause of food poisoning
- High cost of preservation chemicals

3.4 Status of Food Security

Food security was measured using the eight questions in the hunger module assessing the four dimensions of food security (i.e. availability, accessibility, utilization and sustainability). The household heads were asked to rate the status of food security in their households based on the questions. Both the quantitative data collected from the HHHs and the qualitative data collected using the key informant guide, the institutional guide, the FGD guide and the debriefing meeting shows Kiambu County is food insecure.

3.4.1 Food Availability

Food availability deals with the supply side of food security and is determined by the level of food production and food stored. Eating a limited variety of food implies that members of a household may have food but it is not diversified in terms of quality and quantity. Findings show that 6.0 per cent of respondents ate a limited variety of foods due to lack of choices in the market. In the key informant interviews and focus group discussions, opinion leaders said that most households ate limited variety of food due to insufficient income, high food prices and lack of food diversity in the markets. In the FGDS the participants said that most people feed on *Ugali* and rice which are mainly starch but they would also prefer meat, beans, yams, sweet potatoes, but which are not easily affordable to many. Lucy Njoki in the oral testimony observed that *'The extent of food insecurity is dwindling due to fewer mouths to feed in her case but she has never gone without food for a day. However, they eat less than the dietary requirements, and quite often they do not get variety or balanced diet. The landless and those with small pieces of land have always been food insecure throughout. With favorable weather, though, the situation has improved over time.'*

Eating fewer meals refers to missing some meals owing to inadequacy of food to cater for all meals. This is a more serious manifestation of food insecurity. Findings from the study showed that 11.2 per cent of the respondents ate fewer meals in a day because there was not enough food. A good proportion of households in Kiambu County were reported to have fewer meals in a day by key informants and in the FGDS. The participants in the FGDS said that most people are forced to skip some meals in a day due to lack of enough food to be taken

throughout the day. They further quoted that: *Mainly women have fewer meals in a day; men are given preference in food rations!* Another group also said that majority, *especially mothers, survive on one meal a day. Supper only!*

Going to sleep hungry is a situation in which members of a household do not have an evening meal due to limited availability of food or lack of access to it. The study indicated that 6.0 per cent of households slept at night hungry because there was not enough food. In the FGDS, the participants said some people especially women go to sleep without food. Most women in Kiambu County were reported to have severally slept hungry especially if the food was not enough to ensure that their male counterparts and children have eaten. The leaders stated that this situation is occasioned by low food availability as a result of poor food production due to output fluctuations influenced by a number of factors including erratic rainfall, poor quality seeds, high cost of inputs especially fertilizer, poor producer prices as well as pests and diseases.

3.4.2 Food Accessibility

Eating food that one prefers not to eat due to lack of resources to obtain other types of food is a situation whereby financial constraints hinder access to a variety of foodstuffs which often leads to food insecurity. In the study, 18.6 per cent of the respondents said they ate food that they preferred not to eat because of a lack of resources to obtain other types of food. In the FGDS and the debriefing meeting, the participants indicated that most people could not afford variety of food other than *githeri* and *ugali* which was eaten alongside vegetables for those who could afford. Those who did not have resources to modify *githeri*, it was eaten without mixing it with

something else. They pointed out that; *most people just eat what is available at any particular time because of insufficient resources.*

Eating smaller meals refers to a situation whereby members of a household eat small quantities of food for breakfast lunch and dinner, but they do not skip any of them. The study showed that 13.0 per cent of households ate smaller meals in a day because of lack of resources to obtain enough. Eating small meals was used as a coping mechanism for food security and shows that there is under utilization/under consumption of food, which is an indicator of food insecurity. The most cited reason for eating small meals was lack of adequate resources to buy enough food and inadequate food i.e. households rationing the little food they have to avoid starvation. In the FGDS, the participants said *because of children and men; mothers especially eat little in order to spare some for children and their husbands.*

Based on the hunger module, lack of food in the household is a high manifestation of food insecurity because it shows that there is serious starvation in those households. In Kiambu County, 8.4 per cent of respondents said that there were times when there was no food at all in their household because there were not enough resources to go around. This is the worst situation of food insecurity and it reflects the degree of hunger manifestation when any of the household has nothing at all due to lack of resources to go around. This came out with opinion leaders who pointed out that some of the households in Kiambu County reach that point of starving.

3.4.3 Food Utilization

Eating food of one's preference is an important aspect of food security. However,

18.6 per cent of the households ate foodstuffs they do not prefer to eat due to lack of sufficient income to buy food of their preference. Opinion leaders project that they ate foods they did not prefer to eat due to reasons such as lack of sufficient income to buy food of their preference, limited variety of food in markets and poor transport infrastructure which hindered many households from accessing food of their choice.

