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FOOD SECURITY, DROUGHT AND POLITICS: KENYA'S MAIZE CRISIS BEFORE AND AFTER ELECTIONS.

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DECLARATION

I, Christine Wachu Mwangi declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended.

Signature…….

Date……

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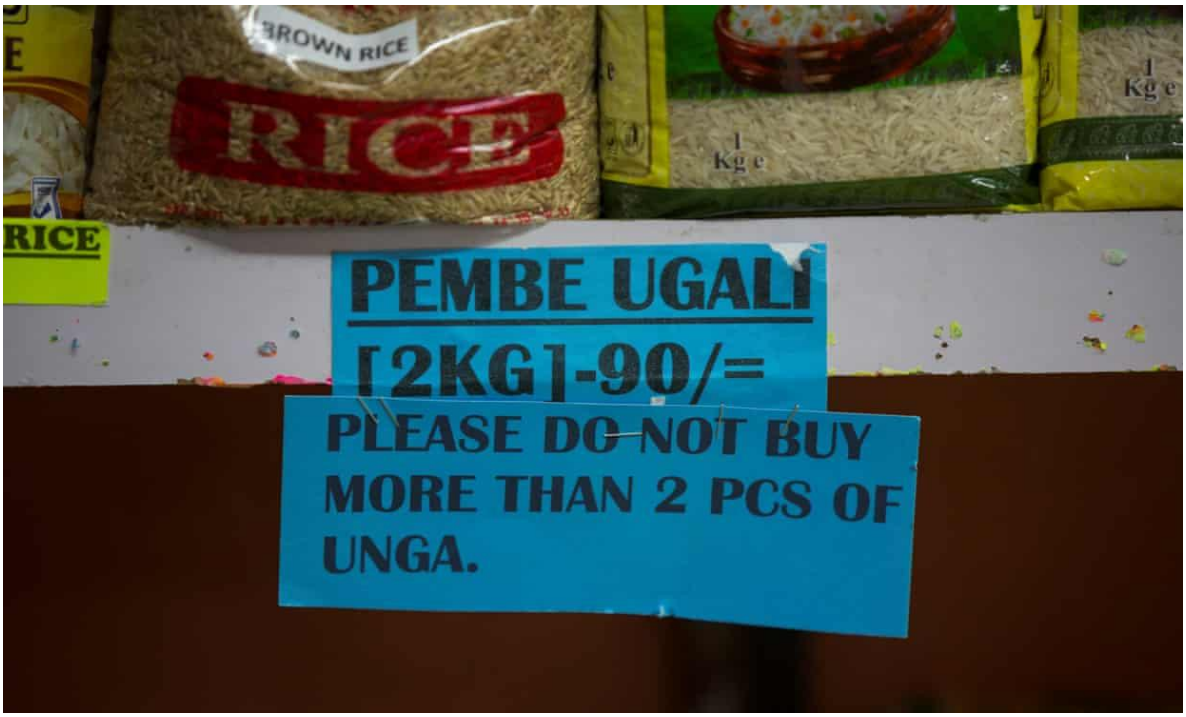

A sign restricting the purchase of maize flour subsidised by the government is seen in Nairobi, Kenya. Ratner (May 24, 2017). REUTERS

ABSTRACT

Climatic catastrophes affect living conditions and especially the agricultural sector. There is recognition that weather is one the main drivers of food insecurity in Kenya. Nations that are politically stable tend to enhance accountability and prepare so that they can respond appropriately to climatic catastrophes. Declining food production when the demand is high will cause deficits which in turn will lead to inflation and high food prices. The gap between demand and maize production has put maize at the center of the food security debate in Kenya. Maize is the most important cereal contributing greatly to food security. The last three Kenyan general elections (2007, 2013, 2017) sparked violence which greatly impacted on the food security of the nation. As a result, many Kenyans were left food insecure, leading to unnecessary deaths caused by hunger and malnutrition. The government represents pillars of change within the food security of the nation and improved agriculture and food security is applauded by citizens. When governance is poor, there may be a hindrance by complex political debates and, if approved, inadequate investments may be made within the agriculture sector. The objective of this study was to assess drought, governance, politics, and food stability within Kenya before and after elections.

Key words: Food prices, Climate, Policies, Food Security, Elections and Kenya.

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Abbreviations

ASALs	Arid and Semi-arid Lands
ASDS	Agricultural Sector Development Strategy
CEIC	Committee on Electronic Information and Communication
CDFs	Constituency Development Funds
CFS	Committee on World Food Security
CPI	Consumer Price Index
EIU	Economist Intelligence Unit
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agriculture Organization Statistics
FEWS	Famine Early Warning Systems
GoK	Government of Kenya
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
KANU	Kenya African National Union
KARI	Kenya Agricultural Research Institute
KFSSG	Kenya Security Steering Group
KFSM	Kenyan Food Security Meeting
KRDS	Kenya Rural Development Strategy
KSHS	Kenyan Shillings
MAFAP	Monitoring and Analyzing Food and Agricultural Policies
MT	Metric Tons
NCPB	National Cereals and Produce Board
NDMA	National Drought Management Authority

NFNP	National Food and Nutrition Programme
NFSNP	National Food Security and Nutrition Policy
NGO	Non-governmental Organizations
NSD	Norwegian Centre for Research Data
SAPs	Structural Adjustment Programmes
SFR	Strategic Food Reserve
SGRs	Strategic Grain Reserve
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

1. INTRODUCTION

Food security for the population of a state is a complex issue involving an interdependent and interconnected set of issues that includes politics, policy, agriculture, energy, the environment, and trade (IFPRI, 2002). A nation's food security is often affected by complexity of factors such as unstable social and political environments including war and civil conflict, macro-economic imbalances in trade, natural resource constraints, a poor base of human resources, gender inequality, inadequate education, poor health, natural disasters (e.g. drought and floods) and poor governance (Akongdit, 2014). Today, food insecurity is one of the major challenges affecting the world with the most affected being small scale farmers, landless workers and livestock keepers who produce most of the food in sub-Saharan Africa (IFAD, 2011). Ironically, many who reside in areas with arable lands face the most food insecurity. The United Nations estimates that about 870 million people (15% of world's population) is undernourished (Alinovi, Hemrich, & Russo, 2008). Described as 'the world's greatest solvable problem' by the World Food Program, hunger is largely a consequence of structural inequalities that persist due to what has been described as 'schizophrenic' global governance by former United Nations' special rapporteur for the Right to Food, Jean Ziegler (Alinovi et al., 2008).

Food security can be defined as a state where all people at all times have access to sufficient, safe, and healthy food for an active and healthy life (FAO, 1997) and access to food should not be viewed as a privilege but a right for all (FAO, 1997) . Political stability, which can be a positive indicator of a region's food security, is the absence of domestic civil conflict and violent behavior or a peaceful, law-abiding society where decision-making and politico-societal change are result of institutionalized and functional procedures. These food systems can be attained through the

integration of productive government policies, a comprehensive understanding of a region's food insecurity issues, political stability, and prompt responses by governments (FAO, 1997).

Devereux (2009) notes that food security is obtained through three primary pathways: domestic food production, exchange for food, and food transfers or food aid. He further states that the effectiveness of each of these pathways requires institutions that would successfully manage future expectations; hence, it is unsurprising that political instability and food insecurity go together (Devereux, 2009). Regarding the first pathway, food production, requires farmers to make costly upfront investments in labor and other inputs long before any benefits can be reaped by harvest at a future date. In an unstable political environment which promotes market fluctuations, those farmers may face net losses or may simply opt out of the market altogether. Both of which would contribute to poor domestic food production and hence, food insecurity. Similarly, badly needed investment in soil conservation require farmers to forego benefits today for the potential of even greater benefits in the future. Unfortunately, as is the case in countries characterized by political instability, an uncertain future diminishes the expected return of these tradeoffs (World Bank, 2019).

It is also noted that increasing global temperatures could lead to a shift in traditional staples, as well as the region that grows these staples. Environmental factors, then, are exacerbating the situation associated with food insecurity because of food price rises and food shortages. Yet, it is also recognized that politics of food is also influential to these issues. For example, maize dependency is increased when countries are encouraged to grow it for export reasons. The maize crops are more likely to be used in processed food and in animal food. Therefore, for commercial gains, it results in the failure to grow nutritious foods to feed a larger population. This means that it will be more likely that rice, maize, and wheat production will decrease in developing countries, requiring that producers replace these crops that are heat, flooding, and drought resistant. In turn,

there will be more pressure on countries across the world regarding food security, especially as the yields of these sources of calories are expected to decrease by 2050 as temperatures continue to increase. Making the problem worse is that food production contributes to greenhouse gas emissions. The shifts in climate are impacting agricultural production and will decrease the agricultural productivity (Pritchard, B., Ortiz, R., Shekar, M., 2016).

Historically, significant malnutrition and famine has been caused by the disruption of food supplies through wars and civil strife (Bhutta et al., 2008). Political instability influences food security, as can be seen recently in the case of Indonesia and many African countries. Food security can also influence the political stability of countries. The greatest risk for regime stability is the risk of urban riots (such as which occurred during the Arab spring), which were mostly sparked by food shortages or sudden price increases among food products (Tegemeo, 2009). Places where riots occurred regarding food shortages, the result was that food prices increased vastly leading to food inflation.

In a politically unstable environment, most governments are unable to devote resources to effective planning due to strong domestic opposition. This can lead to the underestimating or disregarding of the impact of natural calamities. In severe corruption cases, even effectively designed policies can fail due to negligent or non-existent implementation. Even though some causes of food crises are natural and human-made, such as drought, consequences drawn from conflict are almost unmanageable (Alinovi et al., 2008). Food markets may be used for power by government through increasing prices or withholding food. The uprising in 2011 that took place in Egypt was not only due to economic reasons but political too. National governments play a major role in the politics of food production, marketing, distribution as well as regulating the food prices. Governments affect the food security of the nation through the services and policies they provide,

which can also result in the governments using food as a political tool. Countries that have achieved national food security seem to have a good record of strong political influence on agriculture. Governments can protect their citizens from higher prices and volatility in world markets by initiating measures to stabilize food prices and by establishing social protection systems that mitigate the impact of high food prices (Brinkman & Hendrix, 2011).

Extreme weather events, exacerbated and made more frequent by climate change, further endanger global food security, but countries are advised to plan mitigation strategies early enough. Additionally, they should assist farmers in taking necessary precautions to mitigate losses. While such events are natural occurrences, political status, (which is inextricably linked to and mutually dependent on food security) plays a significant role (Alinovi et al., 2008). Due to the situations that arise as a result of natural disaster or conflict, approximately 80% of the global population is at risk of hunger (Sheeran, 2011).

This study will focus on food insecurity in Kenya, where, most of those affected are those that live in areas of agricultural production (Sarris, 2013). This is because the country's current food insecurity problems are attributed to several factors which, according to the Food Security Report Kenya Agricultural Research Institute [KARI] (2012), includes:

- frequent droughts
- the inflated cost of domestic food production due to the prohibitive cost of inputs, especially fertilizer
- the displacement of a large number of farmers in the high potential agricultural areas following the post-election violence which occurred after the 2007, 2012 and 2017 elections
- high global food prices

- low purchasing power for large portions of the population due to high poverty levels.

It will be noted that these factors correlate strongly to the first and second aspects of food security listed above, domestic food production and exchange for food. The correlation between weather, election periods and food insecurity crises underscore the complex interactions between politics, drought and food security, which forms the basis for this study.

The economic impacts of climate change can be tied to availability of food. Drought, flooding, disruption of marine life and rising sea levels have all been associated with decline in food production. High income households are less likely to be affected by these forces but low-income households which comprise majority of the population in developing countries such as Kenya will greatly be affected by rising food prices. Furthermore, countries which are reliant on agricultural produce as one of the key drivers of the economy is unlikely to resort towards importing food from other countries. From an economic point of view, global trade will increase food supply and hence help to create food security. Open trade in this case will increase the food supply domestically in the process ensuring that demand for food is met at relatively fair prices. However, rising concerns regarding protection of local industries and farmers may create disharmony and conflict. Countries importing food are the most vulnerable to foreign policies of free trade and this could significantly affect a country's ability to sustain food production (The Economist, 2019).

Since the 2008 food price crisis, there have been chronic droughts reported in Russia and India. Due to continued speculation in agricultural commodities, this has led to forecasts of further food price hikes especially in conflict zones (Fan, 2012). This has had a particularly adverse effect on the poor who use most of their income on food. There have been sharp rises in global food prices since 2007 (Mensi, Beljid & Managi , 2013). The then-executive director of the United Nations World Food Program, Josette Sheeran (2011), referred to the situation as that of "the perfect storm."

Soaring food and fuel prices combined with turmoil in global financial markets, adverse weather in important agricultural regions, and competition from the biofuel production industry to reduce food availability and affordability, two of the key pillars of food security, which will be discussed further. Uncertainty as to what caused the food price rises and how long they might persist led to commodity market volatility, hoarding, and hastily devised interventions. While many nations took policy actions (export bans, price controls) to stabilize local supplies and protect the food security of the poorest and most vulnerable, the measures taken often had perverse effects. Instead of providing stability, they intensified the storm and the food insecurity experienced by poor families around the world (Kiome, 2009; ReliefWeb, 2019).

World food prices increased dramatically in 2007 and the first and second quarter of 2008 creating a global crisis and causing political and economic instability and social unrest in both poor and developed nations. However, after peaking in the second quarter of 2008, prices fell dramatically during the late 2000s recession but then increased again during the end of 2009 and into 2010, reaching new heights in 2011 and 2012 at a level slightly higher than the level reached in 2008 (Rahman, 2011). Since then, prices have been increasing.

In Kenya specifically, food prices have been on the increase since 2008-2010 (Emongor, 2011). The Consumer Price Index (CPI) for food has increased more rapidly compared to non-food. Prices of many staple food commodities (maize, wheat, rice and milk) have increased tremendously between 2008 and 2010. Increasing food prices have also been accompanied by volatility in prices of most food commodities (Hossain & Green, 2011). Prices of food in Kenya have continued to increase despite a decline in world food prices in the first quarter of 2009. Prices of food products such as maize in Kenya remained high as prices on the world market dropped. Prices of maize were very high and rising, progressively diminishing access to food for the poorest sections of the

population (Hossain & Green, 2011). However, with the removal of the high import tariff on maize in mid-June 2010, it was hoped that the private sector would cover most of the deficit. Nevertheless, vulnerable people, particularly pastoralists (where the region is affected by drought), would not have access to maize on the market and would therefore need food assistance (Emongor, 2011).

1.1. Problem Statement

Hunger and malnutrition are indicators of a poor and unstable population and caused by many different factors, such as governance and politics, economic and production issues, demographic and social issues, and climate events (Sarris, 2013). In Kenya, election periods have contributed to food security. Election periods are attributed to political exercises in the country, which amounts dangerous pressures on citizens, sectors and businesses. Political issues surrounding elections are often about mitigating the effects of drought and subsidizing the main food for Kenyans – maize. As the staple food, maize has often been affected in production and supply during the election years of Kenya and has been associated with hunger when it is in short supply. Maize production is a major determinant of food security in Kenya, which means that, maize production is a reasonable indicator for the state of food security of the country. According to FA0 (2006) the total land area under maize production in Kenya is about 1.4 million hectares with an annual average production estimated at 2.8 million metric tons, giving a national mean yield of 1.7 metric tons ha.

In previous election periods (2007, 2013 and 2017), a serious maize shortage occurred the country causing the price of maize and maize products to become exorbitantly expensive (Shaw, 2019). These crises prompted an outcry by the citizens affected. The Kenyan government responded, but only implemented short-term solutions to ease the situation. For example, the Kenyan government initiated a subsidy on maize flour, but imposed with it a timeline, which would

end the subsidy once it expired. According to FAO (2014) Maize accounts for nearly 20percent of total food expenditures among the poorest 20percent of urban households and declines to 1percent of total food expenditures among the wealthiest 20percent.

Based on information from the Economist (2019), it was thought that the government would have initiated long-term measures that guarantee adequate grain supplies in the country. However, the tense election periods had put all these measures on hold. However, by then, the maize crises had affected all food systems in the country and levels of hunger and malnutrition increased. These problems require an intervention where all parameters of food security are balanced for long-term sufficiency by the population. The election periods should not pose any risk to the livelihoods of citizens of Kenya but do because they serve as instruments of power. The purpose of this study is to carefully investigate the complex interrelationship of the maize crisis (specifically with regards to drought as the causal factor), politics and food security. There is little scholarly work on this topic, and some information is obtained from newspaper reports.

1.2. Research Questions

1.2.1. Main Research Question

- *How does drought, maize production, maize prices and politics interact to create food security dynamics during election times in Kenya?*

1.2.2. Specific Research Questions

- *How does drought form a baseline to food security-based political campaigns during the elections in Kenya?*
- *What are the short- and long-term government policies related to food security in particular maize?*

- *What were the government policies and measures implemented around elections time?*
- *How did the government's interventions affect the citizens?*
- *How did the droughts play into volatile food prices?*
- *What are the urban vs rural coping strategies for volatile food prices?*

1.3. Overview of the Study

The literature review and conceptual framework are linked to the major research question because of the interactions seen in the pillars and dimensions of food security. This means that each of these elements are influential in some way to the food security situations within Kenya. Each of the dimensions of food security are impacted by climate, production, prices, and politics, which contribute to the overall food security situation within Kenya.

The methodology used is based on primary and secondary data. As such, it is possible to obtain a variety of results through interviews and secondary sources. It is recognized that most of the secondary sources are media sources, primarily newspapers, and, as such, are highly opinionated. Moreover, the public is dependent upon these media sources to remain informed regarding the situation in Kenya and the opinion of individuals is shaped by these sources.

