

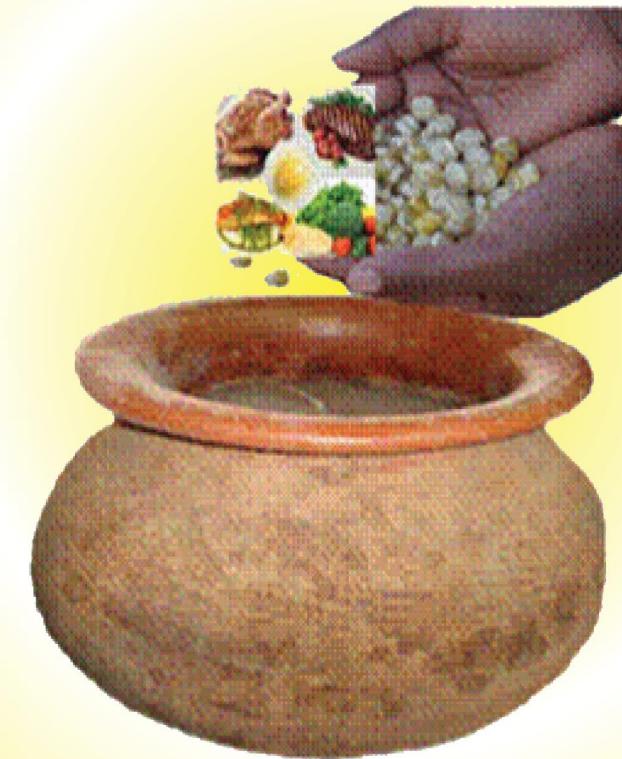
Food Security Research Findings & Recommendations

The research findings and recommendations contained in this report are the result of a collaborative project between the African Women's Studies Centre (AWSC), a multi-disciplinary centre of the University of Nairobi (UoN), and the Kenya National Bureau of Statistics, the principal government agency for collecting, analyzing, and disseminating statistical data in Kenya.

This report presents the key findings of the study and recommendations to ensure food security in Makueni County. The report is part of the findings of a larger study conducted in 20 counties on the status of food security in Kenya. The study assumed a rights-based perspective and was informed by the need for the provision of adequate and quality food as a process and food security as the expected end result. The unique study methodology applied in the study culminated in self-reporting of the status of food security at the household level.

Readers will be privileged to share these findings and recommendations, which evidently provide a wake-up call to both the duty bearers in the provision of food security and those Kenyans whose right to freedom from hunger and access to adequate food of acceptable quality, as stipulated in Article 43 (1)(c), is yet to be fully realized.

Makueni County



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's 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 Demographic and Health Survey
KNBS	Kenya National Bureau of Statistics
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
NFSP	National Food and Nutrition Security Policy
NGOs	Non-Governmental Organizations
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

Definition of Key Concepts

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

Chronic hunger: A constant or recurrent lack of food that results in underweight and stunted children as well as high infant mortality.

Diversity and gender: An important component of food security due to the different roles played by women and men with regard to food security as the majority of women provide about 70 per cent of the labor force, either directly or indirectly, in the agricultural sector in Kenya.

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.

Food access is ensured when households and all individuals within them have physical, economic, and social access to food and utilize adequate and appropriate foods for a nutritious diet.

Food availability is achieved when sufficient quantities of food are consistently available to all individuals within a country. Such food can be supplied through household production, other domestic output, commercial imports, or any other form of assistance such as monetary and food

donations/intergenerational transfers among other sources.

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: An activity or process of producing, preparing, processing, making, preserving, packing or repackaging and or changing the form of food.

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 human health.

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

Food security is a “situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2001; 2010).

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

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.

Food insecurity: A situation that exists when all people do not have physical, social and/or economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life as defined above (FAO, 2010). The absence of food security is a multifaceted problem exhibited by famines and food emergencies. More importantly, food insecurity has a temporal dimension such that it can be chronic or transitory.

Food utilization is the appropriate biological use of food, requiring a diet providing sufficient energy and essential nutrients, including concerning issues relating to availability of clean water and adequate sanitation. Effective food utilization largely depends on knowledge within the household of food storage and processing techniques and basic principles of nutrition.

Global Hunger Index (GHI) is a multidimensional statistic describing national hunger. The GHI measures progress and failures of global anti-hunger efforts and is updated once a year.

Hidden hunger is a lack of essential micronutrients in diets and affects more than 2 billion people worldwide.

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:

- People reside in the same compound;
- People are answerable to the same head; and

- Members share a common cooking arrangement (pool and share their resources for common provisions).

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.

Hunger is generally understood to refer to the discomfort associated with lack of food. The FAO (2010) defines it specifically as consumption of fewer than about 1,800 kilocalories a day – the minimum that most people require to live a healthy and productive life. Many definitions of hunger focus on calories.

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

Malnutrition refers more broadly to both undernutrition (i.e., problems of deficiencies) and over-nutrition (i.e., problems of unbalanced diets) such as consumption of too many calories in relation to requirements with or without low intake of micronutrient-rich foods. Both conditions contribute to poor health.

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.

National Sample Survey and Evaluation Program (NASSEP) frame generally consists of a list of households generated from a number of scientifically selected

villages and estates which ultimately represent other villages in the entire country in surveys that are conducted on the frame.

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 undernutrition.

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

Stability of food availability, access, and utilization (Sustainability) is ensured when a country addresses consistency of supply, access and utilization of foods among all citizens at all times.

Standard meal is a term used in this report to refer to three meals per day with the conventionally recommended calories of fat, carbohydrates, protein, and other nutrients, vitamins, and minerals.

Transitory food insecurity occurs when a population suffers a temporary decline in consumption due to instability in food production, food prices, household incomes, and health conditions.

Under-nutrition signifies deficiencies in energy, protein, essential vitamins and minerals, or any or all of these. Under-nutrition is the result of inadequate intake of food in terms of either quantity or quality or poor utilization of nutrients due to infections or other illnesses, or a combination of these factors.

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.

Acknowledgements

The Makueni Research Project is part of a larger project carried out by the African Women's Studies Centre (AWSC) of the University of Nairobi (UoN). The larger project included 20 counties, namely: Turkana, Kisii, Baringo, Laikipia, Isiolo, Kwale, Mombasa, Nairobi, Elgeyo Marakwet, Trans-Nzoia, Nandi, Bungoma, Taita Taveta, Kiambu, Nakuru, Bomet, Kirinyaga, Migori, Kajiado and Makueni. 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 possible due to 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 (KNBS) led by the Director General, Mr. Zachary Mwangi. The technical team was composed of experts from the UoN and KNBS who carried out the research in the 20 counties and to whom the AWSC is grateful to them.

The Makueni research project was led by Dr. Mary Mbitihi, Dr. Jared Siso and Dr. Godwin Siundu from the University of Nairobi, assisted by Mr. Wellington Waithaka and Mr. Gabriel Mbugua. In the Baseline Survey, the lead researchers worked closely with the team of statistical

officers from the KNBS under the supervision of Sylvester Maingi and Eunice Mbithe guided by Mr. Josiah Kaara and Mr. Bernard Obasi.

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The African Women's Studies Centre also appreciates the contribution of the many individuals and institutions that, though not mentioned by name, earnestly collaborated in this journey towards ensuring no Kenyan family goes to bed hungry, and whose involvement in one way or another, has made this study a great success.

To all of you, we say THANK YOU.
"ASANTENI SANA".



Prof. Wanjiku Mukabi Kabira, EBS
Director, African Women's Studies Centre
University of Nairobi

Executive Summary

The African Women's Studies Centre (AWSC), in recognition of the efforts made by the Government of Kenya towards implementation of food security for all, and in accordance with her mandate to promote women's experiences, knowledge, needs and contributions to influence national and County policies, undertook a countrywide Household Baseline Survey on Food Security in collaboration with the Kenya National Bureau of Statistics (KNBS), to establish the status of food security in the country.

The Baseline Survey was part of a broader Project funded by the Treasury, which included documenting women's experiences on food security in 20 counties, developing programmatic and policy proposals and initiating lobbying and advocacy for policy makers to adopt and allocate budgetary allocations to fund the proposals. This was in line with the efforts to implement the new 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).

This Report presents the results of the Household Survey on the Status of Food Security in Makueni County, which was part of the National Report, and makes recommendations on the way forward for Makueni County. The broad Project objectives¹ were to establish the status of

food security in Kenya and come up with proposals for ensuring food security in the country and share them with policy makers through a consultative process.

This Report is based on the household survey and presents the research methodology, key findings, challenges and recommendations that emerged thereof. The research was carried out in 20 counties selected from the six agro-ecological zones covering 4,200 households in 440 clusters. In addition, the research teams held consultations with policy makers, including County Executive Officers. Among these officers were: the Governors and the Members of the County Assemblies, representatives of civil society organizations (CSOs), institutions responsible for food security, community opinion leaders including religious women and youth leaders. Senior level management of the University of Nairobi and the Kenya National Bureau of Statistics participated in this research. The research team was led by agricultural scientists and economists.

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

The findings show that Makueni County is food insecure, with 21 per cent *often and/or always* hungry. In total, an average of 19 per cent of the respondents suffer from chronic

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

food insecurity. It was revealed that 17.9 per cent of the respondents or members of their Households (HHs), often and/or always went to sleep at night hungry because there was not enough food. It is worth noting that households headed by women were found to be more food insecure than those headed by men.

The main source of accessing food for the majority of Makueni respondents was crop farming or own production at 45.5 per cent. Other sources of accessing food were regular monthly salary at 18.2 per cent, casual labour (agriculture and non-agriculture) at 17.3 per cent and trade/small businesses at 12.7 per cent. Thus, among respondents who said often/always there was a time when there was no food at all in the household, 16.4 per cent were female headed households (FHHs) while 10.1 per cent were male headed households (MHHs). Among those who said they or members of their HHs often/always slept hungry at night, 8.4 per cent were FHHs while 9.2 per cent were MHHs.

Some of the key factors found to contribute to food insecurity in Makueni County included erratic climatic conditions

such as insufficient rainfall and persistent drought; high cost of farm inputs; land fragmentation due to land inheritance and cultural practices thereby making farming uneconomical; large families; lack of storage and preservation facilities leading to post-harvest losses; lack of water for irrigation; lack of finance and credit facilities; lack of information from agricultural extension officers; insecurity, and poor infrastructure in the rural areas.

To address the plight of Kenyans experiencing chronic food insecurity, both in Makueni County and at national level, the AWSC has come up with policy 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, the 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 Makueni 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. 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, the 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 an “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: **(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 represents the boldest move by the Government of Kenya towards achievement of food security and places the responsibility of ensuring food security on the Government through its provision of the right to food (Republic of Kenya, 2010). The right to food 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 and 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

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 at the moment food insecurity in the country 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 and priority.

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 20 Counties Visited



The red asterisks indicate the 20 counties visited.

1.5 Methodology

The methodologies used by the researchers included a household survey where 4,200 households, in 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, Tran Nzoia, Turkana, Baringo, Isiolo, Kwale, Mombasa, Nandi and Laikipia.

Table 1 below gives details of the Agro-Ecological Zones in which the sampled counties fall.

Initial research findings and desk review on institutional, policy and legal frameworks were shared with county governments, members of the county assemblies and members of the Civil Society Organizations for further input.

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
	Uasin Gishu	Nandi
Lowland Highlands	Kericho	Laikipia
	West Pokot	Kakamega
Lowland Midlands	Tharaka Nithi	Kisumu
	Homa Bay	Embu
	Siaya	Kitui
	Busia	
	Kajiado	Bungoma
	Bomet	Taita Taveta
	Makueni	Migori
	Mandera	Tana River
	Wajir	Marsabit
Inland Lowlands	Garissa	Samburu
	Turkana	Isiolo
	Baringo	
	Lamu	Kilifi
	Kwale	
Urban	Nairobi	Mombasa

Source AWSC/KNBS Baseline Household 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.