3.4.4 Food Sustainability

Worrying about not having food is a situation in which people lack food sustainability due to inconsistency of supply, access and utilization of food. The research findings showed that 15.9 per cent of households worried that their household would not have enough foods. In the FGDs, the participants gave several factors as to why they worried about not having enough food some of which included small pieces of land, unpredictable weather and climatic conditions, crop failure, lack of income to buy food, shortage of food supply in markets and fluctuations in food prices. The participants further said that food insecurity has been caused by increased poverty, stealing of food from farms, over population on inadequate land for farming; many people are squatters and tenants hence do not have land for cultivation.

3.5 Consumption Patterns

When the key informants in Kiambu were asked what their main food was, 75 per cent of the women indicated that *githeri* was their main food while only 25 per cent of the men reported *githeri* as their main food. Sixty per cent of the women indicated *ugali* as their main food while 40 per cent of the men indicated this as their main food. When asked what they ate their main meal with,

women at 25 per cent ate main meal with vegetables compared to 75 per cent men. All women interviewed also indicated that they ate their main meal with milk. Other foods consumed in Kiambu included; groundnuts, legumes, meat, and rice.

Staple food crops are significant sources of both food security and earnings for most of the households in Kenya (USAID, 2010). The Kenya National Food and Nutrition Security Policy (FNSP 2011) states that in Kenya, food availability has over time been understood in terms of cereal supply, and food security in terms of having enough maize.

3.6 Government/Church/ Donor Support Programs

The research findings showed that only 1.4 per cent of the two hundred and twenty households studied receive support from food rations programs and 0.9 per cent had received support with seeds and fertilizer inputs. These results are fully supported by the FGDs and the key informants' participants since they pointed out that there

were few and irregular support programs especially those that are meant for vulnerable groups.

Conditional Cash Transfers (CCT) is a government program that provides cash to poor households and can be designed to promote a wide range of benefits which include immediate poverty alleviation; improved health, nutrition and education outcomes, economic productivity and growth, empowerment (particularly for women) and social cohesion. In view of Kiambu County opinion/community leaders suggested techniques of improving effective implementation and execution of government support programs which included provision of up scaled agricultural inputs and implements ,capacity building and/or sensitization through community leaders ,transparency in the identification of beneficiaries, building of storage facilities, making programs accessible to all, provision of financial support and Ministry of Agriculture having enough extension services to farmers.

Policy and Program Recommendations and Proposals on Food Security

4

This chapter presents the Kiambu County participants' recommendations and AWSC proposals for ensuring food security to the County's residents. They include:

4.1 Recommendations

This section presents some of the key policy and program recommendations for ensuring food security in Kiambu County is sustained. The programs are derived from both the baseline survey's quantitative data from the household questionnaires, qualitative data from the FGDs, institutional representatives, testimonials and the debriefing meetings on food security held with stakeholders from Kiambu County. The recommendations include the following:

4.1.1 Training

Ensure continued training on modern agricultural practices to increase farm produce. This can be done by increasing the number of agricultural extension officers to educate the residents on the proper techniques of doing intensive farming to maximize output from their farms however small they may be.

4.1.2 Provision of subsidized and improved seeds and the right fertilizers

Provision of subsidized and improved seeds and the right fertilizers in order to increase crop yields from the farms. In addition to these, provision of loans/capital for intensive farming at low or no interest could be useful.

There should be establishment of more processing plants to increase value addition to farm produce in order to enhance food preservation and increase prices in the market. There should also be innovative ways to process/preserve perishable food stuffs like milk, fruits and vegetables among others when in excess.

4.1.3 Improvement of infrastructure

Improvement of the infrastructure by building of new roads and repair of the existing ones to improve road networks in the county could enable easy access to markets. The water storage and water harvesting facilities in particular should be devised e.g. building of dams, storage tanks around homes. Empower women through education and appropriate economic incentives to be able to make economic decisions for the family since they are more welfare-oriented than men.

4.1.4 Research on weather and market viability

Research should be encouraged so that farmers may be timely in their farming practices and in case of detrimental weather conditions, they should be made aware in good time. Research could also guide farmers on issues of viability and markets of their produce.

4.1.5 Education and awareness creation

Education and awareness on gender equality in control and access of family resources especially land which has a direct relation on food production and availability should be provided.

4.1.6 Strengthening food security mechanisms

The government should re-introduce and strengthen support mechanisms for food security. This could include ensuring continuous and transparent support of the feeding programs to the needy – school-going children, OVCs and the elderly.

4.1.7 Employment creation

Employment opportunities for youth and women to increase avenues for generating income and scale up entrepreneurship training to encourage people to find new and innovative ways of reducing poverty.

4.2 Key Policy and Program Proposals

The following are some key proposals by AWSC based on recommendations by participants from Kiambu County and literature review on best practices from countries that have implemented programs and legal frameworks for enhancing food security. The research findings, from Kiambu County, illustrate that an average 7.0 per cent, are either often or always hungry. These require strategic interventions to ensure they are food secure.