In the remainder of this study, there are six sections. Following this introduction, the background to the study is provided, including information regarding maize in Kenya, drought, climate change, and political instability. With these individual topics, discussions are held regarding how food prices and food security is impacted. After the background to the study, the literature review and conceptual framework is provided, which establishes information regarding how the study is positioned and the pillars of food insecurity that drive, to some extent, the conflict within Kenya. For instance, there is information included regarding food

availability, access, utilization, and stability. Next, the methodology of the study is provided. This information is important because it shows exactly how the data were obtained and analyzed. The analysis describes the themes found within the data. The discussion contains a critical analysis of the themes identified in the primary and secondary data. The study ends with a conclusion.

2. BACKGROUND

This chapter will provide a historical background on Kenya and food insecurity related issues. The remaining sections in this chapter include drought history and effects on food insecurity in Kenya, the 2008 world food price crisis, impacts of high food prices at household levels, high food prices and political instability, government policy responses to food price crisis, the maize crisis, policy interventions, and evolvement of policies in Kenya, and a history of the political instability in Kenya.

Kenya is a country in the Eastern part of Africa, due to its proximity to the equator, this greatly influences the climate which has long rains season in March-May while short rains are in October – December. Kenya became independent in 1963 and is a democratic country that holds general elections after every 5 years. Agriculture is the backbone of Kenya's economy, much of the population lives in the rural areas where they practice faming for home use and sell the surplus. Food insecurity has a direct effect on most of the country's population (75%) as they reside in the rural areas where agriculture dominates (Ministry of Agriculture, 2017). Urban food security is increasing with more than half of the urban population living in informal settlements with many unable to meet their food needs (MAFAP, 2013).

Before the 2007 general elections, Kenya had been hit by months of drought and the post-election violence in 2008 further worsened the situation. The conflicts left potentially productive farmland unattended and no agricultural production could ensue. In previous post-election violence, and even more so in 2007/2008, safe production and distribution of food products from the food secure regions such as the Rift Valley, Western Nyanza, and Nairobi had been crippled (ReliefWeb, 2019). This affected the food availability, accessibility, affordability and sufficiency in all the other

regions. The food crisis was witnessed on great levels and was worsened by drought conditions and poverty.

The fall in domestic maize production is important because it is the staple food crop in Kenya forming a major component of diets for both urban and rural populations. It is known to be a major food for all and for hunger alleviation (Mohajan, 2014). Production and distribution of maize is a main activity of sustainability to Kenyans and a significant factor in the relative food security of the country. More than 2.1 million hectare of Kenya's 5.3 million hectare of all crops harvested area were occupied by maize (Abate, Mugo, De Groote, & Regassa, 2015). In other words, maize production accounts for 40% of all farmland in Kenya (Abate et al., 2015). The Ministry of Agriculture data for 2011 indicate that maize accounts for more than 51% of all staples grown in the country. More than 75% of maize farmland is cultivated by small-scale farmers, who produce more than 65% of the maize consumed in the country. Maize is produced for both home consumption and the market with small-scale farmers only selling an estimated 20% of their production.

Maize crop production and distribution has been diminishing. Approximately 20% of the maize crop went unharvested as a result of political unrest that saw many farmers displaced in 2008 and 2013 (Gitau & Meyer, 2019). When a displaced farmer flees from the breadbasket regions of Kenya due to political violence, both their livelihood and their own personal food security are threatened. When hundreds or more are displaced, it not only contributes to food insecurity due to the lost production and unharvested maize, but also through an increase in poverty.

Meanwhile, maize crises forestall the National Cereals and Produce Board's (NCPB) cereals purchases which is the central collection point of cereals from the farmers. In 2013 and 2018, the effects were depicted as particularly severe. And while the NCPB is affected, the grains harvested before the crisis do undergo degradation at household levels storage systems simply because of the

unavailability of local vendors that supply or sell storage chemicals (Gitau & Meyer, 2019). This situation of no centralized buyer, lack of production, rotting stores, result in an increase in the price of maize.

The maize supply had in 2012 experienced a great shortage as demand grew (CEIC, 2019). This created room for the exploitation of the public. As a result of the maize shortage, some had even hoarded maize products only to release them later at a higher price. Politicians took advantage of these tough moments to campaign heavily on their readiness to lobby for safe ways of ensuring a continuous supply of maize at a consistently low price. Apparently, the spike in prices of maize in the 2012 and 2017 election periods caught many consumers by surprise, financially unprepared to deal with increased food costs. This made them highly dependent on the government to intervene and susceptible to politicians' exploitation (Bii, 2018).

While the government of Kenya and all humanitarian assistance agencies had attempted to weather the crises with short term fixes following the 2012 and 2017 election periods, food insecurity remained extremely high. Households that had been displaced or lost their livelihoods were the hardest hit unless they had been resettled and assisted to get back to normal productive activities. Food insecurity for households outside these crises' areas had also risen due to dramatic increase in prices of food commodities, especially maize and maize products.

2.1. Introduction of Maize to Kenya

Maize was first brought to Africa by the Portuguese after the 15th century and it became one of the dietary staples (McCann, 2005). Yellow maize was the predominant type until the early 20th century and they later started experimenting with white maize, which produced higher yields (McCann, 2005). In most parts of the country, white maize is the most common, yellow maize is considered as inferior. But colored traditional varieties are still popular, especially at the coast

where they are appreciated for their storage qualities, and around Lake Victoria where the Nyamula variety is highly appreciated for roasting (Kirimi et al., 2012). Kenyans consume maize as either flour or grain. Maize is consumed as *ugali* which is prepared by mixing maize flour with boiling water to a stiff porridge or can also be eaten as whole on the cob or in a mixture with beans as *githeri.*

Kenya's first maize program was started in Kitale in search for a hybrid maize to increase the yields (McCann, 2005) and the maize yields started to increase following use of hybrid varieties and use of fertilizers. Kenya has strived to attain self-sufficiency through production of food commodities, this was achieved to an extent of exporting the maize surplus. Self-sufficiency would mean that food security would be achieved through domestic production. Maize is the primary staple food in Kenya, making it the most important food crop thus, it is vital to the national food security. Maize production and food security are intertwined. Most of the maize grown is rain-fed and thus depends on the climate for production, climate variability directly affects the maize production. Availability of maize depends determines whether the country is food secure. Maize production has begun to fail over the years as the number of droughts increases. Having a source of maize outside of the nation is critical, as is developing new drought-resistant hybrids.

The maize market reform in Kenya began as part of the structural adjustment policies in the 1980's where the government removed price controls, deregulated maize prices and removed maize subsidies to millers. Maize prices that were set at national levels were deregulated. These reforms were meant to reduce the costs through encouraging competition however in Kenya this was a slow process with uncertainty on the extent the private sector was to be involved. The reforms have affected the production of food commodities though it this is also caused by other factors such as

climate, uncertainty on the part of the government on policies and continuous interventions from the government.

Majority of the country, especially urban areas, depends on surplus crop that is produced from the grain basket Uasin Gishu and Trans Nzoia. Currently, the demand for maize is higher than what is being produced. Kenya is a net importer of maize and this deficit is made up by imports from Uganda and Tanzania. Thus, prices will hike depending on the market (McCann, 2005).

2.2. Drought History in Kenya

Desertification, land degradation and extreme weather events continue to play a role in the volatility of global food supply. This is critical to Kenya, as Kenya is a drought-prone country, primarily because of its eco-climatic conditions. Although dissected by the equator in its southern half, Kenya has only a few pockets of high and regular rainfall. Arid and semi-arid lands (ASALs) cover 80% of the territory. In these areas, where annual rainfall varies from 200 to 500 millimeters, periodical droughts are part of the climate system

Four food crises have occurred as a result of droughts: 1) in January 1997, where the Kenyan Government declared a state of national disaster after a severe drought threatened the livelihoods of 2 million people; 2) in December 2000, where 4 million people were in need of food aid after Kenya was hit by its worst drought in 37 years; 3) in 2004, where the long rains of March–June failed and the subsequent crop failure left more than 2.3 million people in need of assistance; and 4) in December 2005, where President Kibaki declared yet another “national catastrophe” in reference to the famine that affected 2.5 million in northern Kenya (Kandji, 2006).

The indications of another impending drought began in 2016, leading to a full-blown drought. Kenya receives the majority of its rainfall during two periods: the ‘long rains’ and the

'short rains' (Nicholson & Selato, 2000). In 2016 the short rains failed and the counties in the northwest and southeast regions were particularly badly hit. The 2016/2017 drought in Kenya was a significant event, but not as extreme as the 2010/2011 drought. In the southeast, the lack of short rains in 2016 amplified the existing drought conditions due to low rainfall earlier in that year (Uhe et al., 2018). In the southeast the lack of short rains in 2016 was expected to occur once every four years, while the overall lack of rainfall in 2016 was expected to happen once every five years. This return time was compared with that of the 2010–2011 drought. The worse 2010–2011 drought was expected to occur less frequently than once every 50 years. By contrast, in the northwest the failed short rains in 2016 are expected to return once every three years.

For Kenyans, distressing numbers in association with ongoing drought continue to mount. As of February 2017, drought has affected 23 of 47 counties (Uhe et al., 2018). The cost of maize had risen by a third in the past year, while production of the staple crop has plunged. This has affected the state of food security leading to increasing poverty levels. More than 2 million people needed food aid. Approximately 175,000 children were unable to attend pre-primary and primary schools due to the drought, according to a United Nations International Children's Emergency Fund estimate (Kiome, 2009; ReliefWeb, 2019).

2.3. Climate Change and Effects on Food Security in Kenya

The discussion on the effects of climate change has been live all over the world over the last couple of decades. The discussion emanates from the fact that climate change has increased the risk of natural disasters, while the risk of natural disasters is the major concern with respect to climate change in developed countries, emerging economies are more concerned with the adverse effects of climate change on food security. In emerging economies, specifically African countries, achieving food security and improving nutrition is one of the top sustainable development goals. The

achievement of this goal, however, is handicapped by climate change for because of several unique factors incidental to the African countries (Kiome, 2009; ReliefWeb, 2019).

The Kenyan context provides a classic example of the adverse effects of climate change on food security. The effects of climate change such as rising temperatures and shortfalls in rainfall impact negatively on agricultural production. Additionally, climate change is catastrophic in Kenya because the country is significantly reliant on agriculture not only for food production but also for sustenance of the economy. Although the government has demonstrated awareness by devising strategies to combat the effects of climate change especially under vision 2030, there remains much to be done to guarantee food security (Kiome, 2009; ReliefWeb, 2019).

2.4. Climate Change and Conflict

Political stability is necessary for agricultural production and provision of relief efforts. Alternatively, the presence of conflict will create food insecurity which is further associated with damaged infrastructure and crops, displaced populations and rising food prices. Conflict in this light will cause food prices to rise and the rise in food prices will subsequently cause more social unrest and contribute to political instability (Napoli, De Muro, & Mazziotta, 2011).

Climate change indirectly creates political instability by limiting the availability of food. Effects of climate change such as droughts, flooding, depletion of quality soil and depletion of water sources amongst others will inevitably limit a country's ability to produce food. The lack of sufficient food to sustain a nation's population will drive up food prices. Many people will find themselves unable to purchase food at such high prices. Likewise, the hunger that strikes the majority will trigger violence and unrest in the process creating political instability (Napoli et al., 2011). Thus, by creating food insecurity, climate change will indirectly disrupt the political

environment of a nation as the majority of the population will resort to violence in a bid to express their frustrations.

Climate change can foster a vicious cycle of political unrest and food crisis within a nation. In a country where governance is ineffective, managing political instability and food insecurity can prove to be challenging thereby creating an insolvable crisis cycle. Lack of food and the high prices of food can create public demand through political unrest to create food security. Unable to purchase food, the public may turn to theft and violence, which may worsen the political unrest within the nation (Mensi et al., 2013). Climate disasters may further weaken the country's ability to respond to emerging crises. In recent years, Kenya has experienced shortfalls in rainfall, which has impacted negatively on the growth of maize. The government resorted towards importing maize from countries such as Mexico and Uganda. However, maize being one of the staple foods in the country, the government received public lash with local farmers unable to sell their products. Moreover, the price of maize skyrocketed making it nearly impossible for most households to purchase this food. Consequently, there was public unrest as citizens demanded the government address the food insecurity issue.

2.4.1. Climate Change Impact on Food Prices

The impact of climate change on food prices will create shortages in food supply. As aforementioned, climate change effects will result in food insecurity due to decline in food production. In developing countries, weather disturbances and crop failures associated with climate change have been the likeliest drivers of higher food prices. Access or affordability of food becomes challenging for consumers since they have to contend with high costs for the limited foods that are available. In East Africa and mainly in Kenya, rice and other cereal prices rose sharply as a

result of low crop yields .The rising prices of local foods further places more strain on low income households since they place a considerable portion of their income on consumption of food.

2.4.2. Impacts of High Food Prices at Household Level

The 2008 rise in prices was one of several compounding factors that caused a deterioration in food security, especially among the traditionally food insecure livelihood zones (i.e. the pastoral, agro-pastoral, marginal agricultural and the urban dwellers (Emongor, 2011). Production decisions and shocks that occur in the largely food secure high potential livelihood zones had also accentuated the vulnerability of food insecure households.

Some of the impacts of high food prices at Kenyans household levels included:

- Income sources and wage rates of the urban dwellers, remained static while food and non-food prices have increased by up to 50% within six months.
- Farm households in the high potential areas were likely to experience a downturn in their food security. Land holdings were increasingly smaller, and the option of expanded production was limited. Input prices had risen by multiples of their normal levels and unusually, many areas had experienced a poor long rain season.
- Farmers in the grain basket areas of the country were expected to remain food secure even with the rise in the cost of agricultural production and the rise in fuel and all other prices. A significant proportion of farmers retained maize stocks from the previous harvest, which then fetched high prices (Emongor, (2011); KARI, (2012).

2.5. High Food Prices and Political Instability

Shortages resulting from drought and political tensions lead to price rise. Since traders fear losing their finances, they avoid stocking the food and sell the available products at higher prices.

Some politicians cause artificial shortage and resell at high prices with those who serve as policymakers taking the greatest advantage. In instances of party rivals, the stronger parties may limit access to the food as a tactic of baiting those who do not have or have little (Kiome, 2009; ReliefWeb, 2019).

Maize may be subject to sanctions where the main suppliers may be influenced by powerful politicians to segregate the consumers or sell at prohibitively high prices. It has been voiced that democratic status shapes the dynamics of food security with the unresponsive political systems and/or oppositional political forces that are pessimistic about transporting the food to the people who need it most, jeopardizing the food security measures. In case of social unrest, as seen after Kenyan elections in 2007, 2013, and 2017, it dampens agricultural growth by hindering transportation of the raw ingredients or the mature products (Kiome, 2009; ReliefWeb, 2019).

The post-election violence after 2007 election left more than 257,000 people taking shelter in schools, churches, prisons and police stations (Emongor, 2011). At the time, nearly 20% of crops had not been harvested and the maize that had been harvested and stored became unviable for consumption. Another influence of politics on food security is the introduction of dubious authorities to man the distribution channels while paying no attention to the production. There are no regimes that attempt to productively exploit the arable lands in Kenya. The rules termed 'mediocre' do not give solutions or suggestions on how to store the food leading to reports of some counties throwing away maize while others starve. In Kenya, there have been protests over increasing cost of living. High food prices may result in food being inaccessible to some members of the society. Desperate people may be forced to the streets to protest in order to force the government to do something about the food situation. This may lead to social unrest and any other undesirable political outcomes such as political unrest (Emongor, 2011). The major aspects of

Kenya's "stop-go" maize marketing and trade policies, from the inception of liberalization in the late 1980s, are summarized in Table 1 at the end of this chapter.

2.6. History of Political Instabilities in Kenya

2.6.1. Overview of Governance and Political Challenges in Kenya

Support and resistance to political leaders of the country have often followed ethnic lines (Kagwanja, 2003). When forming governments, some political leaders have rewarded and ensured advantages to individuals from supportive ethnic groups, while marginalizing or excluding individuals belonging to ethnic groups associated with political opponents. This crisis of governance, where many leaders work not for the country as such but for themselves and their political supporters, is sometimes said to follow from a system where power has been centralized in the hands of a few since independence (Rawlence & Albin-Lackey, 2008). Noting that Kenya's constitution, despite continuous talks of a fundamental amendment, is still based on its colonial-era form where the president is awarded with extensive powers, the risks of a 'winner-takes all calculus' increases. Socioeconomic factors such as widespread poverty, unequal distribution of resources, high unemployment rates and land disputes have often been pointed to as 'root causes' of political violence in Kenya (Rawlence & Albin-Lackey, 2008).

2.6.2. Background on the Post-Election Crisis in Kenya

Since independence, Kenya has had a difficult road to democratic consolidation, and the coalition government of 2009 was fragile and stalemated on a range of key reforms (Cooke, 2009). Among the most pressing, at the time of the delegation's visit, had been the issue of accountability and impunity for those most responsible for the violence that followed the election of December 2007.

Kenya's relative stability over the years is in stark contrast with most of its neighbors. Somalia, Sudan, Ethiopia, Uganda, and Rwanda have all been at various times convulsed by violent conflict far worse than anything Kenya has experienced. But the post-election violence of January 2008, which left over 1,000 dead and some 350,000 displaced, was a stark illustration of the enduring tensions and challenges the country must overcome and the fragility of its democratic trajectory (Cooke, 2009).