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.

1.8 Key Research Findings

The research revealed that, on average, 30 per cent 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 per cent 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.

Figure 2: Conceptual Framework of Food Security

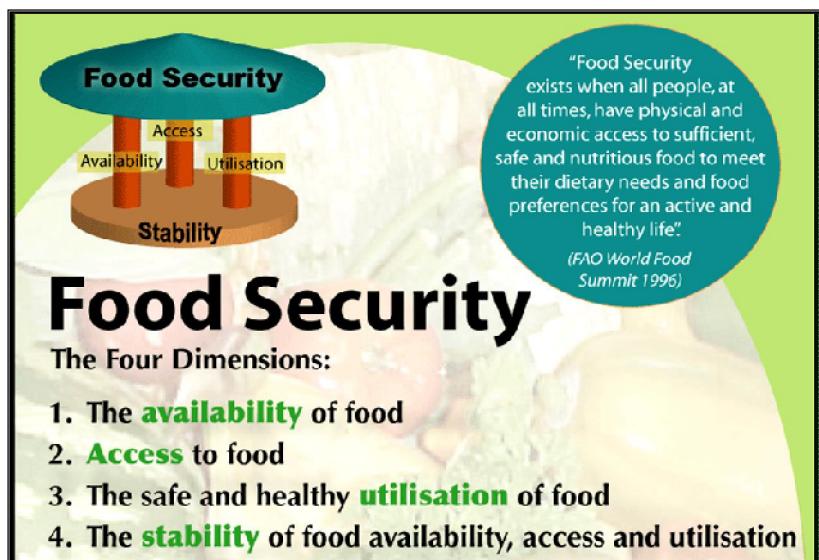


Table 2: The Eight Study Questions Grouped According to Food Availability, Accessibility, Utilization, and Sustainability

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 hungry at night 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?
Utilisation	E2: Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?

Source: FAO, 1996.

Table 3: Manifestation of Hunger in the Last Ten Months

County	Manifestation of Hunger in the Last Ten Months								Average manifestation of food insecurity for the country
	E01: Did you worry that your household would not have enough food? per cent	E02: Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources? per cent	E03: Did you or any household member eat a limited variety of foods due to lack of choices in the market? per cent	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? per cent	E05: Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough? per cent	E06: Did you or any other household member eat fewer meals in a day because there was not enough food? per cent	E07: Was there a time when there was no food at all in your household because there were not enough resources to go around? per cent	E08: Did you or any household member go to sleep hungry at night because there was not enough food? per cent	
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	23.2	27.6	23.6	39.3	31.9	26	17.2	7.5	24.5
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 were 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%). Baringo County ranked eleventh with 17 per cent of the population being affected.

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

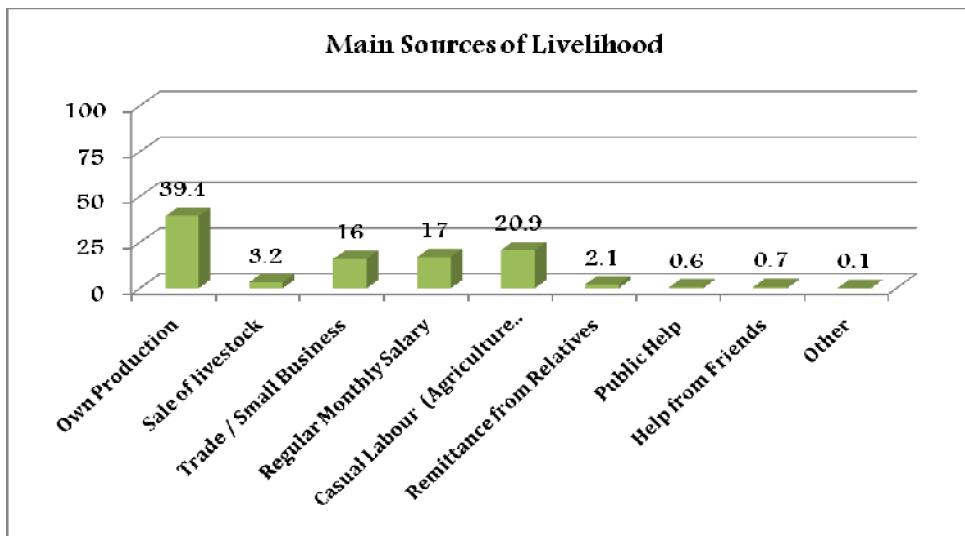
County Name		E07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	E08. Did you or any household member go to sleep at night hungry because there was not enough food?	Average
1	Turkana	59.5	48.1	54
2	Kisii	47.0	35.5	41
3	Migori	35.9	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.

Figure 3: Main Sources of Livelihood



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

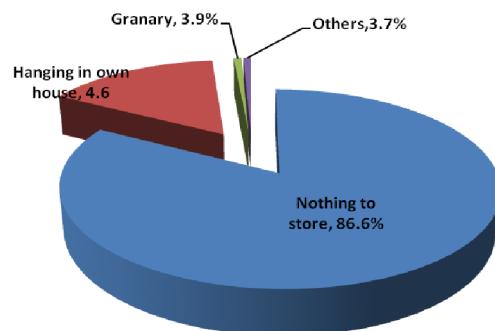
The findings also show that the sources of livelihood for the respondents in the 20 counties were mainly own production (39.4%); casual labor in agriculture and non-agriculture related activities (20.9%); regular monthly salary (17%); trade/small businesses (16%), sale of livestock (3.2%), remittance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

Figure 4: Methods of Food Storage (perishable)

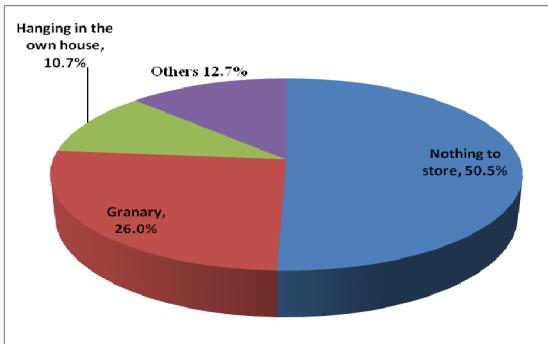


Source: AWSC/KNBS Baseline Household Survey on Food Security, June 2013.

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 5: Methods of Food Storage (non-perishable)



Source: AWSC/KNBS Baseline Household Survey on Food Security, 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. The implementation of Article 43 (1)(c) must therefore 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, dam liners, water pumps, borehole drilling machinery, and gutters to ensure rain water harvesting in schools, health centers and 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 per cent 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 examples 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 2015/2016 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 maximum 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 each per year, 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 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 factors, 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 the loans.

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 Makueni County.

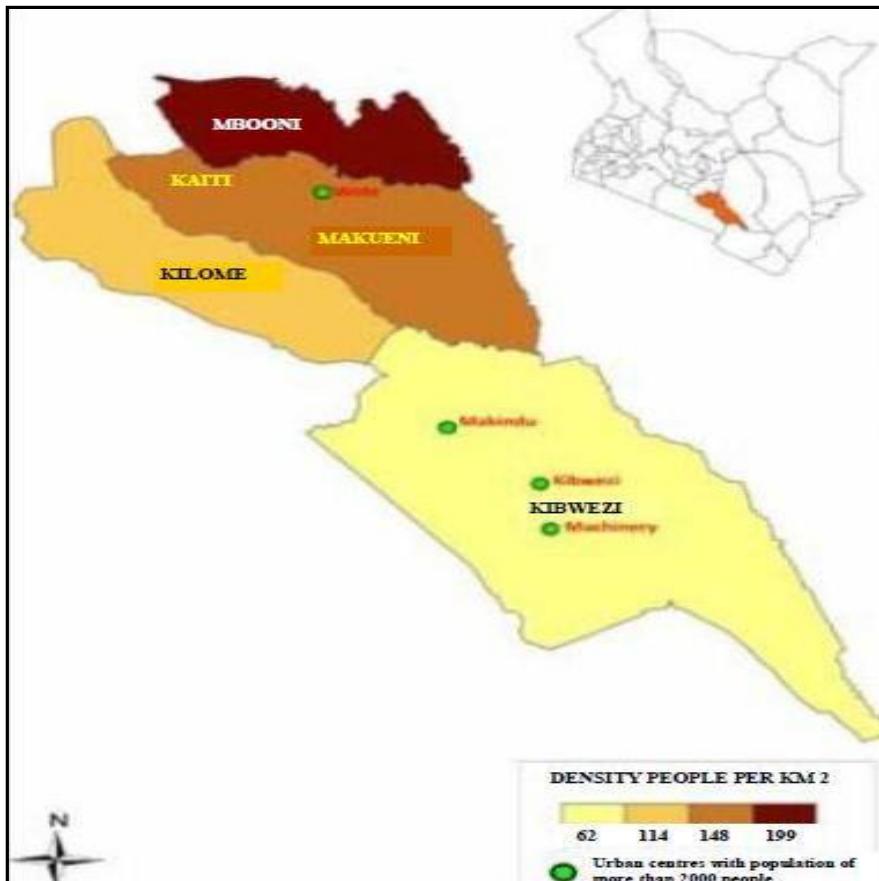
Makueni County Food Security Research Findings

2.1 Introduction

Makueni County is located in the former Eastern Province of Kenya. Its capital and largest town is Wote. The County has a population of 884,527 (male – 49 per cent, female – 51%). The age distribution of the County population is as follows: 0–14 years,

43.7 per cent; 15–64 years, 51.1 per cent; 65+ years, 5.2 per cent while the Age Dependency Ratio is 100:109. The population living in the rural areas accounts for 67 per cent of the total number and 33 per cent of the population lives in urban areas.

Figure 6: Map of Makueni County



Source: www.kenyampya.com/index.php?County=Makueni

Makueni County covers an area of 8,008.9 km². Geographically, it borders Kajiado County to the West, Taita Taveta County to the South, Kitui County to the East and Machakos County to the North. The County lies in the arid and semi-arid zones of the Eastern region of Kenya. Some major physical features of the County include the volcanic Chyulu Hills which lie South West in Kibwezi West constituency, Mbooni Hills in Mbooni constituency, and Kilungu Hills in Kaiti constituency. Makueni County is divided into six sub-counties Parliamentary Constituencies' namely, Kaiti, Makueni, Kibwezi East, Kibwezi West, Mbooni and Kilome. There are 30 Assembly Wards in the County.

Rainfall is often poorly distributed in space and time and mostly inadequate resulting to crop failures and food insecurity. The main economic activities include subsistence agriculture, beekeeping, dairy farming and small scale trade. The main crops are maize, beans, green grams, pigeon peas, sorghum, cassava, cotton and fruits. Various types of fruits such as mangoes, oranges, paw paws and avocados are produced in the area.

2.2 Research Methodology

Makueni County was one of the Counties selected from the Lowland Midlands ecological zone for the AWSC/KNBS baseline

household survey on food security. The research was carried out in the County between 26th June and 2nd July, 2013. The research frame used was the National Sample Survey and Evaluation Program (NASSEP V) developed by the KNBS. This research frame generally consists of a list of households generated from a number of scientifically selected villages and estates which ultimately represent other villages in the entire county in surveys that are conducted on the frame

2.2.1 Research Sample

The research was conducted in ten clusters from which 22 households per cluster were sampled using the NASSEP V frame. Table 5 details the ten clusters that were sampled.