Food insecurity has been shown to have negative implications, especially for children, and development of their potential, therefore, implementation of the Article 43 (1)(c) of the Constitution which guarantee every person the “right to be free from hunger, and to have adequate food of

acceptable quality”, must be a development priority for Kenyans.

The research findings also shows that regular monthly salary and own production, at 29.6 per cent and 28.6 per cent, respectively, are the main sources of accessing food for residents of Kiambu County. Trade/small business and casual (agriculture and non-agriculture labor) at 20.2 per cent and 16.9 per cent rely, are also important sources of accessing food. These are some of the key areas that the County Government needs to target in an effort to enhance food security. The following are some of the program and policy proposals which AWSC has identified for addressing the food security challenges in Kiambu County;

4.2.1. Support for Food Insecure Households that Depend on Own Production

Given the level of food insecurity in all the counties and the fact that on average at least 7 per cent of the population is often or always hungry, the national government, through County governments should establish a family support program for those severely affected by hunger. Following the example of India and Brazil the Kenyan government can directly focus on the households and ensure that they have access to food through either increased production (28.6 per cent who produce their own food), creation of employment for casual laborers (16.9%) and opportunities for markets and trade (20.2 per cent who engage in trade and small business). As in the case of India, in order to ensure efficient, transparent and targeting of the food poor household, we recommend that a clear legal framework be established to ensure implementation of a family support program that will address this category of Kenyans from this dehumanizing situation and address Article 43(1) (c) of the

Constitution. This will demonstrate that Kenya is truly committed to zero tolerance to hunger and will set the pace for the region. We therefore propose that the government commits more budgetary allocation to support programs aimed at removing the 7 per cent of the Kiambu population from the group of those who are often and always hungry as follows:

- **Targeting Own Producers:** The national and county governments should target each of the 28.6 per cent households who according to research produce their own food to ensure increased food production. The family support program could ensure that the 28.6 per cent households have farm inputs, information and markets for their produce.
- **Stabilizing Farmer's Income:** County government to prioritize buying of food from farmers to ensure minimum guaranteed returns for the farmers.
- **Value addition and Markets:** From the research 15.0 per cent of the respondents said they store food (non-perishable) while 5.1percent store perishable food. Poor storage in addition to lack of markets was a common problem almost faced by all who were interviewed.

4.2.2. One Job for Every Poor Household

The Government should develop a policy that allows the County and National Governments to identify the hungry households and create employment for at least one person in the household for 200 days a year. This will cater for 16.9 per cent of the respondents from the study who said they are engaged in casual labor. The ultimate objective of this project is to create employment for at least 200 days for one person in a poor family for

households with no one with wage employment.

4.2.3. County Storage and Strategic Food Reserves

Wastages and losses incurred as result of attack of produce by diseases and pests, poor weather, destruction by wild animals and lack of adequate storage facilities during surplus production has resulted in massive food insecurity reported during the survey. Therefore the county government should come up with county storage and strategic food reserves.

4.2.4. Rain Water Harvesting

Purchase of material to ensure rain water harvesting in Schools, Health Centers, Urban Centers and equipment/materials for water harvesting such as tanks, pipes, water pumps, borehole drilling machinery and gutters.

4.2.5. Economic Empowerment of Youth and Women

The government's effort to provide employment especially for the youth and women are indeed commendable. The various initiatives like the Women Enterprise Fund, Youth Enterprise Fund and Uwezo Fund will contribute and make it possible for many youth and women to engage in gainful employment. Still, a lot needs to be done. Majority of youth remain unemployed and some even convert to social ills as a means of livelihood. Our research findings showed that 58.1 per cent of the respondents were youth between the age of 15-34 years and increasing the funds will make it possible for them to engage in meaningful employment. The Youth Fund should be increased and more youths trained on how to utilize the funds to avoid mismanagement.

4.3 Conclusion

The study covered Kiambu County extensively to determine the extent of food security in the County. As is evident in the study, Kiambu County is not doing badly as far as food security is concerned given that only 7 per cent of the population is food insecure. However, the County government should put in place immediate interventions to ensure the affected population is food secure.

Under Schedule Four of the Kenya Constitution 2010 the County government is given the responsibility of feeding its people by adopting agriculture as one of its functions. The residents of the county were

therefore very specific in their articulation on what needs to be done to maximize their capacity to make sure that the county becomes food secure. Adoption and implementation of the proposed interventions will ensure that every resident of Kiambu County is food secure which will go a long way towards the realization of the MDG 1, Kenya's development blue print, Vision 2030 and above all, Constitution of Kenya, article 43 (1) (c) that guarantees every person the "right to be free from hunger, and to have adequate food of acceptable quality".

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