The 2008 post-election violence played out largely on ethnic lines, and ethnicity continues to play an inordinate role in Kenyan political life (Cooke, 2009). Ethnic-based violence has a long history in the country, fueled by grievances over land, privilege, and inequality. Successive Kenyan administrations have pitted the majority Kikuyu ethnic group, favored economically and politically by both the colonial powers and by the Kenya's first president Jomo Kenyatta, against smaller ethnic groups, including Luhya, Luo, Kalenjin, Kamba, Kisii and others. To date, ethnicity continues to be the principal axis on which political elites mobilize constituencies, and elections are more often won based on shrewd ethnic calculus and alliances than on the basis of performance or national vision.

2.6.3. Effects of Political Instabilities on Food Insecurity

Aden (2017) argued that the persistent food insecurity in Kenya is as a consequence of horizontal public policy inequalities. He defined this as the uneven distribution of resources between regions in Kenya which are a result of ethnicity inequalities. The consequence of these uneven distribution has been regional asymmetries in access to vital public goods necessary for achieving food security. He presented striking disparities across regions with regard to access to important public goods such as safe water, proper sanitation, education, health care services, improved road infrastructure, and electricity. It was indicated that the politically dominant Central

province is relatively better off compared to other regions, while the less dominant North Eastern province is the most underprivileged region concerning access to all these public goods (Aden, 2017).

Aden (2017) also presented empirical data on the regional food security status, which suggests a positive correlation between access to public goods and regional food insecurity level. Again, it is clear that the Central province is less food insecure compared to other regions and that the resource-deprived North Eastern province is the most food insecure region. Horizontal public policy inequality is a threat to economic and human development and particularly the urgency in realizing sustainable national and global food security. The relationship between "group" related political power inequality and food insecurity remains under-examined in the literature of food security. The possible reason for the limited interest in this domain can depend on the deepening interests on individual-oriented development policymaking and individual level of analysis in academic spheres. Aden (2017) finished by recommending further studies to consider the challenges of horizontal public policy inequalities in order understand better the challenge of food insecurity and arrive at sustainable solutions. Therefore, there are suggestions that it may be important to understand the impact of elections and climate changes on food prices.

2.7 National Cereals and Produce Board (NCPB)

NCPB is a government tool created by an act of parliament to regulate and control the marketing and maize processing, and other cereals thus stabilizing the food supply and prices in the country. It has sought to improve national food security through the sale, procurement, distribution, and management of strategic food reserves (SGRs) stocks. NCPB also distributes and procures subsidized fertilizer for the government, which has led to increased crop yields within the country. Losses after harvest have a significant contribution to food insecurity, due to many challenges, such

as lack of storage. In turn, NCPB offers drying and cleaning services for grain and storage at affordable rates. Excess storage facilities, residential houses, and office space are also leased by NCPB. They also provide forwarding and clearing services for exports and imports (NCPB, 2020). The goal of NCPB is to provide quality and affordable services and products. The strategic themes of the strategic plan are to build a business culture, engage in operational excellence, engage in research and development in commodities, and engage in human resource development. This involves establishing an autonomous commercial enterprise, diversifying funding/revenue generation sources for sustained business growth, increasing revenue generation through commodity trading, strengthening human resource capacity to support the development of the enterprise, providing a conducive physical working environment for improved performance, strengthening collaboration and partnerships, and strengthening post-harvest value addition (NCPB), 2020). NCPB is involved in dealing with large scale farmers by buying surplus from large scale or medium scale farms and later selling when there is deficit, this ensures stable supply as well as price control to protect the farmers.

Other agencies that are involved is the Ministry of Agriculture and Strategic Food Reserves board which are key in maintaining food security in the country. The National Drought Management Authority (NDMA) is an agency tasked with management of drought risks and enhancing adaptation to climate change. It releases early reports for famine and provides weather forecasts.

Table 1: Evolution of Maize Marketing and Pricing Policy Reforms in Kenya

State Marketing Agency	Market Regulation/Pricing Policy
1988	NCPB financially restructured. Phased closure of NCPB depots. NCPB debts written-off; crop purchase fund established but not replenished.
1991	Further relaxation of inter-district trade.
1992	Restrictions on maize trade across districts re-imposed. NCPB unable to defend ceiling prices
1993	Maize meal prices deregulated. Import tariff abolished.
1995	NCPB restricted to limited buyer and seller of last resort role. NCPB market share declines to 10-20% of marketed maize trade. NCPB operations confined mainly to high-potential areas of western Kenya.
1995	Full liberalization of internal maize and maize meal trade; Maize import tariff re-imposed to 30%.
1996	Export ban imposed after poor harvest.
1997	Import tariff imposed after poor harvest
1997	External trade and tariff rate levels change frequently and become difficult to predict. NCPB producer prices normally set above import parity levels

2000	NCPB provided with funds to purchase a greater volume of maize. NCPB's share of total maize trade rises to 25-35% of total marketed maize.
2005	The government withdraws the maize import tariff from maize entering Kenya from EAC member countries. An official 2.75% duty is still assessed. Import duty of 35% still assessed on maize entering through Mombasa port.

Source: (Ariga *et.al.* 2010)

Table 1 summarizes the reforms from 1988, however the government policy objectives before then were geared towards economic growth. This was through promoting land access to small scale holders. The mid-1980s was characterized by the implementation of the Structural Adjustment Programmes (SAPs) and "free market" policies, under the external influence of the International Monetary Fund (IMF) and the World Bank (Ronge, Wanjala, Njeru, Ojwang', 2005; Gitau et al., 2008). These included deregulations and lifting of trade barriers.

3. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

3.1. Literature Review

This section discusses the four pillars of food security, giving us working definitions to define and identify food security and food insecurity when they are found. Food security 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. Food security is conceptualized by four dimensions which are availability, access, utilization and stability. This can be seen clearly in Figure 1. The nutritional dimension is also integral to the concept of food security and to the work of CFS because it suggests that nutrition is a major aspect of the hunger problem across the world.

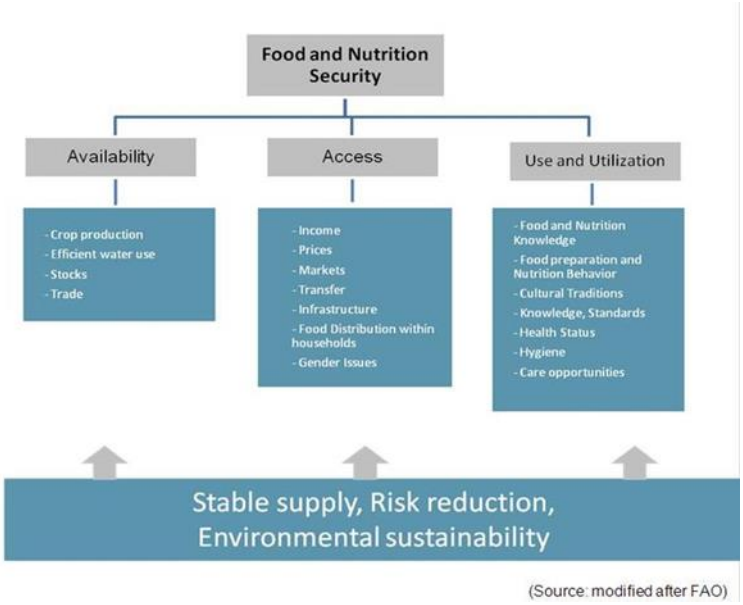

Figure 1: Food and Nutrition Security Framework *(CFS, 2009)*

3.1.1. Food Security

Household food security exists when all household members have access to enough food for a healthy and active life at all times (CFS, 2009). The definition was adopted during the World

Food Summit in 1996 which first included the 3 concepts of access, availability and utilization. However, stability has now been included as the fourth concept. The changing definitions of food security, have political, economic and material implications and outcomes on people's wellbeing and upon the structures of production, distribution and consumption characterizing the global food system (Jarosz, 2011). Food security represents a measure of food availability, as well as the ability of individuals to access food. This means that the ability to afford food is only one factor relating to the problem. Availability of food at national level will depend on local production and ability to import. Food security was a concern thousands of years ago, where ancient Chinese and ancient Egyptian authorities released stored foods when faced with famine. Thus, the concept of "food security" is based on supply, suggesting that food security means that there is availability of diverse, adequate, balanced, nourishing, and moderate food supplies of basic foodstuffs to sustain food consumption expansion and offset fluctuations in prices and production. This definition has been expanded to include access to foodstuffs to meet dietary needs and preferences in order to live a healthy and active lifestyle (FAO, 1997). Households become food insecure when they are unable to mitigate negative impacts on food availability, access, and/or utilization (Webb & Rogers, 2003). This is food insecurity, where there is limited or uncertain availability of nutritionally adequate foodstuffs. Over the years emphasis has shifted from focusing at national level to attain food security but rather on households .Food security, then, uses a resilience measure to avoid future disruption or unavailability of critical foodstuffs because of risk factors, such as economic instability, war, drought, shipping disruptions, and fuel shortages (Boeing, 2016). From 2011 to 2013, it was estimated that 843 million individuals suffered from chronic hunger (Boeing, 2016).

3.1.2. Food Availability

Food availability is defined as sufficient quantities of food of appropriate quality, supplied through domestic production or imports, including food humanitarian assistance (Scialabba, 2011). Food availability is derived from agricultural production and supplemented by the national governments through imports. Food production is determined by a variety of factors including land ownership and use, soil management, crop selection, breeding and management, livestock breeding and management and harvesting (FAO, 1997). Food availability is closely linked to the availability and use of natural, human and economic resources, especially scarcity of natural resources. Land, water and energy use to grow food can often conflict with other uses which can affect food production (Godfray et al., 2010). Crop production and trade are vital to Availability.

3.1.3. Food Access

Food access refers to the affordability and allocation of food, as well as the preferences of individuals and households (Gregory, Ingram, & Brklacich, 2005). Access depends upon a number of factors, including whether the households earn enough income to purchase food at prevailing prices or have sufficient land and other resources to grow their own food (Garrett & Ruel, 1999). Access to the markets can be affected by global trade, disruption due to crises or insecurity. Household purchasing power is the key to access and this varies in relation to market integration, price policies, and temporal market conditions (Webb, Rogers, 2003). Households with enough resources can overcome unstable harvests and local food shortages in order to maintain their access to food (Tweeten, 1999). The inverse of this indicates that households without enough resources (e.g. fertile land, income) will not be able to overcome unstable harvests or local food shortages without assistance, and the accessibility pillar of their food security will crumble.

3.1.4. Food Utilization

Utilization is the metabolism of food by individuals (Tweeten, 1999). Once food is obtained by a household, a variety of factors affect the quantity and quality of food that reaches members of the household. In order to achieve food security, the food ingested must be safe and must be enough to meet the physiological requirements of each individual. Food utilization can be hindered by disease or lack of good nutrition.

3.1.5. Food Stability

Food stability means ability to obtain food over time. Food insecurity can be determined by lack of stability to obtain food (FAO, 1997). This means that food insecurity can be transitory, seasonal or chronic. In transitory food insecurities, food may be unavailable during certain periods of time, while in seasonal, it can result from the pattern of growing seasons in food production.

3.2. Conceptual Framework

Food security is still yet to be adequately understood and sometimes even identifying those who are secure is challenging due to fluctuating economies. Nonetheless, policy makers and implementers must seek to comprehend the linkages amongst the causes when food insecurity is identified. They ought to know who is insecure, why, what their geographic location is, the severity of the crisis, and the number of insecure people. Geographical reviews would go a long way toward answering; the number and location of insecure people, severity and duration of the insecurity, and the incidence. These results would assist in decision making by helping to understand the urgency, strategies, and how to harness the available resources and assess the impact of the interventions. Figure 1 is definitive on describing an interrelationship between food security, political environment, natural resources and the interactions between them.

This study bases its framework on the interrelationship between government policies (policy), drought (natural resources) and food security. The factors contributing to food security depend correspondingly on government policies and measures, drought effects, and political influences. World Bank and USAID notes that food security depends upon good governance at national level. Paarlberg (2002) argues that African states are faced with corruption and civil strife which is the opposite to good governance and that good governance promotes integration to the global economy. He further states that hunger is due to lack of access to social services, ethnic discrimination and violent conflict. "Most of these local problems must be corrected through improved governmental performance at the national level, one state at a time" (Paarlberg, 2002). In essence, these three components/factors are central topics to guide the food chain from the producers to consumers as illustrated by figure 3. When the local consumers are finally reached, the conditions under which they consume their products defines the state of their food security.

According to the World bank Report *Agriculture for Development*, agriculture is a key driver for development. Agriculture will improve food availability which is essential for food security. Productivity is scaled at the national level, as the world is generally seen as food secure and nations are ranked in a hierarchal measure of hunger in annual food security reports as well as in this report (World Bank, 2008).

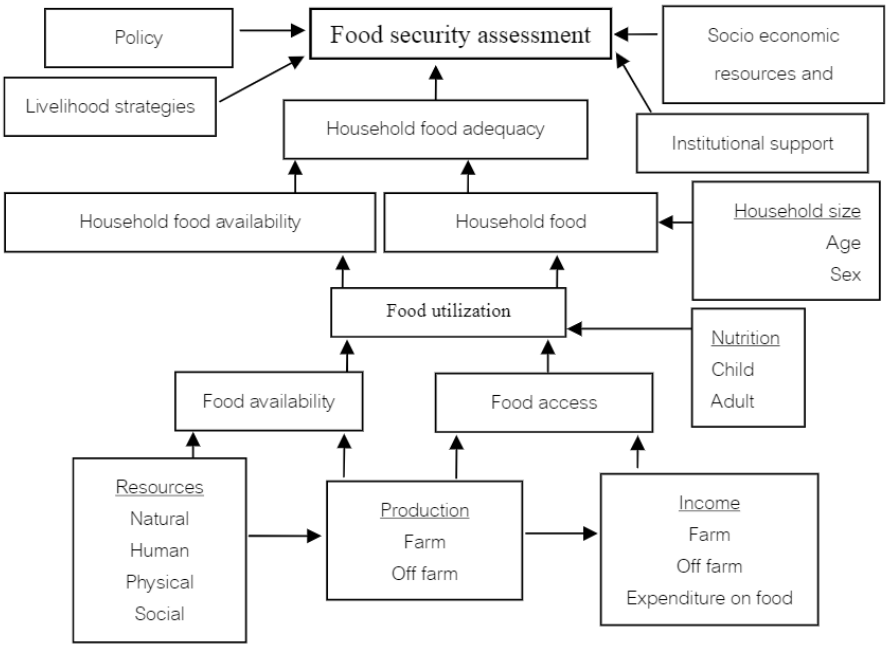

Figure 2: Determinants of food security ***(FAO, 2019)***

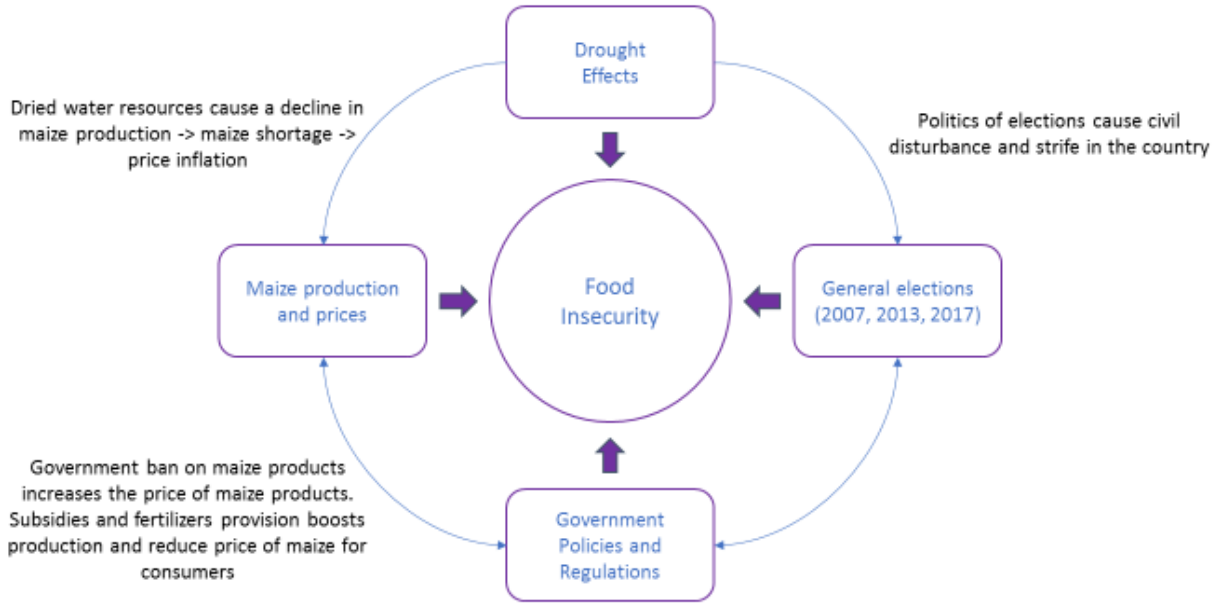

Figure 3: Framework Describing Factors Affecting Food security in the Kenyan context (created by the author).

4. RESEARCH METHODOLOGY

4.1. Research Design

This chapter describes the methods, approaches and tools I used to make this study a success through achieving the main aim. It briefly and analytically describes: the research design I used; the study area from where I conducted the study; the process of data collection I used (basically sampling methods and the interview schedules); the target population I narrowed to for primary data and secondary data; the thematic analyses; interpretation, conclusions and recommendations; the ethical considerations; and, the reliability and validity of the study. The methodology section is the core of a study that indicates the practicality and reality of the objectives' components formed for this study. Therefore, it is very vital for validation purposes.