2.2.2 Research Questionnaires

The tools administered for the research in Makueni County were: household questionnaires, an institutional questionnaire (completed by the County Development Officer), key informant questionnaires and focus group discussions schedules.

i) Household Questionnaire

The data was collected using a household questionnaire that was administered to 211 Household Heads (HHHs)

Table 5: Clusters Sampled Using the NASSEP Framework for Baseline Household Survey in Makueni County

District Name	Division	Location	Sub Location	EA Name
Makueni	Kaiti	Ukia	Mukuyuni	Muthini
Makueni	Kilungu	Kilungu	Musalala	Mbokani 'A'
Mbooni	Kalawa	Athi	Kavumbu	Muambani
Kibwezi	Makindu	Makindu	Kai	Yimukame
Kibwezi	Kibwezi	Kikumbulyu	Ngandani	Uthithuni
Makueni	Wote	Wote	Unoa	Shimo la Tewa 'B'
Makueni	Wote	Nzii	Nzii	Nthangathini
Mbooni	Mbooni	Kithungo	Kaliani	Kaliani 'A'
Nzaui	Malili	Ngaamba	Itumbule	Uvunye
Kibwezi	Kibwezi	Kikumbulyu	Mikuyuni	Mjini

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

ii) Key Informant Questionnaire

The key informant questionnaire was used to interview 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 key informants interviewed were drawn from Kathonzweni, Kalawa, Kikumbulyu North, Nziu, Kaiti, Kikumbulyu South, Wote, Ukiya and Kilungu areas.

iii) Institutional Questionnaire

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

Officers. One detailed institutional questionnaire was completed by the County Development Officer.

iv) Focus Group Discussion (FGD)

The FGDs were used as a tool for gathering collective knowledge on food security. Two focus group discussions, with participants drawn from community leaders who included women, men, youth, and persons with disabilities were conducted at Nziu (N=1) and Wote (N=1), using an FGD guide.

v) Debriefing Meeting

After gathering of data using the various research tools, a debriefing meeting was held with key stakeholders, among them county and government officials, Ministry of

Figure 7: Women from Makueni County during Focus Group Discussion



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 debriefing meeting was to give the participants an opportunity to review, input and validate the preliminary research findings on the status of food security in Makueni County.

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, and finally, government and donor support programs in Makueni County.

2.3.1 Demographic Characteristics of Respondents

A summary of demographic characteristics of the respondents interviewed during the Food Security Baseline Survey is considered by age, marital status, level of education, gender and household size of the informants as outlined in the following sub-sections:

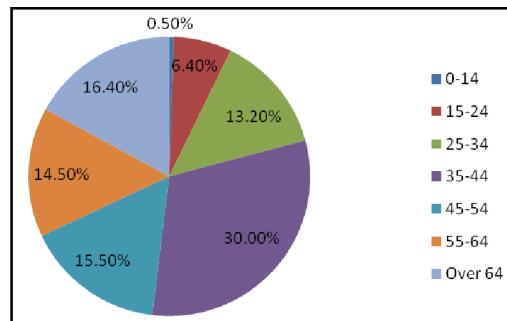
i) Age of Respondents

The age of the head of the household (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 were cross-tabulated and put into broad age groups, starting with children aged 14 years and below. The remaining age groups were spaced at a 10 years interval up to the age of 64 years. The last group, representing the elderly, comprised HH heads above 65 years

of age. Figure 8 illustrates the age groups of the HH heads from Makueni County.

The findings show that the majority of the interviewed persons were mainly in the age group between 35–44 years (30.0%), followed by those in the age group of over 64 years (16.4%). The age group bracket of 45–54 years recorded 15.5 per cent. Those in the age bracket of 55–64 years constituted 14.5 per cent, 25–34 years (13.2%), 15–24 (6.4%) while those below 14 years was 0.5 per cent.

Figure 8: Age of the Respondents

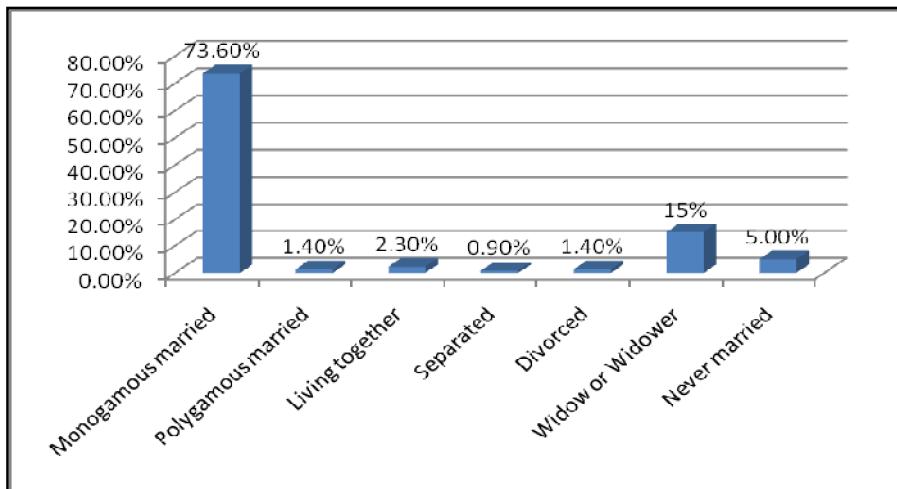


Source: AWSC/KNBS Baseline Household Survey on Food Security, June 2013.

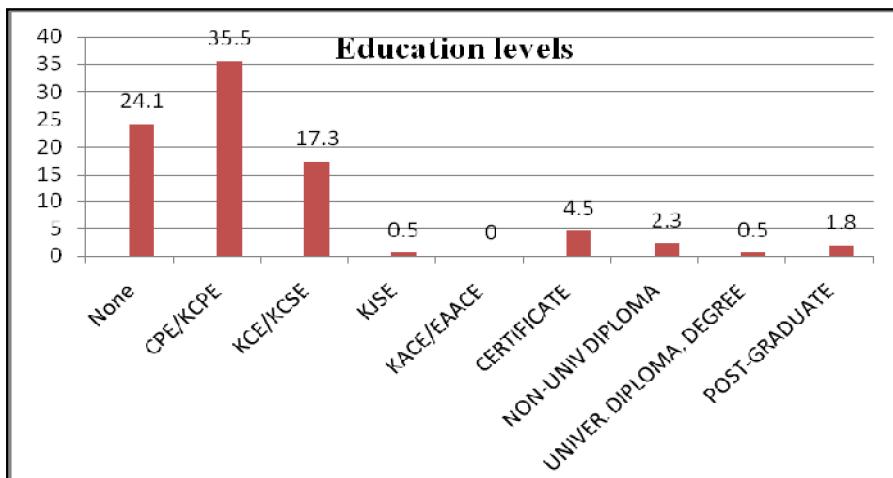
ii) Respondents' Marital Status

The study adopted the conventional socially accepted marriage categories among the target communities, including monogamy, polygamy, separation, divorce, staying together and never married. The marital status of the HH heads is presented in Figure 9.

The baseline findings show that the highest percentage of the households' heads are monogamous (73.6%), 1.4 per cent are in polygamous marriage, 2.3 per cent are living together, 0.9 per cent are separated, 1.4 per cent divorced, 15.0 per cent are either widowers or widows, while 5.0 per cent have never married.

Figure 9: Respondents' Marital Status

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

Figure 10: Respondents' Level of Education

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

iii) Respondents' Education Levels

The study looked at the education level of the HH head as 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 Makueni

County are presented in Figure 10 which shows that while the majority of the household heads interviewed (75.9%) had attained various levels of formal education, a significant 24.1 per cent had no formal education at all. The largest proportion (35.5%) of the HH heads had Primary School

education, 17.8 per cent, had some form of Secondary School education; 4.5 per cent had Tertiary education/ certificate and only 2.3 per cent had University education.

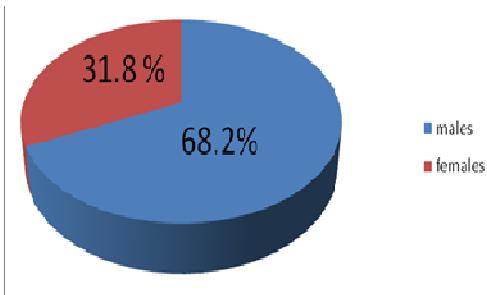
iv) Gender of Household Head

The survey also looked at the biological sex, male or female, of the household head.

Figure 11 presents the findings from Makueni County.

The analysis of data collected during the research demonstrated that out of the 210 HH heads interviewed 68.2 per cent were males and 31.8 per cent were females.

Figure 11: Gender of Household Head



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

v) Household Size

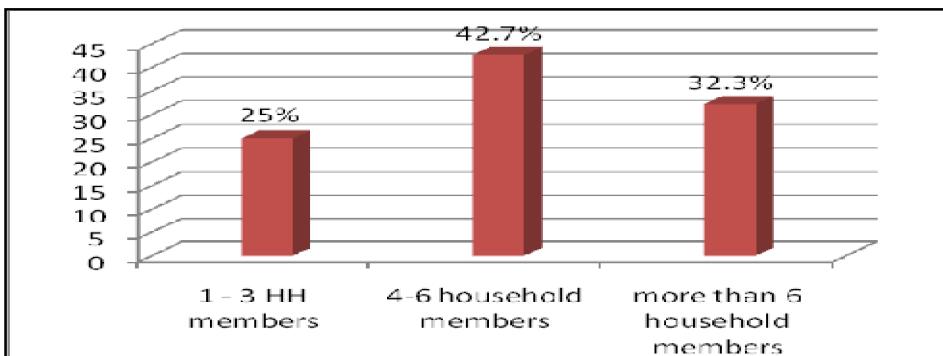
The size of the household, based on the number of members, was considered an important determinant of HH food security. The HHs were classified into three groups: those with 1–3 members, 4–6 members and the largest HH size being considered as having more than 6 members. From the findings, it appears that the majority of the households, 42.7 per cent, had between four and six members, while 25 per cent had between 1–3 members and a significant 32.3 per cent of the respondents had more than six members.

The study findings of HH sizes in Makueni County are presented in Figure 12.

2.3.2 Main Sources of Accessing Food

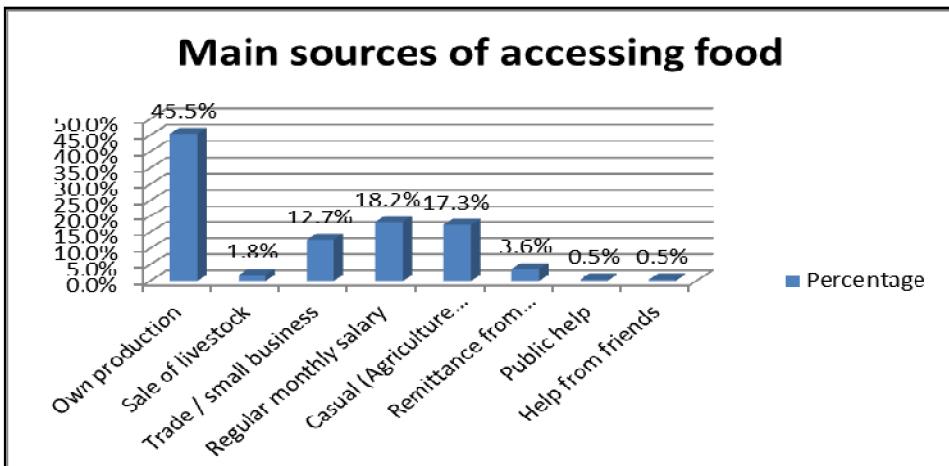
Households need to have sustainable livelihoods to be able to cope with and recover from the shocks and stresses of both high and low food produce and to continue maintaining their capabilities and assets without undermining their natural environment. Sustainable livelihood refers to people's capacity 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 13 shows the main sources of livelihood for the HH heads interviewed in Makueni County.