In order to fill that "on-the-ground" knowledge gap regarding food security in Kenya, the study will go directly to individuals for responses to questions in the form of structured and unstructured interviews surrounding the issues of politics, drought, elections and food security. The goal is to determine patterns that exist, also to interpret the patterns based on the way the patterns are experienced by the humans that live the patterns (Lune & Berg, 2016). In an investigation of politics, food security, and drought, understanding how the residents of an area regard the situation can be a great deal of help to social and physical scientists attempting to solve the problems. It is important to note that the maize crisis is current, so no academic sources are available regarding this problem yet. The use of newspapers as a secondary source, therefore, is intentional. The population looks to media for information regarding the crisis and the media, as a result, is more than a little influential in shaping opinions.

According to Bryman (2012), the research design and the collection of data are guided by specific research questions that derive from theoretical concerns. However, he indicates that when a

qualitative research strategy is employed within a cross-sectional design, as in Beardsworth and Keil's research, the approach tends to be inductive. In other words, whether a cross-sectional design is inductive or deductive tends to be affected by whether a quantitative or a qualitative research strategy is employed. Research questions in qualitative research are stated with varying degrees of explicitness. Sometimes, the research question is embedded within a general statement of the orientation of an article (Bryman, 2012). Research questions are likely to give guidelines on what categories of people need to be the focus and therefore sampled (Bryman, 20112).

4.2. Qualitative Analysis

Based on the guiding research question of this study, which is to evaluate 'how drought, maize production and national politics interact to create food security dynamics during election times in Kenya', I had systematically explored this knowledge gap using the qualitative method. Qualitative method process involved me reaching respondents out directly to gather responses for objective-modelled interviews of both structured and unstructured questioning strategy. These questions tackled areas around politics, drought and food security for comprehensiveness of the research. My aim was to determine patterns existing and to interpret them as to how they manifest on humans according to study done by Lune and Berg (2017). To clarify on this aim further, it is a fact that investigating politics, drought impacts and food security gauge our understanding of how the residents of a particular area regard this critical situation vis-à-vis problem solution commitment by the scientist.

Qualitative research, which answers questions of what, why, and how, provides a base of rich background for thematic interpretation. Not only does qualitative research help the researcher discover social patterns that may exist, it helps the researcher to locate the meaning behind the patterns (Lune & Berg, 2016). Qualitative research refers to "meanings, concepts, definitions,

characteristics, metaphors, symbols, and descriptions of things" (Lune & Berg, 2016, p. 12). The lived experience of individuals can tell us a great deal about how the cycle in life operate, and if (or how) they can be interrupted. Further, it is important to remember that any time a political system is involved, it can be as important to understand what the people feel about the situation as it is to understand what truly exists. Plummer (2001, p. 14) refers to this as dealing with "concrete human experiences – talk, feelings, actions – through their social and economic organization." It is this combination of primary (human experiences) and secondary sources (literature, documents, government resources) which will provide invaluable information in determining both what needs done, and how people will likely react to it.

Using qualitative methodology is somewhat self-explanatory: researchers use the qualitative methodology to explore the qualities that the people who are the subject of the research think, feels, and live. Once the way that the subjects feel has been determined, it can be supplemented with secondary data collected from additional sources (Lune & Berg, 2016).

A qualitative thematic analysis will be undertaken to identify key themes which are discovered by responses in the primary data collection stage (Lune & Berg, 2016, p. 91). These themes will be evaluated and explored in relation to the findings of the secondary data as well as those of the literature review. Finally, conclusions will be drawn, and recommendations will be made for policy initiatives, as well as for further study.

4.3. Study Area

This study was specifically conducted in Kawangware (Figure 4) of Nairobi County, Kenya and Kitale (Figure 5) in Trans-Nzoia County.

Figure 4: Map of Kawangware and Surrounding Areas

Figure 5: Map of Kitale and Surrounding Areas

Kawangware's location is a good proxy for the food politics influences and other food-based factors in relation to the country's food policies that may be leading to maize crisis. Kawangware is an area in Nairobi, Kenya, classified as a slum. It is located 15km west of the center of the city and is located between Dagoretti and Lavington. The income is extremely low; most residents live on less than $1 a day. In addition, unemployment is high. Many individuals describe themselves as 'self-employed traders. Kawangware was chosen because the researcher was able to obtain the assistance of a local Kawangware resident in the administration of interviews.

Kitale, in Trans-Nzoia county, is an agricultural town and one of the leading counties in production of maize, the main staple food in Kenya. Kitale was important for this study because apart from being the largest producer of maize, it was also hugely affected by post-election violence after the 2007 elections that affected maize supply (Rawlence & Albin-Lackey, 2008).

4.4. Data Collection and Sampling

4.4.1. Sampling Method

The sampling method was a convenience sampling. However, given that most of the interviews were with referrals by other individuals who were interviewed, the sampling method might better be described as snowball sampling. Cohen and Arieli (2011) pointed out that it can be a challenge to conduct research in areas where there has been a lot of conflict, such as the areas in Kenya. Residents of these areas commonly have attitudes of suspicion; they distrust people from the outside. While this distrust would be partially alleviated by my cohort in Kawangware, there was still a great deal of difficulty collecting an adequate sample to interview.

The snowball sampling method is a technique used to find subjects through referrals by other subjects. The first subject refers to the second, who gives the name of a third, and so on (Vogt, 2005, p. 300). This type of sampling is typically used in an environment when other methods will

not work. Cohen and Arieli (2011) specifically pointed out that in some conditions, such as conflict environments, this may be the only form of sampling that is adequate. Thus, while it has both advantages and disadvantages, the method allows research to take place in areas that might otherwise have to be neglected.

Primary and secondary data are used in the thesis. Primary data consisted of interviews with residents in Kawangware and Kitale. Some of the interviews were structured or semi-structured; others were unstructured. On 5 March 2019, this researcher travelled to Nairobi Kenya and met with a researcher I had worked with before. We moved the planned interview location from private homes to the dispensary; this was primarily for safety reasons. It was necessary to get permission from the local Chief's office to conduct the research. The chief was presented with a letter from the university that stated the topic to be investigated. Professor Bernard Muok from Jaramogi Oginga Odinga University had agreed to help me with the technicalities and legalities of conducting the research and to alert me to any safety or operational concerns. Doctor Lucas and I met on 7 March 2019 to arrange for interviewees. He was in charge of the dispensary where I conducted my interviews and due to his influence, he was able to assist me in getting the first group of interviewees. The doctor invited local health care workers to participate and mobilise the interviewees, but they would not do so without payment. We informed them that participation would be voluntary and most left.

Qualitative studies generally require fewer participants than do quantitative studies. Vasileiou *et al.* (2018) pointed out that there is a great deal of controversy related to sample sizes in qualitative studies, but in general, the appropriateness of the sample must be considered as primary importance. As Vasileiou *et al.* (2018, p. 2) asserted, "Qualitative samples are purposive, that is, selected by virtue of their capacity to provide richly-textured information, relevant to the

phenomenon under investigation." As a result, the sample needs to be selected for its ability to provide rich information, rather than accepting a larger sample that cannot fulfil the requirement or that provides so much information it is difficult to analyze. In essence, the more data that can be collected from one person, the less people are needed to participate (Vasileiou et al., 2018) . In general, there is evidence that little new information is typically elicited after 20 interviews (Green & Thorogood, 2004) and that more than 50 can be unmanageable (Legard, Keegan, & Ward, 2003; Ritchie, Lewis, Nicholls, & Ormston, 2013). The sample for the current research was inside those parameters. To ensure variety, I also ensured that the sample differed in terms of characteristics. The current study targeted individuals from four distinct sectors of the Kenyan food industry: Producers, policy makers, Traders and Consumers.

A sample size of 30 was initially targeted for data collection. These groups were chosen as collectively they represented the entire national food system from the moment maize is planted (producers) to the moment it is consumed (consumers). The representatives of the four sectors were interviewed with an aim at establishing the key themes that influence food security. It quickly became obvious that it would be necessary to adjust sample sizes and the numbers of interviewees projected for each category because of the difficulty of gaining cooperation from individuals in the targeted groups.

Primary data was collected from interviews and the sample size was chosen through purposive snowball sampling. Semi-structured interviews were conducted with the assistance of an in-contact from the Gatina Dispensary in Kawangware, who solicited the help of local community health workers to identify and mobilize interviewees. Traders who dealt with maize from Kawangware market were also interviewed. Farmers from Kitale were located and interviewed with the help of a research assistant. Three key informants also were interviewed. The ramifications and

possible effects of those choices on the results will be discussed further in later chapters. The interview guide can be found in Appendix 1.

In determining the demographic composition of the respondents, the study considered their responses to questions regarding their economic activities, region, and the area of the operation of the sampled study participants. Four different groups were interviewed for the study: households, farmers, traders and officials from the government. Out of 28 interviewees, 12 identified themselves as households in the Kawangware region. Kawangware was chosen as it is high in urban poverty and has faced political violence during election campaigns. Meanwhile, farmers in Kitale represented nine out of the 28 of the respondents. Kitale was selected for participation as it is one the of the grain baskets of Kenya. A local research assistant was required for these interviews, since the farmers were unable to communicate in either English or Swahili. Finally, four respondents were traders from the Kawangware market and three were government officials. One official each was from the NCPB staff, the Ministry of Agriculture, and Kenya Africa National Union Political Party (KANU), which is one of the political parties in the opposition. The breakdown of respondents in each group can be seen in Table 2.

Table 2: Composition of the Interviewees

Category	Number of Participants
Government officials	3
Traders	4
Farmers in Kitale	9
Households in Kawangware	12

4.4.2. Interviews

It was difficult to build rapport with some of the interviewees, as they had a suspicion of outsiders, perhaps because of the conflict their nation had been in. My former colleague who was a community health worker was able to help build rapport by talking to the interviewees in their language, making some jokes, and so on. While interviewing the farmers, the interviewing sessions were a challenge; there were times that the people being interviewed had a very low level of educational attainment and the questions had to be adjusted. At one point we located someone who could function as a research assistant who was from the area and who spoke the local language of *Kalenjin*. In the government, it was extremely hard to get interviews. It was hard to get contacts, nearly impossible to get them to answer their phone and even if they committed to the interviews, they were not always available. During the time period that the data was being collected, the maize crisis was ongoing, and this may have put some of the potential interviewees off from cooperating. In addition, due to the sensitivity on the topic of elections this may have been off-putting to some of the interviewees.

Additional data for this study was collected from both primary and secondary data sources on 2007, 2013 and 2017 general elections. Individual households in Kawangware and maize – growing farmers from Kitale were to constitute the primary sources. A sample of 30 households was planned but due to the political situation, the plan was changed somewhat. Convenience sampling, explained earlier, was utilized using snowball sampling to fulfill the total number of interviewees. This method of sampling was chosen for several reasons. The study required a research permit from Kenyan officials which likely would have precluded a larger or more representative sampling. Conducting in-person interviews or administering questionnaires is prohibitively expensive, even when not carried out on another continent. And, as mentioned above,

Kawangware was chosen because the study was able to obtain the assistance of a contact local to Kawangware to help in the administration of the interviews and questionnaires. All these issues contributed to potentially prohibitively high costs and lengthy delays in data collection, so convenience sampling was chosen, using snowballing to locate additional interviewees. Further details on the household chosen and the rationale for them can be found below.

This primary data was supplemented with secondary data from published documents in order to provide information about the maize crises in 2007, 2013, and 2017 general elections for context during the thematic analysis. The documents were taken from printed materials (journals and books) and from governmental reports and official materials.

4.5. Secondary Data

The data was collected from some published and unpublished sources. Food reports, media reports, policy documents by NDMA, Kenya Food Security Steering Group (KFSSG), United Nations, NCPB, Ministry of Agriculture, and Food Agriculture Organization (FAO). Individuals in these offices were also consulted with a special focus on food insecurity, government policies, political violence, and drought. Many of them declined to participate and the materials subsequently came from reports, acquired either from their offices or from a central government office. This data supplemented the primary data obtained from the interviews in order to underscore the key themes identified from that primary data.

Lune and Berg (2016) pointed out that primary source material can also include diaries written at the time of the occurrence, photographs, documents produced at the time of the occurrence, and other artifacts. Secondary resources would include data or descriptions that people who were not present at the event would produce. This would include books or journals produced after the happening. Newspaper reports are in this category. In some cases, tertiary resources may

be utilized, in particular to check the likelihood of validity of reports by the interviewees. They may contain copies of primary and secondary information and are useful for triangulation purposes (Lune & Berg, 2016).

4.6. Thematic Analysis

Once the data had been collected, a qualitative thematic analysis was conducted. Thematic analysis allows the interpretation of rich data (Braun & Clarke, 2006). More content is collected and causal mechanisms can be identified. The perspectives of different stakeholders were highlighted. The method is very flexible and easily learned. Thematic analysis allowed the researcher to determine what the different groups felt so differently about the topic at hand. As a tool, thematic analysis provided revealing data and thus was important to the study (Braun & Clarke, 2006).

Themes which were repeated by respondents were drawn out and coded. The secondary data was drawn upon in order to underscore and supplement those themes that are discovered. This method of analysis was appropriate given the small sample size and the convenience sampling. A robust quantitative statistical analysis would be more appropriate for a study with a larger and more representative sample or a quantitative sample. Perhaps such a study will be warranted for future research.

4.7. Interpretation, Conclusions and Recommendations

Once the data, both primary and secondary, were collected, coded and analyzed, an interpretation of the data with regards to itself as well as the historical background of Kenyan drought, politics and food insecurity as well as food security in general was conducted. The process followed the phases defined by Braun and Clarke (2006). Conclusions regarding the specifics of Kenya's food security and its relationship to the maize crises, political instability and drought were

reached. Recommendations, both for policy initiatives as well as areas of potential further study were defined.

4.8. Ethical Considerations

Permission from the Nairobi and Trans-Nzoia County Governments was obtained for this study, after the procurement of an introduction letter from the university verifying the nature and scope of the study. Norwegian center for Research data (NSD) approval was not required as the study did not involve collection of personal information. Participants had to be reminded repeatedly that they would not be paid for their participation, as nearly everyone we approached believed they would be paid. This may be due in large part to the nature of Kenyan society, where people expect *kitu kidogo* (payment for a favour done). In addition, it was explained what responses would be used for, but it was not clear that the participants really understood, even though they agreed to sign statements of understanding. Utilizing a research assistant who spoke the participants' language alleviated some of these concerns. The importance of the project, to be used in making recommends that were strategically aimed at reducing food insecurity for Kenyans, overrode the ethical concerns. The project is for the greater good of the population and there is no likelihood of harm to the respondents.

4.9. Reliability and Validity

Lune and Berg (2016) argue that reliability in thematic analysis can be accomplished by having a team member or supervisor review the researcher's work and see if they would code the information in the same fashion that the original researcher did. The researcher should also maintain coding sheets with cross referencing, and which can be made available to other researchers who wish to check reliability of the data (Lune & Berg, 2016). The goal is to determine if researchers would be able to replicate the results using the same data. Validity refers to the integrity of the data

processing. It applies to the level of appropriateness of the methods for the processes used and for the data. The triangulation of researchers and of resources and theories will help ensure validity (Leung, Bai, & Stahura, 2015). A further step to both reliability and validity is to keep a research diary, which did occur. The diary can serve to clarify matters in question for reviewers or future researchers.

Bryman (2012) has established that reliability and validity are important criterias in establishing and assessing the quality of research for the quantitative researcher. Again, the triangulation of researchers and of resources and theories helps to ensure validity (Leung, Bai & Stahura, 2015). A further step to both reliability and validity is to keep a research diary, which did occur. The diary can serve to clarify matters in question for reviewers or future researchers.

I had chosen the primary data to verify secondary data from the secondary sources to meet my aim in this study. As a reliability assessor, the kind of data obtained from the primary data are as well dependable on the archived secondary data. Primary data can be reliable at the point where no emotional disturbance is produced among the respondents and where they are sober, willing and ready to venture into the study. In the process of the interviews, the ratio of settlement to unsettlement of the respondents were around seven to three, proving a reliability of 0.7. This case depicts a study validity of 70%.

Hence, in this study, I had to rely on secondary sources to depict a trend expected in primary data in order to establish the main purpose of the study. Secondary data are much more reliable for one reason, they are recorded at the exact time of occurrence, for example newspapers and magazines. While with journals and books, it is recorded after substantial time after the occurrence where they may miss accuracy of information. Therefore, as long as this study is concerned, the reliability and validity was very dependable on both the secondary and primary data. However, it is

recognized that the sample size was small and that bias from media reports may impact the reliability.

5. ANALYSIS

This section contains the compilation and thematic analysis of the primary data obtained through structured and semi-structured interviews, as well as the secondary data obtained from policy documents, news reports and other official documents. Where appropriate and supported by the conceptual framework, these secondary data will be used to underscore the themes which are drawn out of the primary data, but further discussion of conclusions and the possible connections between the two will be saved for Chapters 6 and 7. Chapter 5 contains an analysis of the ways that food insecurity, in particular a crisis of a staple food, affects the urban poor of Kawangware as compared to the rural poor of Kitale. To have food security, there needs to be political stability and food affordability, but, in Kenya, the government is politically unstable around election periods making food unaffordable. The drought, combined with difficult elections and high food prices, have led the interviewees to experience food insecurity. The chapter also contains an analysis of politics of food around election time, it connects primary and secondary data and ties together the background information and the theoretical framework.

5.1. Timeline of Events

The context of causal relationship refers to the highlight of causal factors of a condition and the unveiling long run effect. Kenya is currently in the middle of a staple food crisis and has had to cope with tremendous instability in its maize market. Production quantities of maize have gone down and the maize prices have spiraled rapidly which has been driven by domestic factors such as shocks to production caused by subsequent droughts and political unrest. Complementary to these factors, certain policies by the government have also had a direct impact on maize production and price influence. These factors may occur independently as the cause of maize availability determinants or jointly as compound influencers. These have resulted in a large maize deficit, an

increase in duty-free imports and high domestic prices. Table 3 further in this chapter provides information regarding the influence of different factors on food security in Kenya.