Figure 12: Number of People Living Together in a Household



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

Figure 13: Sources of accessing food in Makueni County



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

The study showed that the main source of livelihood in Makueni County is own production with 45.5 per cent, followed by regular monthly salary with 18.2 per cent, casual labour with 17.3 per cent and trade/small business with 12.7 per cent, remittances from relatives 3.6 per cent, sale of livestock 1.8 per cent, public help 0.5 per cent and help from friends 0.5 per cent.

2.4 Food Security Situational Analysis in Makueni County

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

2.4.1 Hunger Indicators in Makueni County in the Last Ten Months

The hunger module was used to determine the status of food security at the household level in Makueni County 10 months prior to the survey. 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, using a scale of *never*, *sometimes*, *often* and *always*. *Never* illustrated food security, *sometimes* is a low manifestation of food insecurity, *often* indicated a moderate manifestation of food insecurity and *always* indicated 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 illustrates the results of the hunger indicators in Makueni County.

The findings show that 11.3 per cent and 5.9 per cent of the respondents respectively said that *often* and *always* there was no food at all in the household because there were not enough resources to go around. In addition, 4.3 per cent and 3.2 per cent of the respondents, said that *often* and *always* respectively they 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.

The study also investigated the extent of chronic hunger in Makueni County by

combining and getting the average percentage of the HHs that were often and/or always hungry based on questions E07 and E08. The combined results of

respondents, from Makueni County, who said they were either *often* or *always hungry*, in the last 10 months, are shown in Table 7.

Table 6: Hunger Indicators in Makueni County in the Last 10 Months before the Survey

Hunger Indicators	Never	Sometimes	Often	Always
E1: Did you worry that your household would not have enough food?	24.1	47.9	19.1	9.1
E2. Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	21.8	40.9	22.7	14.5
E3. Did you or any household member eat a limited variety of foods due to lack of choices in the market?	44.5	34.1	8.3	13.2
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?	22.7	43.6	20.5	13.2
E05. Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough?	21.8	44.5	20.9	12.7
E06. Did you or any other household member eat fewer meals in a day because there was not enough food?	23.3	45.2	19.2	12.3
E07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	36.5	42.5	15.1	5.9
E08. Did you or any household member go to sleep at night hungry because there was not enough food?	47.2	34.9	12.8	5.0

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

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
per cent	per cent	per cent
21.0	17.8	19

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

Table 7 shows that on average, for 21.0 per cent of the respondents, often/always there was no food at all in their household because there were not enough resources to go around while 17.8 per cent of the

respondents said they or members of their HHs often/always sleep at night hungry because there was not enough food. On average, 19 per cent of the respondents were suffering from chronic food insecurity.

i) Hunger Indicators by Age of the Household Head

The age of the household head was considered to be an important factor related to food security. From the findings presented in Table 8, it appears that the proportion of the households that were worried about not having food in their households was greatest among those headed by heads aged above 64 years at 23.3 per cent while the lowest percentage showed among households headed by heads in the age group 25–34 years at 10.3 per cent.

Respondents from households headed by heads who are 14 years and below are not hunger stricken. This is so because the proportion of the respondents in the eight questions is zero. This may be attributed to the fact that they are too young i.e. they are dependent of other people who may be

directly concerned with food insecurity in their households, instead.

The proportion of the respondents who were not able to eat the kinds of foods they preferred because of lack of resources is highest among respondents from households headed by heads in the age group 55–64 (25.0%), followed by those in the 45–64 years age group, (22.1%). The proportion in the age group 64 and above was 19.5 per cent. The proportion in the age group 25–34 years had 17.2 per cent and 14.4 per cent for households headed by those in the age group 35–44 while those respondents from households headed by heads in the age group 15–24 years had the lowest proportion at 10.6 per cent.

The proportion of respondents who ate limited variety of food due to lack of choices in the market is highest among households

Table 8: Hunger Indicators by Age of the Household Head

Age	Hunger Indicators by Age of the Household Head							
	EE01: Did you worry that your household would not have enough food?	EE02. Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	EE03. Did you or any household member eat a limited variety of foods due to lack of choices in the market?	EE04. 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?	EE05. Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough	EE06. Did you or any other household member eat fewer meals in a day because there was not enough Food?	EE07. Was there a time when there was no food at all in your household because there were not enough resources to go around?	EE08. Did you or any household member go to sleep at night hungry because there was not enough food?
Often & Always per cent	Often & Always per cent	Often & Always per cent	Often & Always per cent	Often & Always per cent	Often & Always per cent	Often & Always per cent	Often & Always per cent	Often & Always per cent
0–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–24	14.3	10.6	7.1	10.7	10.7	10.7	10.7	7.7
25–34	10.3	17.2	8.6	13.8	15.5	12.1	3.5	8.6
35–44	12.2	14.4	9.1	13.7	12.2	10.8	7.7	4.6
45–54	19.2	22.1	16.2	22.1	23.6	26.5	11.8	11.8
55–64	12.5	25.0	11.0	21.9	21.9	23.5	15.6	14.1
Above 64	23.3	19.5	9.7	18.1	17.0	15.3	15.3	9.8

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

heads in the age group 45–54 (16.2%) and lowest among respondents from households with heads in the age group 15–24.

Table 8 also shows that the proportion of respondents who ate food they preferred not to eat due to lack of resources to obtain other types is high and relatively high among the respondents from elderly household heads aged 45 and above and low among respondents from households with younger household heads. This may be attributed to the fact that young people are energetic and have the potential to work in order to obtain food.

Hunger is manifested further by the proportion that ate smaller meals in a day. Table 8 shows that this proportion is also highest among respondents from households headed by heads in the age group 45–54 (23.6%) and lowest among respondents from households headed by heads in the age group 15–24 (10.7%).

It is further revealed that the proportion of respondents who ate fewer meals in a day because there was not enough food in the household is high among respondents from households headed by older heads as compared to those that are headed by younger heads. This proportion is highest among households that are headed by heads in the age group 45–54 and lowest among respondents in the age group 15–24 with 26.5 per cent and 10.7 per cent respectively.

Table 8 also shows that the degree of manifestation is very high among the respondents from households headed by older heads compared to those that are headed by younger heads. This is reflected by the proportion that had a time when there was no food at all in the household because there were not enough resources to go round. This proportion is highest among respondents whose heads are in the age group 55–64 (15.6%) and lowest among

respondents in the age group 25–34 (3.5%). It is also manifested by the proportion that had a time when they or anybody in the household went to sleep hungry at night because there was not enough food. The proportion is highest among respondents from households in the age group 55–64 and lowest among respondents from households headed by heads in the age group 35–44 years at 14.1 per cent and 4.6 per cent, respectively.

The data in Table 8 thus shows a varied correlation between age and food insecurity. Those that were between 45 and 64 years had a high level of food insecurity as they recorded double digit percentage while those HHs that were below 44 years recorded single digit percentage. The largest proportion of HHs experiencing chronic food insecurity, those for whom *often/always* there was a time when there was no food at all in the household, at 15.6 per cent and those that *often/always go to sleep at night hungry* at 14.1 per cent, were headed by persons 55– 64 years of age.

ii) Hunger Indicators by Marital Status of the Household Head

The research also sought to know the relationship between food security and the marital status of the household head, and therefore socially accepted marital status was used to collect this information. Table 9 shows that the proportion of the respondents who were worried that their households would not have enough food was greater among respondents with separated household heads (25 %) and lowest among those who have never married (4.6%). The proportion of households that were not able to eat the kinds of foods they preferred to eat due to lack of resources was greatest among households headed by separated heads (50%) and lowest among respondents whose heads have never married (9.1%).

Table 9 also shows that the proportion of those who ate limited variety of foods due to lack of choices in the market is higher in the households headed by separated heads (50%) and lowest among those who are in polygamous marriage (0.0%) and those who are divorced (0.0%).

The results suggest that the proportion of those who ate food they did not prefer to eat due to lack of resources to obtain other types is highest among respondents whose households heads are divorced (33.4%) and lowest among the respondents who have never married (9.1%).

Table 9 further shows that the proportion of households that ate smaller meals in a day because of lack of resources to obtain enough is higher in the households headed

by separated heads and lowest among those that are headed by heads who are never married, at 25.0 per cent and 9.1 per cent, respectively. In terms of households that had fewer meals in a day because there was not enough food, the proportion was higher in the households headed by heads that are separated and lower among respondents from households that are headed by divorced heads also at 25 per cent and 9.1 per cent, respectively.

Table 9 also reveals that the proportion of households that had a time when there was no food at all in the household was higher in the polygamous households at 33.4 per cent and lowest among monogamous households at 8.7 per cent.

Table 9: Hunger Indicators by Marital Status of the Household Head

Marital Status	Hunger Indicators by Marital Status of the Household Head							
	EQ1: Did you worry that your household would not have enough food?	EQ2. Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	EQ3. Did you or any household member eat a limited variety of foods due to lack of choices in the market?	EQ4. 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?	EQ5. Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough	EQ6. Did you or any other household member eat fewer meals in a day because there was not enough Food?	EQ7. Was there a time when there was no food at all in your household because there were not enough resources to go around?	EQ8. Did you or any household member go to sleep at night hungry because there was not enough food?
Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always
per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent
Monogamous	13.3	17.3	11.8	16.1	16.4	14.9	8.7	8.8
Polygamous	16.7	16.7	0.0	16.7	16.7	16.7	33.3	16.7
Separated	25.0	50.0	50.0	25.0	25.0	25.0	25.0	25.0
Divorced	16.7	16.7	0.0	33.4	16.7	16.7	16.7	16.7
Widow or Widower	16.7	21.3	6.1	16.7	18.2	19.7	15.2	7.6
Never married	4.6	9.1	4.6	9.1	9.1	9.1	9.1	4.6

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

Finally, the proportion of the respondents who ever went to sleep at night hungry because there was not enough food in the household is greater in the households headed by heads who are separated and lowest among respondents from households headed by heads who have never married at 25.0 per cent and 4.6 per cent respectively.

iii) Hunger Indicators by Level of Education of Household Head

The study investigated the relationship between the level of education of the HH heads and food security. The findings on the status of food security by educational level as presented in Table 10 reveal that households headed by heads who are of preschool level of education are more food insecure as

compared to households headed by heads with primary and higher level of education.

The results in Table 10 further show that none of households headed by heads with university diploma or certificate were worried that their households would not have enough food while the proportion was greatest among respondents from households headed by heads with preschool education (17.9%). The proportion of households that were not able to eat the kinds of foods they preferred to eat due to lack of resources is very high in the households headed by heads with preschool level of education (23.6%) as compared to the proportion of respondents from households headed by heads with secondary school level of education and above.

Table 10: Hunger Indicators by Level of Education of the Household Head

Level of Education								
	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?
Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always
per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent
Pre-School	17.9	23.6	10.4	22.7	23.6	21.7	16.1	13.2
Primary	16.7	19.3	13.5	18.0	18.6	16.7	9.6	8.5
Secondary	17.7	12.8	7.7	6.4	6.4	6.5	3.9	1.3
Non-University/ Diploma/ Certificate	3.4	6.7	3.4	6.7	3.4	10.7	0.0	0.0
University Diploma & Degree	0.0	10.0	0.0	10.0	10.0	10.0	10.0	10.0

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

Table 10 also suggests that the proportion of those who ate limited variety of foods due to lack of choices in the market is higher in the households headed by heads with primary level of education (13.5%) than those headed by heads with preschool level of education (10.4%). None of the respondents from households headed by university level educated head and above ate limited variety of food due to lack of choices in the market.

The results show that the proportion of those who ate food they did not prefer to eat due to lack of resources to obtain other types is more than twice as high in households headed by heads with preschool education as compared to those with university diploma/certificate (22.7%) and (10%) respectively.

The findings show the same trends regarding the proportion of households that ate smaller meals in a day because of lack of resources to obtain enough where heads of preschool level of education registered 23.6 per cent as compared to those with higher educational level at 10 per cent and a similar proportion between the two categories of households was maintained regarding the question if they ever had fewer meals in a day because there was not enough food at 21.7 per cent and 10 per cent respectively.