The following figure shows average retail prices of maize prices, climatic and political events.

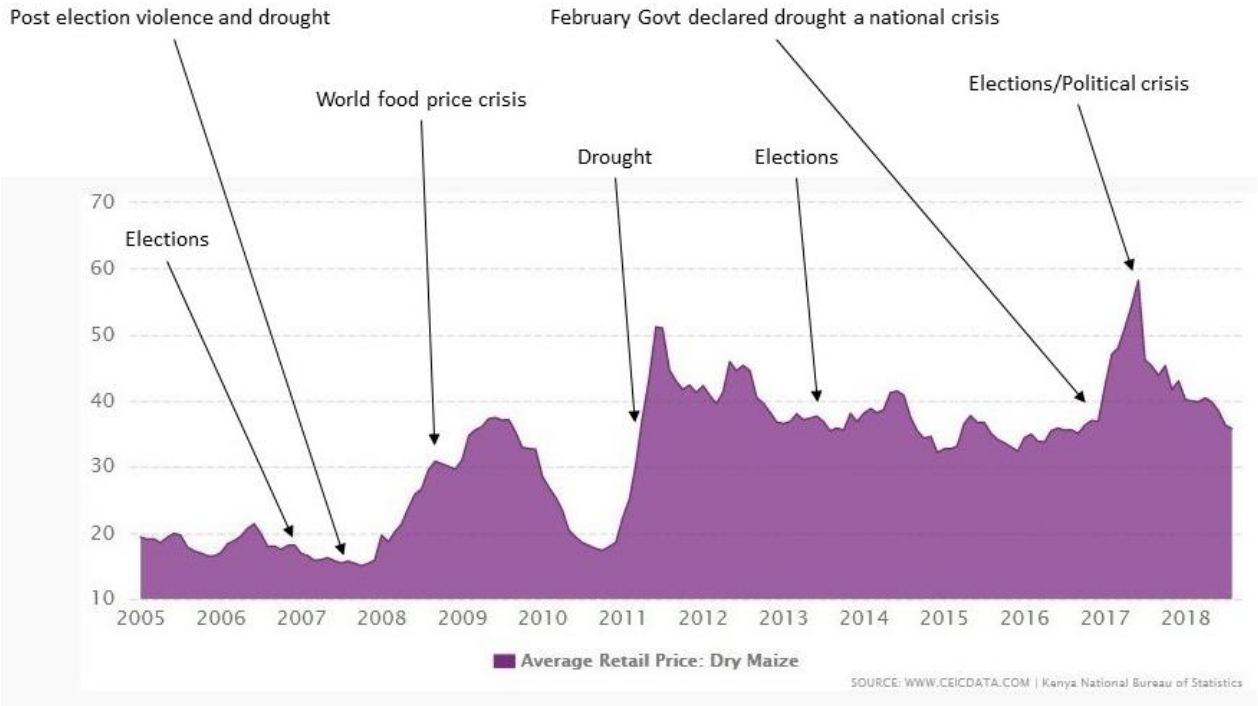

Figure 6: Average Price of Dry Maize from 2005 to 2018 (CEIC, 2019) : Events adapted by Author

Figure 6 above reflects Kenya's average retail dry maize price from January 2005 to June 2018. The period from 2007 to 2008, representing an election period and recovery, where the price of maize dropped, then began to rise. In the period leading up to the 2013 election, the price had fallen slightly and did not begin to rise again until 2014. The 2017 election showed a slightly different pattern, peaking immediately after the election and then falling sharply (CEIC, 2019).

In 2008, due to poor harvest due to erratic rains and import bans, prices rose sharply toward the year 2009 and by mid-2008 it was obvious that the country needed to import to cater for the deficit. But due to delays in government importation and government's decision to maintain the 50% tariff on imports for private sector importers, maize prices stayed at very high levels in late 2008 despite the tumbling of world prices starting in October 2008 (Ariga & Jayne , 2010).

5.1.1 Drought Events in Kenya

The recording of the drought cycle in Kenya goes back as far as 30 years ago. Frequency of droughts is increasing in Kenya leading to high food prices particularly maize and thus limiting the ability of households to sustain themselves. It is evident from Table 3 that Kenya has been hit by several droughts and from the history there is certainly a trend that exist aligning contexts for a possible solution. However, 2012 was a good year and production increased. Even though the drought cycles have become shorter, the frequency has increased especially due to the global climate change. The USAID Center for Resilience has tracked drought conditions and events for a number of years (Venton, 2018). In recent years, the Famine Early Warning System (FEWS) was developed and activated and is now being used to alert people to the possibility of upcoming famine. If FEWS indicates a famine is likely, then humanitarian assistance can be issued early.

Table 3: History of Drought Events in Kenya from 2011

Drought Event	Aid Received in USD	People Affected in millions	Total Population in millions	Percentage Affected
2011	427 m	3.75	41.4	9.1

2009	432 m	3.79	39.3	9.6
2006	197 m	2.97	36.3	8.2
2003/2004	219 m	2.23	34.4	6.5

Source: (Venton, 2018)

In the preceding table, the 2006 drought was forewarned in mid-2005. Unfortunately, humanitarian assistance still did not begin until early 2006. The system alerted in May 2010 that a drought was likely, even though the country was still recovering from the 2009 drought. Despite the very early warning, humanitarian assistance was not provided until July 2011. For this particular drought condition, only minor humanitarian assistance was provided until July 2011 when the United Nations declared famine conditions in Somalia. Humanitarian assistance peaked in August 2011 and had begun a sharp decline by September 2011 (Venton, 2018).

The Kenyan Drought Management System is now comprised of four parts: the early warning system, county plans to allow for rapid reaction to drought warnings, a National Drought Emergency Fund, and a plan for drought coordination and response. This plan includes activation of the NDMA and the Kenyan Food Security Meeting (KFSM). One of Kenya's drought responses is to plant fodder for animals instead of maize or foodstuffs. Fodder takes fewer resources and water and farmers can trade it for human food (Venton, 2018). Without intervention by the government; however, "high impacts of drought in one year can have strong effects on households' abilities to cope in subsequent years" (Venton, 2018).

5.1.2 Politics and Policies

The ‘opposite’ of the famine is flood. After it has been dry and the ground is hard, heavy seasonal rains can result in floods, which, in turn, destroys crops. While animals may starve, they may also drown in flooding. Inadequate policies relating to flood prevention and early intervention have contributed to the difficulties Kenya is having. In addition, the government’s agricultural taxes represent a significant burden on farmers producing crops for human food because of the increased cost of food production. Adding to the problem is that many of the roads have ‘road charges,’ which means that producers are charged to move their product from a high production area to a lower production area. There have been many suggestions to policy changes that would make transportation easier, but issues relating to corruption in the government still must be addressed .

The election events of 2007, 2013 and 2017 severely strained Kenya’s normal ability to provide affordable maize and maize meal. The importance of maize availability in Kenya was underscored by the civil unrest that followed the December 2007 election and a subsequent drought in 2009. These events resulted in a spike in maize imports and prices and increased interest in policies to assure supplies. However, drought followed and affected the next two harvests. As a result, total production fell by 19% in 2008 and did not recover to normal levels until 2010.

The post-election violence in 2008 affected the country’s ability to provide affordable maize and maize products. Civil disturbances following the December 2007 election resulted in the destruction of 0.3 million tons of maize and a 20 percent reduction in the total area planted to maize during long rains in 2008 (Okiror, 2017). This was later followed by drought in 2008 which affected maize production levels. With the elections in 2017, donors were worried that funding for the drought response may be politicized. With rising food prices, the drought had taken center stage in election campaigns (Okiror, 2017).

5.1.3 Maize Production

Maize is the staple food of Kenya, and its presence adds index on food security status. Maize production, availability and pricing is the most vital element of food security because maize production and food security are intertwined. Maize production has shown a deficit over the years and thus has been struggling to meet the citizens' consumption needs. For the last nine years, production of maize has not met the demands of the country's population, and the deficits are met through importation. Maize production level was closest to the consumption level in 2012 but had then worsened in 2017 as seen in Figure 8 with both lowest production levels and highest consumption levels of maize (huge demand gap), probably due to electioneering effects for the year 2017. Between October 2011 and October 2012, the number of food-insecure people in Kenya declined from 3.75 million to 2.1 million, largely as a result of improved food production (Bii and Sigei, 2019; CEIC, 2019). However, this did not last due to the lasting drought effects and the market disruptions leading up to the elections which caused high maize prices.

The drought in 2011 across the Horn of Africa left many people unable to rebuild after the harvest losses. However, 2012 was a good year and production increased. With the past droughts, Kenya seems to be ill prepared even with the early warning systems with most of the response activities being focused on immediate interventions rather than long term solutions.

Maize production has varied significantly over the last decade. The following figure illustrates the variability in production from 2007 to 2017. The drought years were 2009 and 2011. Although data was not available for later droughts, the two drought years available signify that the lower areas of production are indicative of decreases in production.

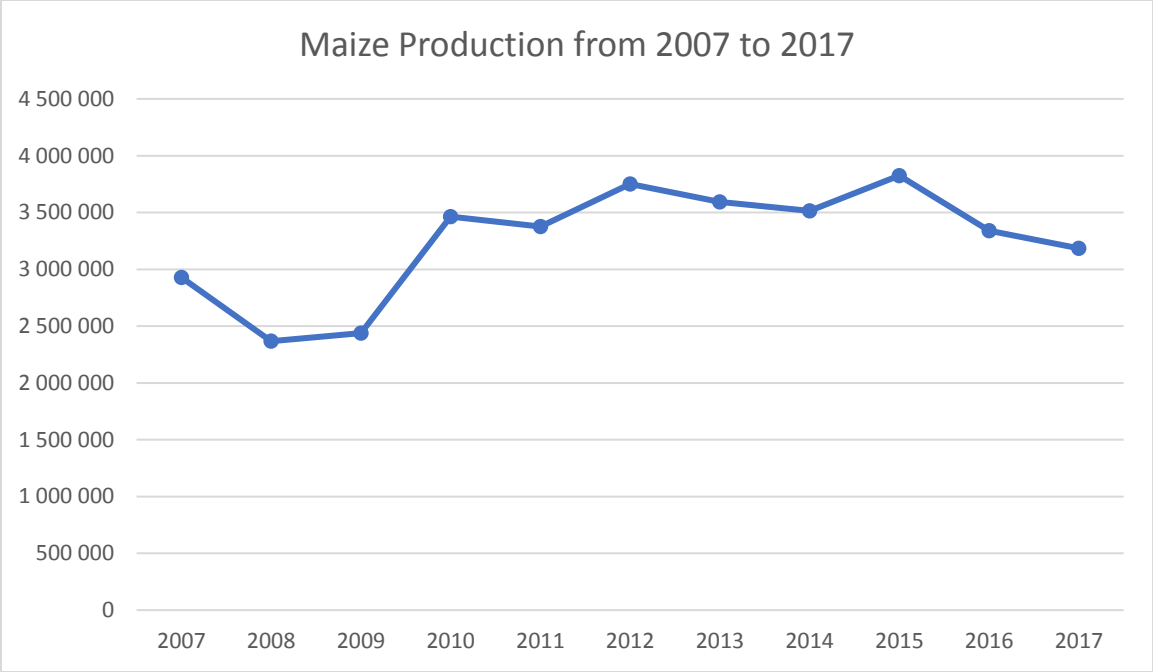

Figure 7: Maize Production from 2007 to 2017 (CEIC, 2019)

Maize production in the country had decreased compared to the long-term average. Although maize in Kenya has been singled out as the main source of food, households with little or no production and access of it have been considered food insecure. Statistics reflect that in 2017, the price of maize flour (known as *unga* by the locals) had risen by 31% and had in effect driven up inflation to 11.5% by April from 9% in February of 2017. The supply of maize had declined greatly, and many families only d on a single meal per day. Maize price has remained high across the country as of today and it has continued to limit the household purchasing power. High prices have been driven by the long drought session in western Kenya and Rift Valley regions. Wholesale maize prices have ranged from 7% to 63% above the five-year average across most key reference markets (UNICEF 2019). With the past droughts, Kenya seems to be ill prepared even with the early warning systems with most of the response activities being focused on immediate interventions rather than long term solutions.

Kenya has continued to change its policies frequently to adapt to the various pressures confronting the government regarding food security. The major policy objective for maize is maintaining its availability at stable, affordable prices for Kenyan consumers. The Government of Kenya (GOK) has occasionally responded to low maize prices with higher tariffs, but market interventions have mainly focused on maintaining supplies, especially in the major deficit market of Nairobi. The NCPB is the main agency responsible for implementing this policy and has been used as the main policy instrument to regulate market prices of maize. Consequently, the price incentives provided by NCPB to producers in Kenya forms effective control of maize prices in the country. Therefore, NCPB purchases grains and sells them to millers often at a subsidized price. Combined with the short-term adjustment of the tariff to increase imports during years of shortage, the purchase pricing of NCPB manifested itself as a maize price ceiling. NCPB has a positive impact through regulating prices, but it can also be used as a political tool.

The NCPB's participation in maize markets increased after 2000, but their market share has remained well below pre-liberalization levels. (Mulinge & Witwer 2012). The years 2006 and 2007 were largely a continuation of the policy framework for maize since 2000. However, civil unrest and drought in 2008 and 2009 severely strained Kenya's ability to provide affordable maize and maize meal (FAO, 2014). Since Kenya has a deficit in maize production, it resorts to Tanzania and Uganda imports as they have lower costs of production than Kenya and competitive access costs to some of Kenya's population centers. Kenya is able provide enough to its citizens with imports from these two countries at lower prices however, in 2008-2009 due to the world food crisis, Kenya had to import from international markets.

5.2. Key Themes in the Interviews – Primary Data

The theoretical framework regarding the causes and impacts of food insecurity is applied below. The foremost themes drawn out of the primary data are as follows:

- Self-reported food insecurity
- Drought as an exacerbating factor
- Ineffective government in the form of
    - Election-related violence
    - Unresponsiveness or ineffectiveness
    - Corruption

5.2.1. Self-reported Food Insecurity

Many interviewees reported that they had struggled with food insecurity. Out of 28 interviewees, majority indicated that they had encountered food insecurity. Few of the interviewees felt that their food security level had not reached an alarming stage. This food insecurity was generally reported to be due to either food shortages or high food prices, and sometimes both. They were generally indicative of a failure of one of the three pillars of food security, either availability, access, or use (Lee, 2007). While there were some interviewees who did not feel that they had personally undergone a food security problem, many had and represented more than the majority.

When discussing how individuals responded to the insecurity, majority of the respondents said:

"We 'spanned around' (travelled long distances) fighting like everybody else for food at hiked-up prices."

Several interviewees reported that they waited for politicians to fulfill campaign promises to deliver the food to locations that needed it and one interviewee stated that:

"I had given up on the hassle entirely and was fighting for whatever could come along."

The reported causes for food insecurity were largely attributed to politics and drought. Politics and ineffectual government were indicated by half of the respondents. Moreover, slightly more than half of the interviewees were in agreement that the existence of droughts adversely affected food security. Some of the participants indicated that insecurity arises from criminal acts, while two of the participants were of the view that insecurity is fueled by tribal clashes and cattle raids respectively. Considering the three pillars, food is not available for purchase on a consistent basis, which would be the first pillar (Lee, 2007) and a macro-economic level deficit. However, none of the interviewees cited micro-level deficits, such as income or an inability to cook food.

5.2.2. Drought as an Exacerbating Factor

Drought is another macro-level insecurity. The data indicated that the regions surveyed encountered drought conditions. These years were election years. More than half of those interviewed confirmed that they had experienced drought. As mentioned previously, slightly more than half the interviewees reported that those droughts adversely affected their food security.

5.2.3. Ineffectual or Unresponsive Government Responses

The clearest indication from the data was the ineffectual government response to the food insecurity, with sub-themes of election violence and the government being cited as either unresponsive or corrupt. Some even attributed certain government actions to worsening their food security.

5.2.3.1 Sub-theme: Election-related Violence

All four response groups indicated that election-related violence was a factor. It especially affected farmers as some reported that their farms were burned down in the post-election violence of 2007/2008. Traders interviewed agreed that the violence affected the price of food items, including maize, which, in turn, affected the household purchasing power.

5.2.3.2 Sub-theme: An Unresponsive Government

There were government policies for importing maize and cooking oil, as well as subsidizing prices. The government responded to the crisis but was ineffective and costs continued to rise. The government dealt with the maize shortage through importation and provision of relief maize and cooking oil to hunger-stricken communities, implemented with price subsidization (Emongor, 2011). One respondent said:

> "*Either the authorized parties didn't want to work, didn't work to expectations, had political motives, or the policies were not good enough*."

Meanwhile, many interviewees, indicated that the government policies in place were ineffective. Many ended their statements with "*the government can do better*." The low effectiveness of these policies needed to be explored further, but these are backed up by secondary data sources which was discussed at length in Chapter 5.3. A responsive government would have recognized policy failures and acted (Njeru, 2017). But the primary data indicates that this was not the case.

The Agricultural Sector Development Strategy (ASDS) was cited as the most visible government policy on food security with eight of 28 respondents. There were five respondents who felt the 1981 National Food Policy was taken into consideration by government efforts, while three were of the view that National Food and Nutrition Security Implementation Framework, National

Agricultural Research System and Kenya Rural Development Strategy were considered in the food policy formulation. Finally, two respondents each indicated that Kenya Vision 2030, Strategy for Revitalizing Agriculture, Kenya National Nutrition Action Plan, National Food Security and Nutrition Policy (NFSNP) were considered in drawing up the governments food security action plan. Most of the interviewees were quite familiar with the Vision 2030, but farmers and traders seemed more knowledgeable on other policies, as compared to the household group that was interviewed. The interviewer had to explain the policies to them as they were not aware what each entailed. The following figure summarizes the study findings.