It is also shown in the table that the proportion of households that had a time when there was no food at all in the household was higher in the households headed by heads with preschool level of education as compared to those headed by heads with secondary school certificate at 16.1 per cent and 3.9 per cent respectively. Finally, the proportion of the respondents who ever went to sleep at night hungry because there was not enough food in the household is greater in the households headed by heads with preschool level of education than the households headed by heads with secondary school certificate at 13.2 per cent and 10 per cent, respectively. It

is notable that among household heads who had non university/diploma/certificates, none had a time when there was no food in the household and none slept hungry.

iv) Hunger Indicators by Gender of the Household Head

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.

According to Table 11, the findings show that the proportion of households headed by females that were worried that their households would not have enough food is slightly higher at 14.4 per cent than that of male headed households at 13.7 per cent. The proportion of households that were not able to eat the kinds of foods they preferred to eat due to lack of resources is almost equal in households headed by males and females but at 18.4 per cent slightly higher in the households headed by females than the 18.2 per cent of male headed households. Table 11 also shows that the proportion of those who ate limited variety of foods due to lack of choices in the market is significantly higher in the households headed by males than those headed by females at 3.8 per cent. The results show that proportion of those who ate food they did not prefer to eat due to lack of resources to obtain other types is equal in both households headed by males or females (16.7%).

The Table further shows that the proportion of households that ate smaller meals in a day because of lack of resources to obtain enough is higher in the households headed by females compared to those that are headed by males at 17.5 per cent and 16.7 per cent respectively. In terms of the households that had fewer meals in a day because there was not enough food,

Table 11: Hunger Indicators by Gender of the Household Head

Gender	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?
Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always
per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent
Male	13.7	18.4	13.4	16.7	16.7	16.1	10.1	9.2
Female	14.4	18.2	3.8	16.7	17.5	15.9	16.4	8.4

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

the proportion was higher in the households headed by males than those that are headed by females at 16.1 per cent and 15.9 per cent respectively.

Table 11 also shows that the proportion of households that had a time when there was no food at all in the household was higher in the households headed by females as compared to those headed by males at 16.4 per cent and 10.1 per cent respectively. Finally, the proportion of the respondents who went to sleep at night hungry because there was not enough food in the household is greater in the households headed by males than the households headed by females at 9.2 per cent and 8.4 per cent respectively.

The data shows that FHHs were more likely to experience food insecurity while MHHs were more likely to suffer chronic food insecurity with 10.1 per cent MHHs saying *often/always* there was a time when there was no food at all in their household because there were not enough resources to go around compared to FHHs with 16.4 per cent

and 9.2 per cent of MHHs who went to sleep hungry because there was not enough food, compared to FHHs, at 8.4 per cent.

v) Hunger Indicators by Household Size

The AWSC sought to know whether there was a relationship between the size of the household and food security in Makueni County. The sizes were categorised into three groups: those with 1–3 HH members, 4–6 HH members and those with more than 6 HH members. The results have been tabulated in Table 12 which shows that food insecurity increased with the increase in the number of members in the household, that is, the bigger the household size, the more food insecure that household is. Results in this Table reflect the above pattern across all the eight questions.

The percentage that worried that their household would not have enough foods was 11.0 per cent in the households with 1–3 members, 12.2 per cent in the households

with 4–6 persons and 19.1 per cent in the households with more than 6 persons. The proportion that ate the kinds of food that they did not prefer because of lack of resources was 13.7 per cent in the households with 1–3 persons; 17.6 per cent in the households with 4–6 persons and 24.0 per cent in the households with more than 6 persons.

The proportion of respondents who ate the kinds of foods they did not prefer because of lack of choices in the market was 7.3 per cent in the households with 1–3 persons, 9.6 per cent in the households with 4–6 persons and 14.8 per cent in the households with more than 6 persons.

The proportion that ate what they did not prefer due to lack of resources was 11.9 per cent in the households with 1–3 persons, 16.0 per cent in the households with 4–6 persons and 21.8 per cent in the households with more than 6 persons. The proportion of the respondents that ate smaller meals in a

day is 10.0 per cent in the households with 1–3 persons, 15.5 per cent in the households with 4–6 persons and 24.0 per cent in households with more than 6 persons.

The proportion of the respondents that ate fewer meals in a day is 10.0 per cent in households with 1–3 persons, 13.3 per cent in the households with 4–6 persons and 23.6 per cent in households with more than 6 persons. The proportion of the respondents whose households had a time when there was no food at all in the household is 6.4 per cent in the households with 1–3 persons, 8.0 per cent in the households with 4–6 persons and 17.2 per cent in households with more than 6 persons.

The proportion of the respondents who had a time when they slept hungry because there was not enough food in the household is 7.5 per cent in the households with 1–3 persons, 5.9 per cent in the households with 4–6 persons and 22.8 per cent in the households with more than 6 persons.

Table 12: Hunger Indicators by Household Size

Household Sizes	Hunger Indicators							
	ED1: Did you worry that your household would not have enough food?	ED2. Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?	ED3. Did you or any household member eat a limited variety of foods due to lack of choices in the market?	ED4. 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?	ED5. Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough	ED6. Did you or any other household member eat fewer meals in a day because there was not enough Food?	ED7. Was there a time when there was no food at all in your household because there were not enough resources to go around?	ED8. Did you or any household member go to sleep at night hungry because there was not enough food?
	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always	Often & Always
per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent
1–3 Persons	11.0	13.7	7.3	11.9	10.0	10.0	6.4	7.5
4–6 Persons	12.2	17.6	9.6	16.0	15.5	13.3	8.0	5.9
More than 6 persons	19.1	24.0	14.8	21.8	24.0	23.6	17.2	22.8

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

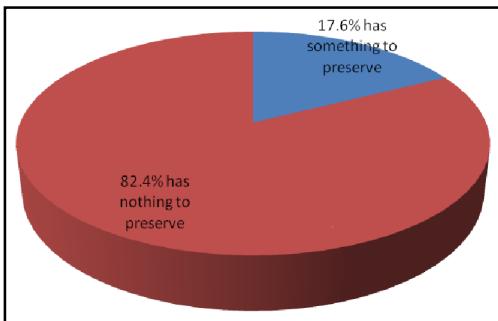
2.5 Food Preservation and Storage Methods

Preservation of post-harvest surpluses of seasonal food crops such as cereals, fruits and vegetables is an important aspect of food security, as it makes the food available and affordable during off seasons. 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 Study investigated preservation of food/s by the target HHs of excess non-perishables and perishables. The non-perishable foods comprised cereals such as maize and beans while the perishable foods comprised fruits, vegetables, milk and meat products. The findings on those who had or did not have any perishable and non-perishable foods to preserve are presented in Figures 13 and 14 respectively.

2.5.1 Preservation of Perishable Foods

Figure 13: Preserving Perishable Foods



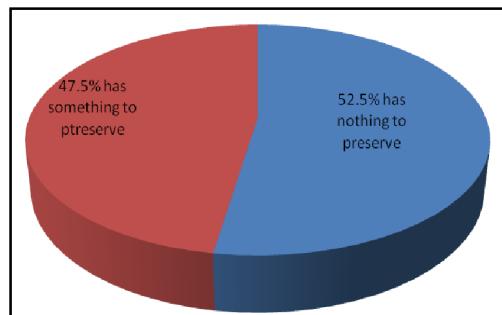
Source: AWSC/KNBS Baseline Household Survey on Food Security, June 2013

From Figure 13 it is evident that when it comes to preservation of perishable foods, 82.4 per cent of the respondents in Makueni County have no perishable food to preserve and only 17.6 per cent of the respondents have something to preserve.

2.5.2 Preservation of Non-Perishable Foods

The Study results showed that 52.5 per cent of the respondents in Makueni County do not have any non-perishable foods to preserve while 47.5 per cent have something to preserve. These results are presented Figure 14.

Figure 14: Preserving Non-Perishable Foods

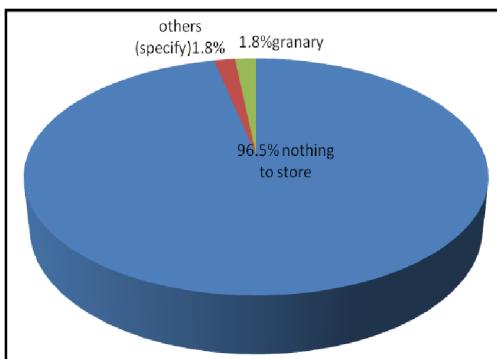


Source: AWSC/KNBS Baseline Household Survey on Food Security, June 2013.

2.5.3 Storage of Perishable Foods

The Study investigated the various methods that were used to store excess perishable and non-perishable foods. The findings on the storage methods used by the respondents to store perishable foods from the target HHs is presented in Figure 15.

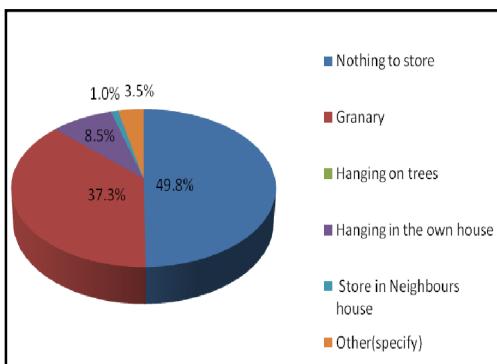
The findings show that 96.5 per cent of the respondents have no perishable foods to store while equal proportions of 1.8 per cent store in the granary and in other non-specified methods.

Figure 15: Methods of Storing Perishable Foods

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

2.5.4 Storage of Non-Perishable Foods

The findings further show that 49.8 per cent of the respondents have no non-perishable foods to store and out of those who have something to store, 37.3 per cent store it in the granary, 8.5 per cent hang it in their own houses, 1 per cent store in their neighbours' houses, while 3.5 per cent use other methods of storing non-perishable foods as demonstrated by Figure 16.

Figure 16: Methods of Storing Non-perishable Foods

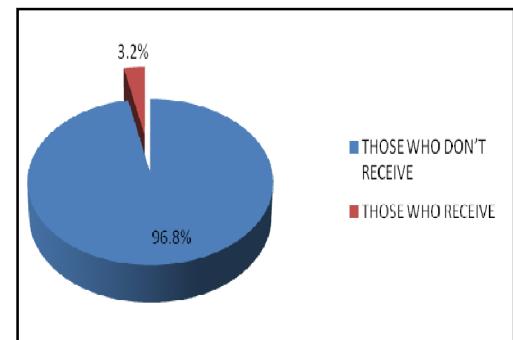
Source: AWSC/KNBS Baseline Household Survey on Food Security, June 2013.

2.6 Government and Donor Support Programs in Makueni

There were various social protection programs offered by development agencies, including the Kenyan Government, as well as local and international donors aiming to promote household resilience of people who lack access to sufficient food supplies so as to meet their daily needs. The programs target vulnerable categories of the society, among them orphans and vulnerable children (OVCs), people living with HIV/AIDS, persons with disability, and the vulnerable elderly. The programs were implemented relief food and/or through cash transfer.

2.6.1 Beneficiaries of the Available Food Support Programs

Figure 17 illustrates the percentages of the respondents who received benefits from the Food Support Program in Makueni County. From the pie chart, it becomes obvious that only 3.2 per cent of the respondents benefited from the Food Support Programs (FSP).

Figure 17: Beneficiaries of Food Support Programs

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

2.6.2 Rating of Food Support Programs

The participants were asked to rate the various government, church and other donor support programs based on their adequacy and quality of support that was gauged on a scale of *good, average or poor*. The findings on the assessment of food support Programs, in Makueni County, are presented in Table 13.