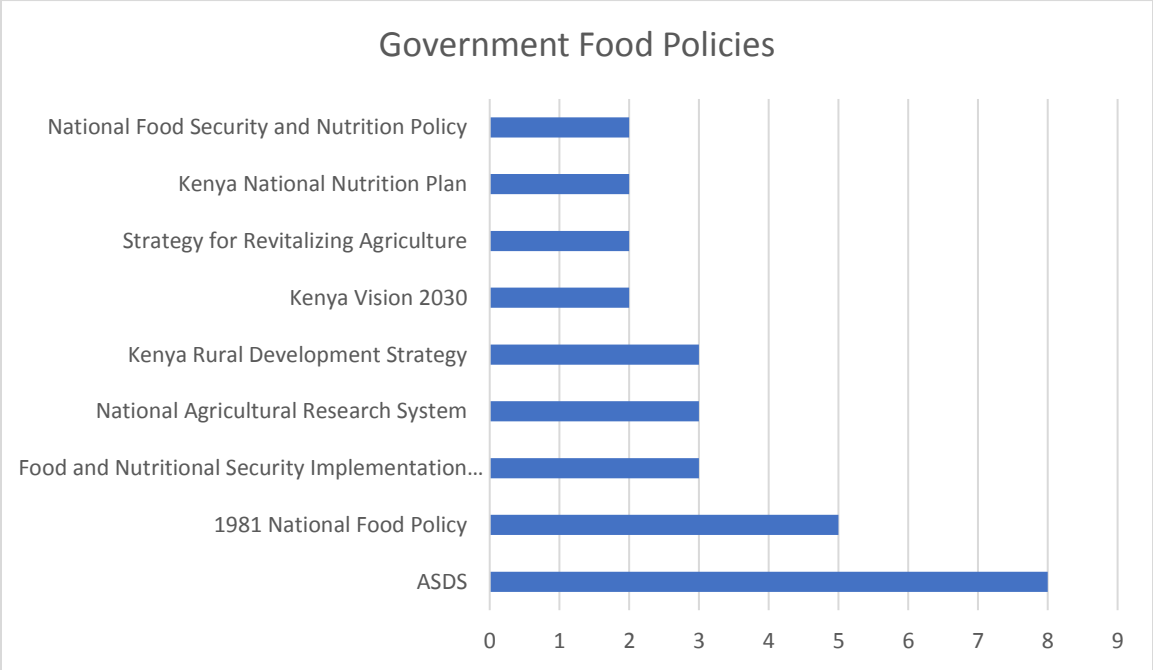

Figure 8: Respondents Knowledge on Government Food Policies

Figure 9 below summarizes the study findings on the government policies adopted during the electioneering period in Kenya. A few of the farmers, traders, and households, delineated in Figure 8, indicated that the NFSNP and importation tariffs policies on maize, the grain reserves, price control measures and the trade measures were effective at enhancing food security.

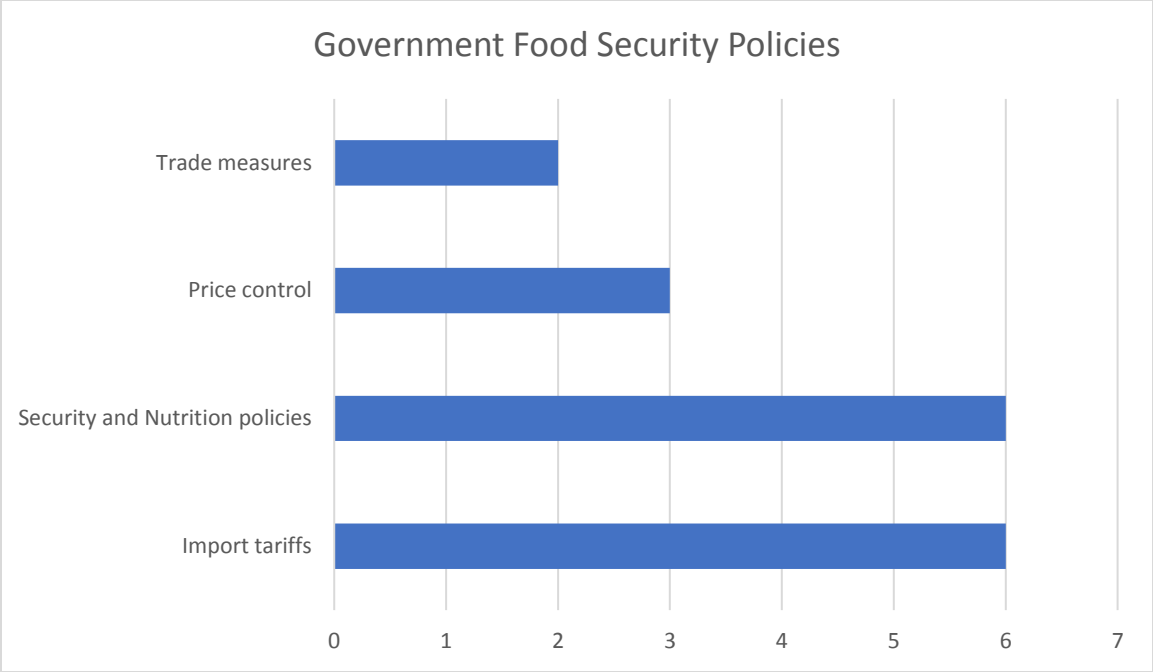

Figure 9: Respondents Knowledge on Government Food Security Policies around election period.

Finally, the results revealed that NCPB was perceived to be effective in setting prices for food in the country by all the farmers that were interviewed. This will be discussed at greater length in later sections, but the farmers were especially skeptical of the lifting of the import ban. They were already struggling to produce enough crops to turn a profit after droughts and when the market was suddenly flooded with imported maize, it became impossible to turn a profit. Price liberalization and control policies were perceived to be effective by just a few. Meanwhile, several interviewees held the view that the contemporary food security policies are not modeled well for the Kenyan Setup. They held the view that the food security policies by the Kenyan government are poorly implemented, while some interviewees believed that the food security policies are purely conceptual and not actually implemented.

5.2.3.3 Sub-theme: Corruption

Many interviewees stated that as they were struggling to access food, the politicians were campaigning and used access to food as a negotiating tool. As one respondent put it:

> "*It was as if the politicians and those whose voices can be heard didn't see our value if it were not for the vote. It was as if they were unconscious of the scarcity or the residential wars triggered by the competition."*

Almost half of those interviewed reported that maize and flour were protected. Politicians would send food to their respective areas after their political parties gained the support of the 'common *mwananchi'* (citizen). Those supporting opposition parties encountered long delays, sparking tribal wars and hiking prices up. One respondent said that

> *"It was not uncommon for enmity to rise and bloom between friends since they were all competing for the basic commodity and, at that instance, friendship was the last thing in mind. As far as we were concerned, the friendship couldn't keep us alive to fight for the scarce commodity again and again."*

Most respondents felt the government had not done enough, but NCPB and other government officials from the Ministry of Agriculture were proud of the government's intervention in resolving the food crisis. Clearly, the supposed beneficiaries believed that the effectiveness of these government policies fell short of expectations. The low impact of these policies stems from corruption, whether it be influential people who control the food supply systems ignoring or manipulating those policies for political gain. In the best scenarios, it is indicative of high ambitious policies that look good on paper but are implemented poorly or not at all.

Possible repercussions for using food insecurity as a campaign tool were also brought up. Some those interviewed had the feeling that it has been the source of the vicious cycle of poverty. Some interviewees believed that using food insecurity as a tool promoted poor leadership as high integrity leaders do not get the opportunity to lead. Other interviewees believed that use of food insecurity as a political tool encouraged voter bribery, underutilization of resources and rise in criminal activity. Finally, others believed that it encouraged overdependence on the government and politicians through voter handouts that are rampant during campaigns. Perhaps a future study can more thoroughly examine these repercussions.

5.2.4. Urban (Kawangware Households) vs. Rural (Kitale Farmers)

The key themes that were identified by Kawangware households were food insecurity, ineffective government, and elections. They were among the many who indicated at the end of their surveys that "the government can do better." Most Kawangware residents acknowledged their own food insecurity and cited a lack of money, political instability, and tribal clashes as the causes of that insecurity. They reported coping strategies, such as skipping meals, cooking smaller portions in order to make food last longer, switching to other foods (such as rice and wheat), and relocating to the countryside until after the elections.

These responses can be linked to the availability and stability pillars of food security. Households in Kawangware appear to literally be rationing their supplies as they do not have the income to purchase more food. This pillar of food security is a micro-level issue, meaning that it affects households at the household level. Meanwhile, even if the households could purchase that food, electioneering, political instability, and tribal clashes keep them from doing so. As a result, many residents simply leave the area and do not plan on returning until it has become more stable.

The farmers in Kitale were not much better off. They also identified ineffective government and elections as the key themes, as well as drought. These are macro-levels of the food security pillars. They do not impact the budget at the household level but do impact the policy level. Many interviewees identified drought as a leading cause of poor crop yields. Additionally, they identified political instability and tribal clashes as a cause of insecurity. They did not find the government helpful on any of those issues. They found that the government either did not assist at all or made it worse for farmers, especially with the lifting of the import ban. The perception among the farmers was that government officials were simply focused on electioneering and were not attempting to benefit the farmers. Farmers reported dealing with these issues by storing up their produce in order to sell it at a later date and a higher price.

These responses can be linked to the availability pillar of food security. Farmers were unable to produce enough crop yields due to drought and instability caused by tribal clashes and ineffective government. When they were able to produce crops, they were unable to sell them at the market prices due to poor government policies. They ended up holding the grain back from the market, and thus from the traders and consumers, resulting in a shortage and a crisis. One farmer stated that

> *"Due to the drought and bad market prices for maize, I was only making up losses. I chose to stock up my maize and wait for better prices even though the government was asking us to sell the produce due to the shortage. But I do not think the government really cares about us the farmers."*

5.2.5. Traders

All four key themes – food security, drought conditions, political conditions, and elections – were prominent in the replies from the traders. They acknowledged that there was a food security

crisis brought on largely because of the maize shortage. When asked how they dealt with the maize crisis, they reported a few strategies. Some imported the maize from Uganda as it was cheaper; some increased their prices to a higher level in order to turn a profit; some had to travel very long distances to acquire maize; and some left the market altogether and turned to rice, wheat, and potatoes or to poultry farming. Traders also tended to acknowledge the drought conditions and reported that the poor climate affected their business by causing the maize shortage to begin with, resulting in higher food prices in general and leaving them both with fewer profits in their business and less money to provide for their families.

While traders were aware of and affected by droughts and the maize crisis, the political crises and electioneering were the themes that elicited the most responses. When asked about how the political crises affected their business, traders said that they tried to sell small scale rather than in wholesale and would resort to door to door sales. They complained about the government's policies of limiting the amount that traders were allowed to sell, while also selling the flour at a particular price, and prohibiting them from increasing the cost of their own flour despite physical and fiscal hardships in acquiring the flour. This was a positive impact of the policies on the consumers, as they could now finally afford the maize flour. However, some of the consumers stated that even though the government had set a price, some traders did not comply and still used the previous higher price.

Most of the traders reported massive losses during elections. Since the maize and flour were scarce, they had to travel for surprisingly long distances and later resell at high prices. One trader reported that

> *"...even though I knew 40% of my customers could not afford the maize or the flour, that was not the moment to show sympathy. And even at the high prices, the competition was*

stiff. I didn't know whether to save some for myself and family or sell and hope to find the supplies later. In-house conflicts were unavoidable since many needed some kinds of favor to acquire the maize and the flour, but it was a first come first served scenario."

Three of the traders questioned the role of the government in resolving the food crisis and the effectiveness of the policies. Another respondent answered

"...we had the massive losses that were skyrocketing at terrifying rates. We complained and, in return, received the promises that never turned to deeds."

With the decreasing scarcity and increasing demand, acquiring commodities was a challenge. There was significant conflict between consumers and traders regarding the price, especially since the government interventions caused so much market fluctuation. Many traders sold at a higher price anyway, despite the regulations, in order to turn a profit. This also limited the amount that consumers could purchase. Some were forced to reduce their prices in order to clear their stock. One trader called the policies 'unrealistic and inconsiderate.' Despite these hardships, they were required to operate their business in accordance with the new rules in order to avoid fines. In the end, the traders indicated that the policies caused more losses than profits and some reported that they were even forced to close their business. Finally, regarding elections, traders experienced harassment from police who were carrying out security checks due to post-election violence. Some felt that there was a distinct lack of security during the election period, while many others felt that, even though there was increased security, it was largely inadequate, and that the government did not do anything effective.

All in all, these reports can be seen as linked to the accessibility and stability pillars of food security. Traders are themselves food insecure as seen in their responses about not being able to

turn a profit and provide for their families. If the traders do not turn to other industries altogether, they face many obstacles. When the producers are discouraged from bringing their product to the market, some do so either illegally or they give them to traders at high prices. When this happens, less of the product makes its way to the consumer and they do not have access to that food. The accessibility pillar collapses, starting from the millers and rippling out to the consumers.

5.2.6. Government Officials

Previously, the difficulty in securing testimony from government officials was discussed. However, in the data that was elicited, the themes that were prevalent were the existence of food insecurity and an ineffective government. Though the respondents argued that the government's intervention in resolving the food crisis was comprehensive and that the government used a significant amount of resources that were at their disposal to eradicate food insecurity, their responses seem to indicate that they knew this to be false. One anonymous respondent reported

> "*The post-election violence surprised all of us. And even though the government integrated efforts to ensure food accessibility, they shouldn't be judged because of what they were unable to control*."

The NCPB and other government officials from the Ministry of Agriculture were confident and proud of the government's effort to resolve the matter. The phrase "efforts to ensure food accessibility" acknowledges that food insecurity exists and is a problem. The hedging apparent in "the post-election violence surprised all of us," and "…shouldn't be judged because of what they were unable to control," seems to indicate that they are aware that the policies that were put into place did not, and would not be able to help them achieve their goals.

Meanwhile, one government opposition official did not hold back in his responses. This individual identified every theme which the other groups identified. He stated the fact that food security exists, that drought was an exacerbating factor, and that ineffective government in the form of inaction, corruption, and election violence resulted in a failure to fix the problem. He indicated that if the correct policies had been effectively implemented and that cartels had been shut out of the market, there would not be a food crisis. He claimed that politics plays a big role in the famine situation where they manufacture an emergency crisis in order to embezzle money. He said

> *"Political interference plays a big role in food security matters … Food is being politicized for election campaigns."*

He also acknowledged that sometimes the government efforts appeared to be a good plan on paper, such as the farming manifesto, but the plans either were not implemented or were implemented poorly.

All these responses can be seen as linked to the stability, affordability, accessibility and availability pillars of food security. When food shortages not only exist but are then leveraged by the government for more power, the supply lines and markets are disrupted.

5.3. Secondary Data

This section will introduce secondary data such as news articles and policy documents in support of the themes identified in the primary data, namely, (1) food insecurity, (2) drought as a factor of food insecurity, and (3) ineffective government. Due to the maize crisis in Kenya being a current ongoing issue, few academic sources were available and thus the use of newspapers was therefore intentional.

5.3.1. Theme: Food Insecurity

Since the 1990s, Kenyan investment in agriculture has been taken lightly, something that is made evident by the food insecurities that have hit the nation in the last three election cycles. Even with the weather variability, there seems to be few irrigation schemes that can buffer food insecurity and increase productivity in the previously unproductive areas with 95% of the agricultural land being rain-fed. It is estimated that with a proper rain-fed water management program, Kenya would be able to increase its maize yield 400%. Maize production between 2007 and 2009 decreased by more than half a million bags, increased steadily up to 2013, then dropped by thousands of bags in 2014, increased in 2015, and later dropped by hundreds of thousands (FAO, 2019), keeping Kenya's production at 0.33%, as compared to the rest of the world.

Food insecurity is not new. Maize scandals were taking place in Kenya, with the same effect, more than a century ago. On December 7, 1918, the East African Standard reported the continuous exports from Ruiru reserves despite many Kenyans having insufficient food (Ruhiu, 2018). This illegal trade was linked to Indian wholesale farmers who were determined to create a food shortage in the country. Despite warnings against the trade, there were no reports on who ordered the trading (Ruhiu, 2018). Systemic and chronic food shortages resurfaced in 2017 to make way for Mexican maize to be consumed in Kenya.

Following the maize scandals after the elections, Kenya was 87 of 113 countries for EIU's Global Food Security Index (The Economist, 2019), as indicated by Table 4.

Table 4: Kenya's Global Food Security Index

Measurement	Amount or Percent
Prevalence of undernourishment	19.10%

Percentage of children stunted	26%
Percentage of children underweight	11%
Intensity of food deprivation	120kcal/person/day
Prevalence of obesity	7.10%

Source: (The Economist, 2019)

The existence of a maize crisis is made evident in the primary data and is underscored by the actions of those who are involved in the market for it. Households deploy several methods to cope. For example, they may turn to alternative meals other than maize and maize products. Some of these alternatives include rice, matoke, wheat products, and sweet potatoes, among others (Mohajan, 2014).

Government responses will be discussed later at greater length, but, according to a report by Andae (2019), one of the tactics used to mitigate food insecurity is the release of stores. In fact, it was noted that "the Government agreed with millers two weeks ago to release at least three million bags of maize from the Strategic Food Reserve (SFR) at Sh2,300 to curb the rising cost of flour" (Andae, 2019, para. 1). Such a strategy does not necessarily work for farmers. They tend to become assertive during a maize crisis by using it to champion for better farming and maize marketing policies in the country, and they sometimes turn to hoarding their product. One report noted

> "…[w]hen millers start squirming over supplies, farmers and traders hoard their stocks, creating an artificial shortage that eventually distorts the market in their favor… The national cereals board, which is currently buying two million bags of maize, says farmers have stopped selling to it" (Wafula, 2019).

The crisis is used as a bargaining tool. Producers call for improved agricultural policies such as subsidies for fertilizer and other farm inputs, such as equipment, if they are to be able to provide enough food for the country (Atieno, 2017). However, the government has other ideas:

> "In 2017, the government was accused of manufacturing a crisis when – either out of ineptitude or by design – it ignored all warning of an impending shortage only to flood the market with the staple when local farmers were harvesting, leaving them with great losses" (Sigei et al., 2019).

The following explanation of the situation seems to sum up the cycle of food-shortage, poor policy, and failure that has become the norm:

> "Last year during a similar stage-managed process, the government rushed into a poorly structured subsidy program that saw taxpayers indirectly subsidies millers' production costs at the farmer's expense… When the import subsidy window was opened, importers who were waiting for the policy shift flooded the market with cheap maize from Mexico and South Africa… By the time the window was shut, more than 10 million bags of maize had been brought into the country. Much of it was left to rot away, rendering it unfit for human consumption …The government will be forced to import maize if farmers continue to hoard their produce and demand high prices, the National Assembly Committee on Agriculture has warned" (Wafula, 2019).

There does not appear to be an end in sight and forecasts for food security remain bleak. According to one report, "the North Rift region produces 80 per cent of the total national maize crop and the anticipated lower production spells doom for the country's food security" (Bii & Sigei, 2019). In fact, many farmers, if they do not hoard their stores or feel threatened by the government, turn to

animal feed manufacturers instead of traders. These manufacturers "have now become the biggest beneficiaries as the prices seem to favor them and the farmers find it better to sell to them instead of the crop going to waste due to pests and mold as they lack proper storage facilities" (Bii, 2018). One farmer who was holding 300 bags of maize was quoted saying, "I have no option but to sell the maize to animal feed manufacturers," (Bii, 2018). All these interconnected forces lead to a maize market that crumbles under the lack of stability, accessibility, and availability needed for a food secure population.

5.3.2. Theme: Drought as a Facet of Food Insecurity

It is clear from the reporting that drought is an exacerbating factor of food insecurity. Mwangi (2019) reported that "the [Cabinet Secretary for the Ministry of Agriculture] said NCPB failed to meet its target of buying two million bags owing to better prices offered by the market and the worsening drought in the country." Meanwhile, droughts have been endemic and there have been droughts as recently as 2019, where "the planting season in the North Rift region, the country's main food basket, runs from March to May. This period, traditionally wet, experienced a prolonged drought and later erratic rainfall, resulting in uneven germination and withering of the crop" (Bii & Sigei, 2019). Kenya is unable to weather these droughts without serious consequences or external assistance since "Kenya only has enough maize for domestic consumption when there has been adequate rain and a resultant good crop" (Shaw, 2019).

5.3.3. Theme: Ineffective Government

Kenyans often champion for initiatives aimed at helping the hunger-stricken Kenyans. In July 2011, Kenyans deployed Kenyans for Kenya initiative, aimed at offering food aid to the hunger-stricken Kenyans. The move was deployed as a solution to the failed rains, leading to low maize production and hence supply to the most vulnerable Kenyans in Turkana, Isiolo, Baringo, and

others. The Kenya Red Cross movement plays a crucial role in the coordination of the household-based initiative to support the hungry Kenyans. The existence of these extra-governmental programs underscores the existence of a food security problem, the drought as a factor in worsening that problem, and the ineffective government response to it. Ordinary citizens would not have to take up the cause if it were being taken care of.

5.3.4. Theme: Election-related Violence

The endemic election-related violence surrounding general elections in Kenya is well-documented (Kenny & Ahere, 2019). Historically, a vast majority of food policies get formulated or implemented during the electioneering period in Kenya, especially those of the short-term variety. For example, in 2007/2008, the government sought to increase the extension services and improve agricultural technology for increased food production (Kiome, 2009). Secondly, the government supported the purchase and storage of a strategic grain reserve (SGR) by the NCPB. Through the NCPB, the government of Kenya embraced price stabilization policies for the cereal. A ban on maize importation was implemented beyond the window period. For example, in 2009 the producer prices for the maize was set at Kshs 2,300 for a 90 Kilograms bag of maize aimed at replenishing strategic grain reserves at NCPB. Fertilizer was also imported under the strategic food reserve program to improve crop production, where 163,000 MT fertilizer got imported.

The government intervened in the food insecurity in the aftermath of 2007/2008 general elections, by implementing some short-term interventions including maize subsidies and marketing policy. The government subsidized maize for millers in order to reduce maize flour prices across the country (FEWS, 2013). In May 2019, the government supplied the millers with about 100 Tons of Maize at a subsidized price for milling and supply the flour to the market at a lower price. Andae (2019), recorded that maize flour prices fell in May 2019, with the government moves to supply

millers with subsidized maize, covering the supply of the amount deficit in the market only. The strategic grain reserves play a significant role in curbing escalating maize flour prices resulting from maize shortage.

Some long-term programs to food security in the aftermath of 2007/2008 general elections include the *Njaa Marufuku* Kenya initiative, which targeted regions that depend on food relief. Food security projects were undertaken in the respective regions in Kenya like Turkana, Baringo, among others. A sum of Kshs 327.6 Million was given by the government in collaboration with FAO to support food security programs (Kiome, 2009). In 2007, the Kenyan government adopted water harvesting for crop production, a policy that aims at constructing dams and micro-dams for crop farming. Through the program, Bura, Ahero, Mwea, and South West Kano and the Hola irrigation scheme were revived in 2007.

Unfortunately, most of these election-year policies are doomed to failure from the outset since they are not usually designed to actually accomplish anything but are ploys to gain votes. “In [2017, opposition party leader] Mr. Odinga had taken advantage of the maize shortage and was using the crisis to win votes” (Kamau, 2019). In another article (Okiror, 2017) states that “drought became a political issue” with the opposition leader tapping into public anger to blame the government. These ploys were not limited to those out of power. The government “also took over all maize supply contracts from the millers and compensated them for the losses in a multibillion-shilling exercise that was both political and strategic for the Jubilee government to win the election” (Kamau, 2019). And according to (Sigei, 2019) “the politicization of maize began ahead of Kenya’s independence when the colonial government allocated land to a few well-connected individuals in 1952”.

5.3.4.1 Sub-theme: Unresponsive Government

The government has taken several actions both short-term and long-term to address food shortages. Together with county governments they have collaborated on some projects under the "Big Four Agenda" in relation to food and nutrition security. Some of the projects are:

Project	**Estimated Acreage**	**Target Product**
Galana Kulalu	400,000	Maize, Rice, Beef
Thiba Dam	80,000	Rice
Thwake dam	100,000	Rice
Lower Turkwel	60,000	Maize
Kimworor	30,000	Maize
Arror	40,000	Maize
West Kano- Nyando	60,000	Maize, Rice

Table 5: Government Irrigation Projects

Source: Adapted from Report on the Inquiry of the maize crisis in Kenya. The Senate Ad hoc report (2018).

The government policies took the form of short-term supply-side investments and price regulation, and long-term income relation, direct market interventions and infrastructure projects. But according to reports, these policies are unlikely to have much of an effect either short-term or long-term. Insiders say Kenya will continue to face a staple food crisis as long as yesteryear problems are not addressed. These projects if properly implemented could have resolved the food insecurity issue in Kenya. However, these projects are faced with corruption scandals like the

Galana Kulalu scandal which did not even get started. Given that the country still relies on rain-fed agriculture, maize production has continued to drop as the population grows (Kamau, 2019).

Traders were forced to adhere to a price ceiling policy deployed by the government upon the subsidization of maize, with those not adhering getting arrested and charged in court. The government also issued import duty-free window periods for maize. They issued a waiver of duty on the imported maize from 16th January 2009 to 30th June 2010. In 2009, the government imported 16.8 million bags of maize (Kang'ethe, 2011), At times, the government has seemed to be paralyzed by the crisis, with reporting from an insider at the Ministry of Agriculture saying "[n]obody wanted to buy from farmers and nobody wanted to sell to millers. Actually, within the ministry, nobody wanted to make a decision touching on maize" (Kamau, 2019).

In 2013, the government also adopted income-related policies to mitigate food insecurity in the country through local authority transfer funds targeting aged persons (KARI, 2012). The government established constituency development funds (CDFs) to mitigate poverty and enhance incomes. The costs of social services such education and health in public facilities were reduced by the government was reduced, with education being made free. The free education act was adopted in 2013, months before the general elections under the devolved government.

Food importation is another major intervention undertaken by the government to meet the deficit in food supply when there is drought. The NCPB works in coordination with the Ministry of Agriculture to determine the quantity of food reserve, future demand and develop food (maize) importation policies. Imported maize help enhance relief white and yellow maize and cooking oil supplies to the drought-stricken regions. In line with curbing the maize crisis, the government also implement duty-free importation of maize into the country. The minister in charge of agriculture, often informs on the government decision to overcome the maize crisis, especially when the grain

reserves fall below the threshold as was the case early 2019. The government also offers relief foods to the hunger-stricken regions . Maize importation helps reduce the maize and maize flour prices in the country (Gitau & Meyer, 2019). For example, in June 2019, the government released 5,222 bags of maize to hunger-stricken communities in Turkana, Baringo, and Isiolo (Odhiambo, 2019). Even when these policies are well-meaning, often incompetence dooms them. Sometimes, however, it goes beyond incompetence and the problem is pure corruption.

5.3.4.2 Sub-theme: Corrupt Government

Mukami (2018) stated that "Kenya is one of the countries whose food security is undermined by various forms of corruption, underlining the impact graft has had on taxpayers' lives even as the government vows to root out the vice" with corruption leading, followed by land grabbing, and then scheming to push for economically favorable deals. Mukami (2018, para. 4) stated "prolonged electioneering period during last year's polls stalled economic investments in several sectors including agriculture." The corruption is underscored by the infighting among top-level officials and politicians. In a news report from 2019:Agriculture minister Mwangi Kiunjuri insists the country has more than enough maize in its stores, but millers, crafty government bureaucrats and some businessmen say the stock is far much less than claimed (Wafula, 2019).

5.4. Linking the Three Parts: Timeline, Primary Data and Secondary Data

It is important to take a moment to bridge the gap between the findings of the primary data from the interviews and the secondary data from published sources as well as the timeline of events. Readers will remember the four pillars of *food security*, *availability*, *accessibility*, *utilization*, *stability* and the theoretical framework established in Chapter 3 and reviewed here. Wherever appropriate, the following sections will summarize the data, examine the connections between

them, and link them to either a pillar of food security or one of these aspects of the theoretical framework of food insecurity.

Table 6: Confluence of Drought, Major Political Events, and Elections

Year	Drought	Major Political Events	Election	Inflation*	Maize Prices	Food Crisis
2000	X					X
2001				H		
2002		X	X	L		
2003				VL		
2004	X	X		H		X
2005		X		VH	VL	X
2006	X			L	L	
2007		X		L	L	X
2008	X	X		H	VL	X
2009	X			VH	H	
2010	X	X		L	L	
2011	X			VL	VH	X
2012	X	X		VH	VH	
2013		X	X	VL	H	
2014				L	H	X
2015				L	H	X
2016	X	X		L	H	X
2017	X	X	X	H	VH	X

2018		L	H	X
2019				X

Notes: Inflation and maize prices legend – VL = very low, L = low, H = high, VH = very high

Sources: (BBC, 2018; CEIC, 2019; Institute for Security Studies [ISS], 2011; Kandji, 2006; ReliefWeb, 2019; Venton, 2018) .

5.4.1. Food Insecurity

Almost every interviewee acknowledged the existence of food insecurity and labeled it as a problem, even if they hadn't experienced it themselves. It was especially evident in the responses from households, traders and government officials. The causes were many, including low income, high prices and maize shortages. This was backed up by secondary data which proved that Kenya ranks almost in the bottom of the world in food security, and local reports are very clearly aware of the many crises which have plagued the country in recent decades. These reports also highlighted low income, high prices and shortages.

Extreme coping strategies were seen both in the primary and secondary data, ranging from people closing their businesses or entering other industries to others rationing their meals or travelling miles away to buy food in other towns. These problems have affected and continue to affect the accessibility and availability pillars of food security. Sometimes the food simply does not exist and is unavailable because none is being grown or imported. And when it is being grown or imported often the price is too high, so it is inaccessible to the population at large. The coping strategies were found to be extreme, while low household incomes and a lack of basic services and security prevented people from finding food security in other ways.

5.4.2. Drought

Drought was found to be a major factor in exacerbating food insecurity by many respondents, especially farmers, traders and government officials. Farmers, of course, are on the front lines of any drought conditions, and when crop yields are made poor from drought it affects the entire country. Food prices spike, traders are unable to sell and government steps in. Households may not be as aware of drought as the other groups, but they feel the effects just as much when a food shortage hits. These findings are backed up by the secondary data where drought is almost thought of as a foregone conclusion. Since Kenya's production of maize is just barely enough to feed the country when conditions are perfect, the drought conditions are felt widely. Drought affects the availability pillar of food security. It is a direct cause of food shortages which leads to a lack of food which makes food unavailable to much of the population. And in the theoretical framework it is linked to weather and commodity pricing. Weather, obviously, because of the lack of rain to produce agriculture, and commodity pricing because in food shortages, prices spike, and consumers are forced to purchase less food for more money.

5.4.3. Ineffectual Government

5.4.3.1 Election-related Violence

Election-related violence was found to be a major factor for all four groups as well. When farms are burned down in the wake of violence, farmers are again at the forefront of the problem. And government officials seemed to be very aware of the violence but unwilling to accept any blame. These findings are backed up by the secondary data. Post-election violence has become endemic and almost predictable, and it can have devastating effects ranging from the loss of crops from burning, to traders feeling harassed by police and unwilling or unable to enter the market. This can be linked to the availability, accessibility and stability pillars of food security. Post-election

violence can keep the food from being produced, can keep it from being sold or artificially increase the prices, and can keep skittish consumers, producers or traders from entering the market in fear for their own security. Within the theoretical framework, these issues can be linked to economy, security and basic services.

5.4.3.2 Unresponsive Government

An unresponsive government was found to be a factor by all four groups as well with farmers and the one opposition government official in particular noting the failures. Some groups claimed to be aware that there were policies that the government was attempting to put in place, but they were seen, by and large, as ineffectual. The secondary data indicated the truth of these claims as well, with report after report of government plans that either never got off the ground, or were implemented poorly, and then not updated when it became clear they were not working. These problems can be linked to the Stability pillar of food insecurity. Assuming that drought and election-related violence would disrupt food markets, a responsive and effective government should be able to develop and put into place policies that mitigate the effects of the food shortages caused. However, they were unable to do so, and so there is no stability for consumers. With regard to the theoretical framework, an unresponsive government affects basic services, the economy, security, politics, the legal and regulatory framework, and commodity pricing.

5.4.3.3 Corrupt Government

Finally, with regard to corruption in the government, all four groups seemed to be aware that it existed but unsure which poorly implemented policies were due to incompetence and which were due to corruption. The government opposition official interviewed had no problem calling out corruption, however. Those findings were backed up by myriad news reports. From those reports, corruption seems to be an open secret in Kenya. Corruption can be linked to the security pillar of

food security, though the type of corruption can also leave its mark on both availability and accessibility. Security, of course, is affected because citizens will not feel confident about entering the market or about their everyday lives. But if the corruption takes the form of government coordinating with cartels or manufacturing food shortages in order to manipulate voters during election years, it can also affect availability and accessibility. And under the theoretical framework, corruption has an effect on basic services, the economy, security, politics, the legal and regulatory framework, and commodity pricing.

5.5. Analysis Review

In summary, out of 28 surveys returned by household consumers, farmers, traders and government officials, three key themes emerged. Those were 1) *the existence of food insecurity* 2) *drought as a cause of that food insecurity* and 3) *ineffectual government response to the crisis*, with the three subthemes being an *election-related violence*, *unresponsive government* and *a corrupt government.* These themes were identified by the qualitative data from respondents. These themes were further backed up by secondary data sources, with food insecurity as a crisis being well-established and drought as a cause of that food insecurity almost as well established. Government actions to mitigate the crises did exist and were plentiful. Yet, it is clear from the secondary data that these policies were often either designed or implemented poorly, or else susceptible to corruption, and that election-related violence was endemic. And the primary data indicates that citizens were generally either unaware of those policies even existing or were only aware of politicians using them as political tools to gain support.

6. DISCUSSION

The prior sections of this study provide information regarding drought, political instability, and food insecurity within Kenya. The conceptual framework shows that these may be attributed, in part, to governance. The methodology section showed how the study was conducted and the analysis section contained the results.

6.1. Review and Discussion of the Primary Data

The key broad themes and narrowed sub-themes across all interviewees were

- Food Insecurity
- Drought
- Ineffectual Government
    - Election-related violence
    - Unresponsive Government
    - Corrupt Government

These themes were identified after aggregating all of the qualitative data and pulling out the issues and concerns. While some respondents in all four groups at one point or another identified all these themes, for some groups certain themes were more salient.

For the households in Kawangware, food insecurity and ineffective government, specifically election-related violence and unresponsive government, were the most salient themes. The fact that these were the most prominent themes for households would seem to make sense. Household consumers would not have much reason to be overly aware of drought conditions since their livelihoods and jobs would be unlikely to depend on rainfall like the farmers. They would, however,

feel the downstream effects of that drought which would be a food shortage and would likely result in food insecurity. This relates back to the dimensions as discussed in the literature review.