From the Table, it is shown that only 0.5 per cent of the respondents receive help from the OVC Cash Transfer Program. However, all 100 per cent of them rated the Program as adequate but they were not equally well satisfied with the services provided, with 50 per cent of the recipients rating the services provided by the Program as good while 50 per cent said the services are poor.

None of the interviewed respondents were beneficiaries of the Vulnerable Elderly Persons Cash Transfer Program, but 100 per cent of them indicated that the support provided by the Program is inadequate. Regarding the Hunger Safety Net Support, 16.7 per cent said the support provided is adequate with 83.3 per cent saying it was

inadequate with only 2.7 per cent of the respondents being beneficiaries of this support program. When rating its services, 50 per cent rated them as good, 16.7 per cent as average and 33.3 per cent said the services are poor.

Regarding the Food Rations Support Program, 8.2 per cent of the respondents in Makueni County confirmed being beneficiaries of that Program but only 17.6 per cent of them indicated it was adequate, while 82.4 per cent rated it as inadequate. On rating the support services, 23.5 per cent of the respondents rated the services provided by the Program as good, 35.3 per cent as average, and 41.2 per cent as poor.

The beneficiaries of the Food for Work Program accounted for 2.7 per cent of the respondents and 100 per cent of them said it was inadequate with 25 per cent rating its services as good and 75 per cent as average. Those who receive seeds and fertilizer inputs support accounted for 4.5 per cent of the respondents and on rating it, 81.8 per cent said the support is inadequate with 18.2 per cent rating its services as good, 63.6 per cent as average and 18.2 per cent as poor.

Table 13: Rating of the Various Food Support Programs

Type of Support	Households that Receive Support per cent	Rating the adequacy of the programme		Rating the quality of services provided by the programme		
		Adequate per cent	Inadequate per cent	Good per cent	Average per cent	Poor per cent
Receive help for Orphans and Vulnerable Children	0.5	100.0	0.0	50.0	0.0	50.0
Receive help from Vulnerable Elderly persons	0.0	0.0	100.0	0.0	0.0	0.0
Receive Hunger Safety Net Support	2.7	16.7	83.3	50.0	16.7	33.3
Receiving Food rations	8.2	17.6	82.4	23.5	35.3	41.2
Irrigated farming support	0.9	50.0	50.0		100.0	
Food for work Program	2.7	0.0	100.0	25.0	75.0	0.0
Seeds and fertilizer inputs support	4.5	18.2	81.8	18.2	63.6	18.2
Constituency Development Fund support	2.8	16.7	83.3	16.7	66.7	16.7
Constituency Bursary Fund support	2.3	50.0	50.0	50.0	50.0	
National fund for the Disabled in Kenya Support	0.0	0.0	0.0	0.0	0.0	0.0
School Feeding Programs	4.1	12.5	87.5	25.0	75.0	

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

The other available government support programs in the County are the Constituency Development Fund Support and the Constituency Bursary Support Fund. The respondents who indicated they are recipients of the Constituency Development Fund Support were 2.8 per cent with 16.7 per cent rating it as adequate, 83.3 per cent as inadequate, whereas 16.7 per cent of those respondents rated the Program's services as good, 66.7 per cent as average, and 16.7 per cent as poor.

For the Constituency Bursary Fund Support, 2.3 per cent indicated they were recipients with 50 per cent rating it as inadequate and 50 per cent rated its services as good while 50 per cent rated them as being average.

Concerning the School Feeding Program, 4.1 per cent of respondents receive benefits from this Program, of whom 12.5 per cent rated it as adequate with 25 per cent rating its services as good and 75 per cent rating them average. Lastly, none of the respondent said he/she was a beneficiary of the National Fund for the Disabled in Kenya Support.

Evidently, with the exception of the help for the orphans, most of the residents feel that the help availed to them is inadequate. This provides a platform for solution oriented consultations to take place within the County government in order to provide an effective solution.

2.7 Challenges to Food Security

As illustrated in the research findings, Makueni County was found to be one of the Counties that are food insecure with an average of 19 per cent *often* or *always* experiencing chronic food insecurity. The study participants cited various challenges that contributed to food insecurity in the County:

- i) Absence of water dams and water harvesting facilities and practices.
- ii) Poor farming methods, mainly due to insistence of traditional farming methods and lack of quality fertilizers and seeds.
- iii) Youth unemployment, coupled with poverty due to lack of avenues to access money to purchase food.
- iv) Exploitation by middle-men due to the poor infrastructure in terms of roads. The bad roads limit the farmers' ability to transport produce from their farms to the market.
- v) Cases of dependence created by famine relief efforts in the area.
- vi) Limited market, coupled with a lack of storage facilities, has lead to wastage of farm produce such as mangoes and oranges.
- vii) Lack of accountable and transparent leadership, especially in the disbursements of funds from Cash Transfer Programs and other government support programs.
- viii) Unplanned families (larger families).
- ix) There are very few areas in Makueni where the land is arable and good enough for farming such that the land will produce a harvest that corresponds to the amount of effort put into the cultivating.

2.8 Information on Food Security Issues from Key Informants

This section presents the information on food security gathered from the key informants who included community opinion leaders comprising youth, women, religious, political and persons with disabilities leaders.

2.8.1 Main Livelihood Activities

The major livelihood activities in Makueni County were: crop farming, small retail business, livestock keeping, and employment. Of the female key informants interviewed in Makueni, 57 per cent reported that they were involved in crop farming while only 43 per cent of the male respondents were involved in crop farming. More men than women were involved in livestock keeping while the same proportion of men and women reported that engagement in small business was a major livelihood activity. The same proportion of men and women also considered employment to be a major livelihood activity in the County.

2.8.2 Main Food and Consumption Patterns

When the key informants in Makueni were asked what their main food was, 66.7 per cent of the women indicated that *githeri/muthokoi* was their main food while only 33.3 per cent of the men reported *githeri/muthokoi* as their main food. Most men indicated *ugali* as their main food. When asked what they ate their main meal with, 67 per cent of the women said they ate it with green vegetables while only 33 per cent of the men ate the main meal with vegetables. A similar proportion of men and women indicated that they ate the main meal with legumes. Other foods consumed in Makueni included rice, legumes, tubers and bananas.

2.8.3 Challenges in Engaging in Livelihood Activities

A similar proportion (50%) of men and women key informants cited poor soils as the major challenge in engagement in livelihood activities. Sixty seven per cent of the women also cited drought and unreliable rainfall as a

challenge compared to 33 per cent men who cited the same. Women also cited lack of market at 100 per cent, while men saw lack of storage facilities as a big challenge at 100 per cent. Other challenges mentioned were high costs of inputs and laziness.

2.8.4 Access to Food

Seventy one per cent of the female respondents indicated that they produced their own food while only 29 per cent of the male respondents reported that they grow their own food. More male respondents (67%) accessed food by purchasing while only 33 per cent of the female respondents purchased food.

2.8.5 Opinion on Food Adequacy

When the respondents were asked if Makueni County had adequate quantities of food, 60 per cent female and 40 per cent male respondents thought that the County had adequate food supply.

2.8.6 Coping Strategies

From the interviews of the key informants, women and men used different coping strategies with food shortage. Most women indicated that they relied on relief food. Men, on the hand, reported being involved in casual labour to obtain food. Some women also mentioned stealing of food as a coping strategy.

2.8.7 Access to Land and Use

When the informants were asked if men and women had equal access to land, most men (80%) said "yes" as compared to only 20 per cent of the women. Asked what they used the land for when they accessed it, 66.7 per cent of the women and only 33.3 per cent of the men informants mentioned crop farming as the main land use activity.

2.8.8 Availability of Markets

The respondents were also asked if there were markets to buy food from or sell their produce. Eighty three per cent of the women said markets to sell produce were available while only 17 per cent of the men said markets were available to sell produce. On the availability of markets to buy food from, 62.5 per cent of the women said markets were available while only 37.5 per cent of the men said the same.

2.8.9 Access to Government Food Programs

Asked how they accessed government food support related programs, both men and women at equal proportion said they accessed through relief food. Women also mentioned that they accessed support through provincial administration while men indicated that they received support through capacity building on farming methods.

2.8.10 Suggestions to Improve Government Food Support Programs

When asked about suggestions on how to improve government support programs, women respondents mentioned transparency in identification of the beneficiaries, followed by increasing the amount of support. Men, on the other hand, felt making the programs accessible to all and increasing the support were the most important. Both men and women also suggested capacity building on modern agricultural farming methods.

2.8.11 Opinion on Community Involvement

When the key informants in Makueni were asked their opinion on community involvement when addressing food insecurity issues, a similar proportion (50%) of male and female respondents rated the community as being very actively involved,

while 67 per cent women and 33 per cent men rated the community as being just involved.

2.8.12 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 the responses between men and women became quite obvious. A hundred per cent of the women respondents indicated lack of credit facilities and unemployment as economic hindrances while men thought these were not hindrances. Men, on the other hand, mentioned high cost of seeds as the major hindrance. Both men and women mentioned lack of income as a hindrance. On social issues, men cited negative attitudes towards agriculture as a major hindrance while women mentioned drug/alcohol abuse, laziness and family disputes as hindrances to the attainment of food security in the county.

2.8.13 Options that could be used to Ensure Attainment of Food Security

Most women respondents made some important suggestions such as the provision of irrigation water, water harvesting, and access to credit/financial facilities. Men, on the other hand, recommended improved infrastructure, water harvesting and access to affordable seeds.

2.9 Summary of the Research Findings

The findings show that the majority (45.5%) of the respondents from Makueni County relied on crop farming/own production while 18.2 per cent depended on regular monthly salaries as their main sources of accessing food. Another 17.3 per cent relied on casual

labour (agriculture or non-agriculture-related) and 12.7 per cent relied on small businesses.

The proportion of respondents who said *often/always* had no food at all in their households because there were not enough resources to go around was 21 per cent while 17.9 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.

In total, an average of 19 per cent of the respondents suffer from chronic food insecurity. It is worth noting that FHHs were more likely to be food insecure although MHHs were more likely to suffer chronic food insecurity. This means that 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 needs of the individual food insecure households.

Discussion and Analysis

3.1 Introduction

This Chapter discusses the key findings of the Baseline Survey in Makueni County on food availability, access, sustainability and utilization. The focus is on the crucial issues raised by participants from Makueni County during the Household Survey, namely: demographic data; sources of accessing food; and general issues relating to food security such as availability, access, consumption and sustainability

3.2 Demographic Data and Hunger

3.2.1 The Relationship between Age and Hunger

The research findings from Makueni County show an inverse relationship between the age of the household head and food security. This means that an increase in the number of years of the household head (till the age of 64) decreases the chances of food insecurity for the household. The research findings reveal that household heads in the age group of below 14 years, 15–24, and those in the age group of 64 and above are more food insecure than those in the age brackets of 25–34, 35–39 and those who are 40–44 years. 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 mature 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 the dependency age groups who are either in school or too old to work and have retired.

3.2.2 Marital Status and Hunger

Regarding the relationship between marital status of respondents and household food status, the findings reveal that the highest percentage of households which are food secure are the households headed by unmarried people because the married heads are likely to have larger families to feed than the single household heads. Although households headed by divorced, separated and widowed household heads are expected to be more food insecure, households headed by those in a “living together” type of relationship registered the highest levels of food insecurity.

3.2.3 Gender of the Household Head and Hunger

The research findings revealed that female headed households were more food insecure than the male headed ones, a situation that may have been attributed to various forms of discrimination which make female-headed households more vulnerable to food insecurity and poverty. Other surveys reveal relatively similar demographic characteristics. For example, the Kenya Population and Housing Census, 2009, indicates an insignificant difference in the numbers of the female population at 50.2 per cent while the males are at 49.8 per cent. However, at 70.2 per cent, the percentage of male-headed households is very much higher as compared to the 29.8 per cent of households headed by women. This may be so because women’s land ownership rights

are restricted which was an issue that came up during the focus group discussions as well as in oral testimonies. Inadequate education and outdated social traditions usually limit the ability of women to improve the food security status of their households and the community at large. Women are also discriminated against in terms of labour input, decision-making and access to or control of production resources which may be reflected in the overall food production and security.

3.2.4 Relationship between Level of Education 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, that is, 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 or inaccessibility of food since the better educated people will be able to use modern methods of farming and they also have access to good jobs which, in turn, increases their purchasing power. Therefore, the County government should improve the education sector since learning improves the capacity of people to diversify resources and activities, increase output and income, promote resilience and competitiveness, access information on health and sanitation, and strengthen social cohesion since these are all essential elements to ensure food security.

3.2.5 Relationship between Household Size and Food Security

The research findings showed that the household size has a relationship with food security. Households with more members are

said to be more food insecure than household with few members. The results show that the proportion of food insecurity increased with the increase in the size of the household. This may be attributed to the higher consumption level of households with more members as compared to households with fewer members.

3.3 Manifestation of Hunger along the Four Dimensions of Food Security: Availability, Accessibility, Sustainability and Utilisation

Food security exists when all people in the County, 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 (FAO, 2010). 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). Chronic hunger is also a sign of food insecurity, hence the hunger module was used to determine the status of food security at the household level in the twenty sampled counties. The researchers assessed the status of food security at the household level in the ten months prior to the survey in June 2013. The eight questions in the hunger module are designed to assess the four dimensions of food security that is, availability, accessibility, utilization and sustainability. Household heads were hence asked to rate the status of food security in their households based on the said questions.

Both the quantitative data collected from the HH heads and the qualitative data collected using the key informant guide, the institutional guide, the FGD guide and the

debriefing meeting, illustrate that Makueni County is food insecure.

3.3.1 Food Availability

Food availability, which deals with the supply side of food security, and is determined by the level of food production and food storage, was measured by questions **E03, E06 and E08** of the Food Security Module (Table 6).

E03: Did you or any household member eat a limited variety of foods due to lack of choices in the market?

The findings showed that 23.6 per cent of the respondents answered often and always that they ate a limited variety of foods due to lack of choices in the market. Eating a limited variety of food implies that members of a household may have food but it is not diversified, which signifies food insecurity given that food utilization is a significant dimension of food security, which is determined by the quantity and quality of dietary intake. In the key informant interviews and focus group discussions, opinion leaders cited that most households ate limited variety of food due to insufficient income, high food prices and lack of food diversity in the markets. Lack of food diversity often leads to health challenges, especially malnutrition and diet related diseases. High percentage of households eating limited variety of food points to a high level of malnutrition.

E06: Did you or any other household member eat fewer meals in a day because there was not enough Food?

Eating fewer meals is not synonymous with eating smaller meals. Eating fewer meals refers to missing some meals owing to inadequacy of food to cater for all meals. Findings from the Study showed that 26 per cent of the respondents ate fewer meals in a

day because there was not enough food. Skipping meals is a more serious manifestation of food insecurity and poverty than eating smaller meals since households that have little income can at least afford to eat smaller meals but they do not skip meals. In the integrated research, opinion leaders stated that whenever there is not enough food, households skipped some meals to facilitate the preparation of one meal that would be enough for all members of the household.

During focus group discussions and key informant interviews in the integrated research, the research team learnt that middle income households spend a large proportion of their income on food and are at risk of falling into the poor category.

E08: Did you or any household member go to sleep at night hungry because there was not enough food?

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 7.5 per cent of the households interviewed slept at night hungry because there was not enough food. The opinion leaders during focus group discussions and key informant interviews cited that households slept hungry because they did not have food surpluses since they produced very little food adequate only enough for immediate consumption. This has an implication since households that sleep hungry have high chances of not having food at all in their households. The opinion leaders also 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 animal human conflict, small parcels of land, lack of ready markets for cash crops, erratic rainfall, poor quality seeds, high cost of

inputs especially of fertilizers, poor producer prices, as well as pest and disease infestation.

3.3.2 Food Accessibility

Food accessibility which deals with the supply side of food security and is determined by the level of food production and food stored was measured by questions **E04, E05 and E07** of the Food Security Module. 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. Here is how the respondents from Makueni County answered the three questions related to food accessibility.

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?

Eating food that one prefers not to eat due to lack of resources to obtain other types of food is a situation where financial constraints hinder access to a variety of foodstuffs which often leads to food insecurity. In this Study, 39.3 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. During focus group discussions and key informant interviews, the most cited reasons for households eating foods they preferred not to eat included poverty and lack of money to purchase food of their preference.

E05: Did you or any other household member eat smaller meals in a day because of lack of resources to obtain enough food?

Eating smaller meals refers to a situation where members of a household eat small quantities of food for breakfast, lunch, and dinner, but they do not skip any of the three basic meals. The Study showed that 31.9 per

cent of the households interviewed said they ate smaller meals in a day because of lack of resources to obtain enough. During focus group discussions and key informant interviews, the opinion leaders revealed that eating small meals is used as a coping mechanism for food security. This shows that there is under-utilization and/or under consumption of food which is an indicator of food insecurity. The most cited reasons for eating small meals were poverty, lack of adequate resources to purchase enough food, and inadequate food in the households, thus the households ration the little food they have to avoid starvation.

E07: Was there a time when there was no food at all in your household because there were not enough resources to go around?

Based on the hunger module, lack of food in the household is a high manifestation of food insecurity because it shows there is serious starvation in those households. In Makueni County, 17.2 per cent of the respondents said that there was a time when there was no food at all in their household because there were not enough resources to go around. During the focus group discussions and key informant interviews, the opinion leaders cited that some factors which contribute to food insecurity in the county include poverty, erratic climatic conditions due to global warming, and poor agricultural practices which have led to serious crop failure in the past few years thereby resulting in lack of sufficient food. Further, business activities in the County are not thriving owing to the low purchasing power and lack of capital to expand the businesses. Thus, the traders do not get sufficient income to buy enough food. Animal- human conflict; small parcels of land as a result of allocating large tracts of land for National Game Parks or sisal plantations. were a few more of the reasons cited.

3.3.3 Food Utilization

Food utilization, which deals with the supply side of food security and is determined by the level of food production and food stored, was measured by question **E02** of the Food Security Module. The findings are outlined next.

E02: Were you or any household member not able to eat the kinds of foods you preferred because of lack of resources?

Eating food of one's preference is an important aspect of food security. However, 22.6 per cent of the households interviewed ate foodstuffs they do not prefer to eat due to various reasons such as lack of sufficient income to buy the food of their preference. Information gathered during focus group discussions and key informant interviews revealed that opinion leaders stated that they ate foods they did not prefer to eat due to reasons such as poverty and lack of sufficient income to buy food of their preference. Apart from insufficient income, the high market price of certain types of foods is also a barrier to accessing food of choice for many households in Makueni County.

3.3.4 Food Sustainability

Food sustainability was measured by question **E01** of the Food Security Module.

E01: Did you worry that your household would not have enough food?

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 23.2 per cent of households worried that their household would not have enough food. The impact of worrying that the household may not have sufficient amount of food is on the individual development, health of the family and the

community as a whole, and therefore, on the national development.

During focus group discussions and key informant interviews, opinion leaders cited several factors as to why they worried about not having enough food for their households including small parcels of land, erratic climatic conditions, crop failure, and lack of income to buy sufficient food, shortage of food supply in markets and fluctuations in food prices.

3.4 Main Sources of Livelihood

Livelihood is the means of making a living and in the food security context it refers to people, their capabilities, their assets, their incomes and activities needed to sustain a means of living, which include ways to obtain food. Households have *sustainable livelihoods* when they can cope and maintain their capabilities and assets without undermining their natural environment. Sustainable livelihood, on the other hand, refers to people's capability 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).

Although crop farming is the main source of livelihood for 45.5 per cent of the respondents, the research findings reveal that in Makueni County, there is still 12.3 per cent of its population who are *often* and *always* hungry. The respondents stated that crop farming has largely been affected by erratic weather conditions, lack of agricultural extension services, poor infrastructure and limited availability of land. Trade/small business which is another main source of livelihood (12.7%) in the County is affected by insufficient capital, high interest rates on business loans and poor transport infrastructure. Only 18.2 per cent of the respondents have a regular monthly income,

which is the second main source of livelihood. Most Makueni residents do not get regular monthly income because of few job opportunities. Casual labour, which ranked as the third main source of livelihood at 17.3 per cent, is affected by lack of employment opportunities which are limited and mostly not well paying. Livestock keeping and sale, practised by 1.8 per cent of the respondents, on the other hand, has thrived in the County but is affected by insufficient extension services that would otherwise help control livestock diseases.

The foregoing information clearly indicates that Makueni people's main source of livelihood is Agriculture (47.3 per cent for both crop and livestock farming) but households are deficit producers of food crops due to erratic weather conditions. Measures to improve food security in the County should aim at promoting crop production which most citizens depend on as a source of livelihood.

Information gathered from focus group discussions, key informant interviews and the debriefing session revealed that constraints to economic activities, which negatively impact on food security, include lack of adequate agricultural land, animal-human conflict, low soil fertility, low quality of seed reserve and planting materials, low technical skills/knowledge and high cost of key farm inputs (i.e. seeds and fertilizer). 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. Additional constraints to livestock production in the County include poor or low yielding animal genetic stock, endemic pests and diseases, and low prices for animals. Lack of capital to expand businesses, weak purchasing power and weak financial services were identified as

impediments to the development of small enterprises and unsuccessful business activities all of which culminates into traders not having sufficient income to purchase enough food. Underdeveloped infrastructure in most parts of the County affects distribution and marketing of both farm inputs and agricultural produce.

When people do not have enough food, some of the coping strategies they rely on are: relief food and help from relatives, casual work, adults opting to eat less or skip meals so as to have enough for the children, planting crops that take a short time to grow, while others borrow food.

In conclusion, the major activities engaged in for the purpose of livelihood in Makueni County include agricultural activities such as crop and horticulture cultivation as well as livestock and bee keeping, handicrafts, trading/small businesses, casual labour (agricultural and non-agricultural related) and regular employment. The Household Survey results showed that most people in Makueni rely on agriculture as their main source of livelihood and this concurred with both FGDS where the two groups rated agricultural activities as the main source of livelihood in this County.

3.5 Food Preservation and Storage

Food storage and preservation is a key factor in determining household food security as it ensures reduced wastage, availability of food for later use, and preparedness for catastrophes and emergencies in periods of scarcity. Storage is an aspect of the post-harvest system through which food goes through on its way from the field to the consumer (USAID, 2011).

The findings showed that most of the respondents had nothing to store as the production in this area was hand to mouth. The household survey showed that 96.5 per

cent of the respondents had nothing to store, while only 1.8 per cent stored their produce in the granaries, and another 1.8 per cent used other storage methods. This is a reflection of food insecurity in this County since the proportion with something to store is very small.

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 nothing to store. The challenges they face in food storage include:

- Insecurity due to theft of produce, especially from outside granaries;
- Pests and weevils which destroy stored produce especially grains;
- 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.

Post-harvest losses that usually occur before storage partly contribute to wastage of food. It is evident that most farmers in the region still use traditional methods of food preservation such as drying and use of ashes which may not be able to keep food fresh over a long period. This often leads to the quick spoilage of the small amounts of food available and culminates into food insecurity. Moreover, absence of food preservatives, especially for grains, compels farmers to hurriedly sell their produce at low prices immediately after harvesting to avoid wastage. This compounds food insecurity because many people who sold their farm produce due to lack of storage or preservation facilities will later go to the markets to buy that same produce at a higher price than they sold it. Storage of cereals and other non-perishables at the household level has many advantages such as enabling farmers to easily access their

produce and facilitating sale when necessary minimizing transportation and handling costs; in addition to acting as a source of information concerning the supply of food in the market which informs production decisions.

The most challenging for preservation were fruits and milk, where most of it would go bad. Some preserved these perishables by refrigeration, though this method was available only to households that had power supply and could afford to buy refrigerators. Some of the respondents who didn't have a refrigerator reported that they preserved meat with salt though this was only for short periods of time.

3.6 Consumption Patterns

Staple food crops are significant sources of both food security and earnings for most of the households in Kenya (USAID, 2010). The main food in Makueni County seems to be *githeri* (*isio, muthokoi*) as their staple food. The *githeri* was not mixed with anything as the people in the area did not see the need to mix it. They also stated that they occasionally took *ugali*. This is a reflection of food insecurity in this County because of lack of variety of food.

3.7 Government/Church/Donor Support Food Programs

Data analyzed from the findings reveal that the various support programs available in Makueni County are largely not adequate and in poor or average state. In Kenya, the government has been implementing cash transfer programs targeting orphans and vulnerable children since 2004 in addition to implementing several social protection interventions. Although many Kenyans are food insecure, only a small percentage of respondents affirmed that they receive cash transfer services from the government. This

low percentage of cash transfer beneficiaries is attributed to the fact that most of the support programs are still being piloted and they only targeted a few individuals.

However, most of the participants during the focus group discussions complained that the few available support programs are not properly administered and consequently the deserving beneficiaries do not benefit much.

Information gathered from key informant interviews and focus group discussions in the integrated research revealed that government programs make the bulk of support mechanisms for attaining food security in the county. They cited lack of integrity among government officials especially the local administration as being responsible for poor identification and selection of the beneficiaries, implementation and administration of the Programs to the extent of embezzlement of support funds.

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.

The fact that safety net Programs have many aspects in common suggests a strong case for harmonizing the indicators used to monitor them, especially given the constrained budgets and limited capacity for designing and maintaining individual monitoring and evaluation systems. There is therefore an urgent need to develop comprehensive performance management systems for the sector's contributory schemes that include specific and measureable indicators for all key processes, risks and intended results associated with these schemes. A full performance assessment that compares each scheme's performance with ILO standards would also be highly desirable.

4

Proposals, Recommendations and Conclusion

4.1 Introduction

This chapter covers proposals, recommendations and conclusions based on the findings of the research study conducted in Makueni County as outlined in Chapter 2. These are derived from the participants' recommendations for enhancing food security as reported during the research study conducted by the AWSC in Makueni County, the qualitative data from the FGDs, institutional representatives, testimonials and as well as the debriefing meetings on food security held with stakeholders and the literature review on best practices carried out by the AWSC researchers. From the research findings, it is clear that the different households will require different strategic interventions to enable them to be food secure. Therefore, the policy and program interventions should be tailored so as to target different needs of the various food insecure HHs based on their strategic needs.

4.2 Recommendations

The recommendations include the following:

- i) **Formation of co-operatives should be encouraged** in Makueni County as they would offer an alternative means of attaining money with which business ventures could be established. It could also help the farmers in harmonizing the prices of their produce, therefore eliminating the exploitation by the middle-men.
- ii) **Irrigation** is a matter of utmost importance in the County since rainfall is very low and unpredictable. There should be initiatives set-up where neighbours can form groups to help each other in terms of providing water for the irrigation of their plants. In addition, dams and other water harvesting initiatives should be set-up in order to ensure constant availability of water.
- iii) **Enhancement of good leadership** was viewed as a key step towards the establishment of pro-food security initiatives. Participants felt that the locals tend to vote for whoever comes around during the election period and hands out the most money. They felt that this was only a temporary solution for the food insecure and was not sustainable. It was unanimous that they should rather be given the "fishing rod than the fish".
- iv) **Provision of farm inputs** should be structured, taking into account the climate and soil fertility of the region.
- v) **An increased number of extension officers** would go a long way towards ensuring food security in the region. Their services will enable the farmers to become as efficient as possible with the little that they have by learning farming practices such as crop rotation and other modern methods.
- vi) **Discouraging rural-urban migration**, especially among the youth, would ensure that there is enough man-power to carry out the necessary labour on the farms.
- vii) **Information channels** should be better managed such that the information

being disbursed reaches the people who need it the most.

- viii) **Cash Transfer Programs:** the government should look towards broadening the catchment areas they have at present and identifying the needy as well as increasing the number of beneficiaries within the different programs it has. In addition, it should also work towards ensuring fairer selection processes of the beneficiaries.
- ix) **Drug and substance abuse** should be addressed as a matter of urgency as it is a challenge which is constantly growing at an alarming rate and resulting in lack of contribution towards food security from the addicts, who for the most part, are the youth and men.
- x) **Use of modernized Farming technology** should be encouraged so as to increase the productivity in the County. This will make farming more appealing to the youth. This should be done through the introduction of mechanized equipment such as sprayers, harvesters and cultivators as the youth tend to be amused by such equipment as has been recently the case with motorcycle *boda-bodas*.

4.3 Key Policy and Programme Proposals

The following are some key proposals by AWSC based on recommendations by participants from Makueni County and literature review on best practices from countries that have implemented programs and legal frameworks for enhancing food security. The research findings from Makueni County illustrate that an average 24.7 per cent of her people are either often or always hungry and require strategic interventions to ensure they are food secure. Food insecurity, as has been shown, has negative

implications, especially for children and the development of their potential. Therefore, the implementation of Article 43 (1)(c) of the Constitution which guarantees 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 further reveal that, the majority of the respondents from Makueni County (44.5%) rely on own crop production; 18.2 per cent rely on regular monthly salary, 17.3 per cent on casual labour in agriculture and non-agriculture related activities. Another 12.7 per cent depended on trade/small businesses as their main source of accessing food. The following proposals aim at addressing the multidimensional aspects of food security.

4.3.1 Support Programmes for Hungry Households that Depend on Own Production

The national and county governments should establish a program to support those severely affected by hunger. The national and county governments can directly focus on the households and ensure that they have access to food through either increased production, creation of employment for casual labourers and opportunities for markets and trade. As in the case of India, in order to ensure efficient and transparent targeting of the food poor households, we recommend that a clear legal framework be worked out which will ensure the implementation of support programs for the hungry people of Makueni and resolve this dehumanizing situation while responding to Article 43 (1)(c) of the Constitution.

The AWSC recommends that, in targeting the 45.5 per cent of the County's own producers, the national government, through the County government, should establish a family/household support program by

implementing the following proposals targeting this category.

- a) **Rain Water Harvesting:** Facilitate provision of subsidised roofing materials (*Mabati*) for housing and water tanks to facilitate water harvesting.
- b) **Capacity Building on Agriculture:** Capacity building on better farming methods as well as utilization of the extension services to improve food security. This entails having agricultural extension officers who will train farmers to increase agricultural production through the use of modern farming techniques and latest information such as the use of improved seed varieties, pesticides, green houses, fertilizers, irrigation, crop diversification, use of machinery and artificial insemination.
- c) **Markets:** From the research, 49.5 per cent of the respondents said they store non-perishable food, while only 14.4 per cent store perishable food. Poor storage in addition to lack of markets was a common problem faced by almost all who were interviewed.
- d) **Establishment of food processing plants and crop production unit:** The county government should invest in the establishment of small scale organic food processing plants and non-traditional crop production units that can be run by county residents to transform agricultural commodities to other products to increase incomes earned from the produce.
- e) **County Storage and Strategic Food Reserves:** Wastages and losses incurred as a result of plant diseases and pests infestation, poor weather, destruction by wild animals and lack of adequate storage facilities during surplus production have resulted in massive food insecurity reported during the survey.
- f) **Water for Irrigation and Domestic Use:** Facilitate the purchase of materials such as tanks, pipes, water pumps, borehole drilling machinery and gutters to ensure rain water harvesting in schools, health centres, urban centres and homes.
- g) **Cash Transfer:** The County government has shown commendable efforts towards the allocation of funds to the elderly in addition to what the national government has allocated for the elderly, OVCs, PWDs and school feeding programmes. However, many respondents registered their dissatisfaction with the management, allocation and distribution of the funds. We, therefore, propose that the County government establishes a Food Security Committee that would oversee proper targeting of beneficiaries, monitor and evaluate the implementation process and provide exit strategies for the beneficiaries.

4.3.2 Employment Creation - 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 a poor family for households with no one with wage employment for 200 days a year. This will cater for the respondents from Makueni who said they are engaged in casual labour. The beneficiaries will be engaged in green jobs which include water conservation and water harvesting, drought-proofing (including forestation and tree planting to increase the forest cover to 10 per cent of Kenya's land mass; irrigation canals, including micro and macro irrigation works, provision of irrigation facility, horticulture plantation and land development facilities, roads construction

and maintenance of Government buildings and other structures.

4.3.3 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, the Youth Enterprise Fund and the 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. The majority of the youth remain unemployed and some even have resorted to social ills as a means of livelihood. It is important that the youth are given relevant training and knowledge on the existing funding opportunities and entrepreneurial skills so as to make the best use of these facilities.

4.3.4 Developed and Improved Infrastructure

Improvement of the county's poor infrastructure by rehabilitating the existing road network, especially in the county's interior, will ease the movement of goods and access to markets and hence reduce food prices.

4.3.5 County Strategic Food and Water Storage

Wastages and losses incurred due to plant diseases and pests and rodents infestation, poor weather, destruction by wild animals and lack of adequate storage facilities during surplus production have resulted into massive food insecurity reported during the survey. We recognise that schedule IV of the Constitution gives responsibilities of health, agriculture and social services, among others, to the county government.

4.3.6 Implementation Mechanisms for the Makueni County Food Security Program

Given the research findings discussed in detail in the Report, we propose the establishment of a County Food Security Committees comprising 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 the opposite gender to represent special interests; also appointed by the Governor. The Committee will monitor the food security and nutrition situation and evaluate the progress of implementation of food security programs in the county, provide guidelines for appropriate targeting as well as the criteria for the selection of food insecure families and individuals in the county.

4.3.7 Increased Security

The research findings indicated that general insecurity is a major contributor to food insecurity across the County. This insecurity, as recorded by the respondents, is caused by raiders who terrorise and steal livestock and destroy crops. This insecurity is further exacerbated by human wildlife conflict.

4.3.8 Drug and Alcohol Abuse

The abuse of drugs and alcohol in the county, especially by the youth, also contributes to food insecurity. There is need for NACADA to be supported in order to deal with this menace and the county should establish rehabilitation centres for the victims of alcohol and drug abuse.

4.3.9 Enforcement Mechanism for Ensuring Food Security

The AWSC proposes that a legislative framework be developed which will enforce

food security programs aimed at the implementation of Article 43 (1)(c) of the Constitution. In this framework, it is proposed that a Food Security Authority be established and the governors take responsibility at the county level. This is in line with the best practices in other countries such as Columbia, Mauritius, South Africa and India.

4.4 Conclusion

The Baseline Survey extensively covered Makueni County so as to determine the food security situation in the County. From the research findings, the statistics show clearly that the County is experiencing a high level of food insecurity and it is of paramount importance that immediate interventions to ensure food security in the County be put in place. It is possible to attain sustainable food production in the region, but first, the underlying causes of scarcity of resources must be addressed and interventions harnessed to the grassroots so as to enable both state and non-state actors to be involved in strategizing food security measures.

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 Makueni County were very specific in their articulation on what needs to be done to maximize their capacity and ensure that the County becomes food secure. Consequently, it is important that the County government conducts an impact analysis on existing trends so as to close any gaps in developing a food secure society, otherwise, the idea of a food secure County will remain a dream in Makueni.

The adoption and implementation of the proposed interventions will ensure that every resident of Makueni County is food secure and this 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”.

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