Similarly, the so-called "*common mwananchi*" might not be plugged into political news enough to suspect or worry about government corruption, especially when their day-to-day is necessarily a preoccupation with mitigating their self-reported food insecurity. High-profile events such as elections, especially ones that inspire violence, would be so present that even the most closed off consumers would find it difficult to ignore. And they would certainly feel the downstream effects of either country-wide violence or corruption in the form of a government that was unresponsive to their needs.

Farmers found the theme of drought to be incredibly salient. Their incomes and livelihoods depend on the rains, so they would have to be aware of and impacted by droughts. Farmers did share the concerns of households in identifying the themes of election-related violence and an unresponsive government as issue affecting them. As with households, farmers may not be aware enough about current events to identify certain government actions as corrupt. This is especially true as the education level of many of these farmers leaves them unable to communicate in English or Swahili. However, they absolutely are aware of and identified the downstream effects of corruption as a government either unresponsive or openly hostile to their needs. Many resort to extreme tactics such as hoarding maize in order to sell at higher rates later in order to turn a profit. And of course, when election-related violence results in the burning of farms, farmers feel that effect first-hand.

Traders, perhaps as the middlemen between households and farmers, provided the most data and identified all three themes and all three governmental sub-themes as issues affecting them. They are situated perfectly between producers and consumers and as such have rare insight into

both. When food becomes scarce and prices spike, for any reason, traders watch their customers realize that they cannot afford a meal that day. Food insecurity is right in front of them. Some traders expressed sympathy but acknowledged that they still had to run a business. Meanwhile, when droughts hit and farmers are unable to produce a crop, traders are the first ones after the farmers to know. Finally, since the burden of cooperating with regulations surrounding market prices, storage, transportation and everything else surrounding crops falls primarily on the traders, Thus, they are aware of government (in)action regarding crops. They also suffer harassment during election seasons and are aware of politicians manipulating voters and regions using the promise or withholding of food.

Traders were able to give the most detailed responses by and large and were especially vocal on the sub-themes of both an unresponsive and corrupt government. Government intervention was a reason that most of the traders gave as a cause of their business either folding or failing to turn a profit, leading to their own personal food insecurities.

Finally, government officials were more reticent. The ones that were willing to cooperate were unwilling to make definitive statements admitting that food insecurity was a problem that the government had been unable to address effectively. One did acknowledge outright that election-related violence existed, and that it "surprised" them even after implementing measures to mitigate food insecurity. As discussed in the Chapter 5, this seems to belie the fact that the government was, in fact, ineffective at best and that food insecurity was acknowledged as a problem.

Meanwhile, the lone opposition government official had no problem whatsoever in pointing the finger at both an unresponsive and corrupt government. This individual identified all three themes and all three governmental subthemes in their interview. As a politically active and presumably educated individual who would have access to most of the secondary data sources used

in this study and more, they could be in a position to be made aware of all of these themes if they were occurring.

The data from the government officials and the opposition party official must be taken with caution. Not only might their responses be motivated and skewed by partisanship, the sample size was very small, just three total individuals. This does not necessarily make the qualitative data obtained unusable, but conclusions drawn from it would need to be supported by data elsewhere. The results from the government officials' responses seem to be supported by the rest of the primary interview data obtained for this study.

6.2. Review of the Secondary Data

Secondary data obtained were largely sourced from contemporary news articles, policy documents, and data compiled by Non – Governmental Organizations (NGO's). The themes identified in the primary interview data were also present in secondary data.

Climate change has pushed more people into acute food insecurity. Climate change in Kenya has adversely affected the arid and semi-arid areas of the country which cover almost 80% of the total land mass. Kenya is an agricultural-intensive country with evidence indicating that agriculture contributes 27% of the country's gross domestic product (Kang'ethe, 2011). Kenya relies heavily on rainfall to support food production to support economic stability**.** Climate change and associated effects such as drought and famine would cause a crisis to the nation. Nonetheless, the frequency of drought in the northern and eastern part of the country has continued to increase on an annual basis. Rainy periods on the contrary support food production and enhance food security.

The government of Kenya has been keen on the climate change situation in Kenya by undertaking adaptation measures and strategies to intensify capacity building for farmers in

response to adverse effects associated with climate change. These initiatives have mainly been directed by effects of climate change such as drought frequency, shortfalls in rainfall, and changes in temperature and precipitation. Aside from empowering and facilitating local governments, the national government has worked closely with the private sector to support farmers in adapting to climate changes (Ndegwa & Kinyua, 2018). The government has in this case acknowledged that farmers are predominantly affected by climate change due to decline in their farm produce.

Kenya's vision 2030 and sustainable development goals are a clear illustration of the national government's awareness to climate change. This strategy aims to enhance the country's capacity for drought resilience and climate change adaptation by strengthening the institutional framework for drought management. Furthermore, the government recognizes the threats posed by climate change and has taken bold measures to mitigate the risks and impacts of climate change. This can be evidenced by the launching of national climate change response strategy and inclusion of the same in the vision 2030. Other specific action plans devised by the government under the initiative include; low carbon climate resilient development and financing mitigation and adaptation action plans (Mwenzwa & Misati, 2014). Financing is mainly done through government credits, grants, import duty, subsidies and support for up-scaling successful resilience mechanisms. Adaptation and mitigation action plans have also been included under the plan and also included within national policies. For instance, the agriculture act contains a provision under climate resilience sector law that mandates specific adaptation plans such as regular screening of vulnerable farming communities to climate change (Mwenzwa & Misati, 2014).

In specific areas especially counties in the central part of the country, local governments have acknowledged the changes and variability of climate and have responded by enacting policies to enhance adaptive capacity of the local population. Development plans for instance in Nyeri

county has focused on resilience mechanisms such as irrigation, tree planting, improving animal and crop breeds, and water provision to maintain groundwater as means to respond to climate change (Ndegwa & Kinyua, 2018).

The existence of drought is made clear by the sources detailing government responses to drought, especially the 2016 formation of the NDMA. Election-related violence is similarly well documented and taken for granted.

The unresponsiveness of the government is, perhaps, less clear from secondary data. After all, quote after quote and article after article do nothing but detail the government's various responses to all these issues. The data do seem to indicate that these responses are ineffective. Officials are found to often disagree about the best course of action sometimes leading either to paralysis or to conflicting or unstable policy decisions which can have devastating effects on the market and the consumers. Even when they are able to agree on a policy, it is unclear at best if those policies have the desired effect. After all, Kenya is still food insecure, droughts still cause major food shortages, and election-related violence still occurs.

Meanwhile, it is not difficult to find secondary source data labeling the Kenyan government as corrupt. The Galana Kulalu corruption scandal was well documented, and sources both within and outside the party in power have leveled accusations at the current government ranging from negligence to being partnered with cartels who manipulate the markets by holding food shipments off-shore until import tariffs are temporarily lifted. These accusations of corruption do not solely come from inside the country. The government has also been implementing short term policies to deal with the current issue rather than focusing on a long-term solution. The issue of increasing food prices during election periods is one the government should be solving as it seems to be a recurring problem. Maize importation during the crisis seems to solve the issue of demand however

the imported maize has been cheaper than most of the locally produces which creates a food price dilemma (Nyoro, 2002) as seen in the last 2017 election period. However, if the prices were high, this would protect the producers but affects the consumers who in this study are the urban poor who already spend more than half their income on purchasing food. This dilemma is further extended because while imported maize ensures food security, it displaces many of the producers who depend on food for their livelihood (Nyoro, 2002). The challenge for the government of Kenya is therefore to ensure food security at affordable prices without threatening the producers. This creates a food dilemma that affects the farm households as well as the urban consumer. Maize consumers in this case Kawangware dwellers would like low maize prices so that it only takes a small part of their family income while on the other hand the maize farmers would like the prices to be higher, to provide them greater profits. This then creates the tension between the producers and consumers thereby creating a dilemma for policy makers.

Referring to the background of Kenyan policies in chapter 2, the government has acted in favour of the producers through the NCPB by offering higher prices to farmers than the market prices and by also introducing import bans on maize. In 1995/96 the government reduced the NCPB budget which forced NCPB to reduce their purchases causing an outcry from the maize farmers. Interestingly, the government a year before the national elections increased their budget. Since 2000, the NCPB's maize purchases have been trending upward (Nyoro, Ayieko & Muyanga, 2007).

Maize policies have been contested due to different opinions from the farmers, millers and consumers. The 2007 National Food and Nutrition Programme (NFNP), a draft government document that attempts to address the shortcomings in earlier policy documents (Republic of Kenya, 2007), acknowledges that high staple food prices, while favorable to farmers who can produce a surplus, directly hurt not only urban consumers but also a large portion of rural small-

scale farmers who are net buyers of staple food. It also encourages a removal of taxation on maize, rice and wheat. Through these suggested reforms by NFNP it shows the importance of perceiving food security in the broader context of regional market integration and globalization rather than just as a localized issue (Nyoro, Ayieko & Muyanga, 2007). Despite data collected, the government has failed to correct the market failure of deficit and production and dealing with drought. This shows coordination failure in the government by failing to coordinate between the different actors of the food sector as portrayed in the conceptual framework.

The media was critical in this study as they seem to be keeping the government in check. Based on previous incidences, when the media reports on famine and food crisis, there is an immediate reaction from the government.

6.3. Global Context

According to FAO, food crises continue to be a global challenge. Maize remains the main staple food crop in Kenya consumed by both the rich and poor alike. Food production is not able to meet the growing food demand increasing food production is proving difficult due to depletion of natural resources caused by climate change. Food insecurity is often linked to poverty and shifts in the global economy, including rises in global food and oil prices, can affect food security throughout the world, with severe effects in low income countries. (USAID, 2011). Rising food prices contribute to food insecurity which in turn becomes a threat for human security.

The world experienced food riots in 2007 and 2008 due to the world food price crisis. Interest in food security as a catalyst for political instability and conflict has grown rapidly since then (Brinkman & Hendrix, 2011). This rise in food prices was associated with food riots in several developing and emerging countries across Africa, Asia, Europe, and the Americas (Schneider, 2008; Bush, 2010) .The consumers especially those living in the urban areas were the most affected

by the price rise in basic commodities. Expensive food would therefore mean global instability for countries that are already experiencing conflict.

Countries in sub-Saharan Africa are most likely to suffer the most from food insecurity because food shortage and conflict are connected. The food riots were about more than food signaling a shift in the political economic sector. Around 2011 food prices were high again due to the drought in the Horn of Africa, and rapid rise in food prices was linked to political unrest globally, but it was more prominently associated with the Arab Spring in 2011 which began with food riots in Algeria and in Tunisia . These events show the close relationship between food insecurity and conflict as earlier stated in the Introduction chapter of this thesis.

Food insecurity caused by higher food prices increases the risk of democratic breakdown rioting and conflict (Brinkman & Hendrix, 2011). Between 1990 and 2009, despite Kenya not experiencing any war, political and social violence including election-related rioting, communal conflict and cattle raiding caused over 4,700 deaths (Salehyan et al., 2011). But food prices are not the only contributor to food riots, and pressures related to food insecurity such as drought may also cause political instability as was the case of Kenya. Some of the other important economic factors that have contributed to the staple food price crisis include speculation, dysfunctional markets, the financial crisis and insecurity in the countries (Emongor, R.A., 2011). There is a correlation between food insecurity and political conflict in part because both are symptoms of low development (Collier et al., 2003).

Climate change is complicating the food security aspect by disrupting growing seasons and impacting extensively on the society. The Intergovernmental Panel on climate change predicts that increase in weather temperatures with the increase in food demand is posing a great risk for food security both globally and regionally. The current food system is sensitive to climate and

weather and this impacts on food prices (Pritchard *et.al.,* 2016). The direct impact of food crisis is manifested in measuring food availability decline, human suffering and the adaptive strategies. In Across Africa, a more concerning issue is: as more people become food consumers due to urban migration, the influence of climate change is important for domestic stability.

Linking all these back to the framework of food and nutrition security; drought, fluctuating markets are among the main causes of poor household food availability and access which leads to food insecurity in the country. Due to the complexity of food security, a framework is useful in analyzing the factors that are undermining the food security. The food security indicators reflect an emergency situation. The framework has helped provide a wider context in establishing the drivers of food insecurity. The key drivers of food insecurity in Kenya include drought, political instability around election periods and volatile food prices.

Kenya has had to deal with continuous instability in the maize market which is driven by domestic factors such as low production as a result of political unrest in 2007/2008 and subsequent drought. These events have resulted in maize deficit, increase in maize imports and high maize prices. The price trends are an indication that NCPB's impact in controlling the domestic maize prices is limited. Some would argue that the NCPB would need to be much more active than it appears to be and would probably need much higher levels of support from the Treasury for effective price stabilization (Mulinge., Witwer., 2012). The Government's inconsistent policies on maize importation have resulted in massive maize importation without proper control. The farmers continue to face challenges with costs due to lack of support.

6.4. Overall

The primary data collected through interviews indicate that food insecurity exists, is a problem, and that it is correlated to drought, election-related violence, and corruption. These problems are exacerbated when the government is ineffective when responding to them. The relationships between drought, election-related violence, and corruption exacerbated by government combine to knock down some of the pillars of food security – Availability, Accessibility, Utilization and Stability – resulting in food insecurity among interviewees. The secondary data bolsters these claims. All three themes are well-documented and evident.

There have been multiple instances of election-related violence occurring after the 2007, 2013 and 2017 elections. Devastating droughts were reported in 2007, 2011 and 2017, but as so much of the country is composed of so-called arid or semi-arid lands, even decent years of rainfall are sometimes not enough. When considering the findings that election-related violence and drought are correlated to food insecurity, the years of 2007, 2011, 2012 and 2017 appear to be times of massive food insecurity for Kenyans. This is supported by the primary data which would have been collected from respondents with the memory of 2017's drought and election-related violence one-two punch fresh in their minds.

7. CONCLUSION

This chapter offers conclusions and recommendations for future research. In conclusion, Kenya has been food insecure for a very long time. The data cited in this study indicates that food insecurity has been a major problem since at least 2007, though the problem likely goes back much further. The national climate is unable to comfortably sustain the population without government intervention even when the rains do come. When they do not, the problem is worsened by the drought causing domestic food shortages and increased prices. It is further worsened by election-related violence which destabilizes markets and forces people from their homes sometimes leaving food to spoil and reducing income levels and immediate personal security. When government intervention does finally come, it is either so ineffective that the citizens are unaware of its existence or it tends to have the opposite of the desired effect. Moreover, it is deliberately designed to manufacture food shortages and price fluctuations in order to manipulate voters, extort businesses, or benefit cartels.

7.1. Recommendations

It is recognized that there is much controversy relating to food security. The maize crisis seems to have taken a political tone with politicians from the maize producing regions claiming the government is against them and being totally against the maize imports. The government however insists that there is a need to import therefore creating tension as Kenyan elections have been marred with tribal clashes which are influenced by politicians during campaigns. Dealing with the deficit of maize production should be based on verifiable data of the deficit , as well as the timing of importation should not coincide with the maize harvesting season and imports should be act ahead and import maize before the deficits before the stock is completely depleted. Policy makers

should also be ready to take actions with forecasts of drought and act on them to ensure that the government does not end up struggling to deal with an emergency.

The reaction of government officials a few months before and after elections ought to be explored. This includes the set policies for food security and political stability and the extent of implementation by powerful political parties and/or food controlling bodies. This shall provide a clearer view of whether they take advantage of the insecurity for political gain or are powerless. This is especially needed as the sample size of government officials for this study was so small.

It is important to note that NCPB in the recent years operates more efficiently, however prices should not be determined politically as has been the case in Kenya but rather the government should be keen in implementing the policies already in place as well as weather forecasts. NCPB was created to regulate and control the marketing and processing of maize. However, over the years due to underfunding, mismanagement frequent legal amendment to NCPB Act and corruption, NCPB is now the biggest impediment and frustration to the farmers. Therefore, the management of NCPB should be assigned to county governments rather than the national government. Kenya has made efforts by increasing budget allocation towards agriculture, however there is need for close monitoring of funds utilization.

Another potential for investigation would be alternative approaches to the food crisis, and the best governmental reaction of those influential people who control the food chain fail to act on time. As well as shifting Kenya's policy approach from reactive to proactive to prepare for the droughts and reduce market price uncertainty. The agriculture sector is the backbone of Kenya's economy and is a large platform in which growth could be stipulated. If the agriculture sector is performing well then , the entire economy will grow as well as achieve food security.

Finally, a larger scale quantitative data collection and analysis is recommended to shed further light on the themes identified in this study, whether they are in fact salient for larger portions of the population, and whether further themes surrounding food insecurity exist to be identified.

7.2. LIMITATIONS

All results and conclusions are based on the data collected both primary and secondary. Due to the sensitivity of food security and politics in Kenya some of the sources may have provided biased information based on political affiliations. Use of the media reports as part of secondary data was crucial as the media has been at the forefront in reporting on the food security issue and making the government accountable , however they were also biased in their reporting as the only articles were on criticizing the government and hardly any highlighting policies that have already been put in place.

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APPENDIX

DATA COLLECTION TOOL

TOPIC: HOW DROUGHT, GOVERNMENT POLICIES ON FOOD PARTICULARLY MAIZE, POLITICAL INSTABILITY AND MAIZE PRODUCTION INTERACT

The aim of this interview is to investigate the interrelationship aspect of drought, political instabilities and their impact on Food security, specifically maize production and prices.

A. FARMERS & HOUSEHOLDS

1. Have you experienced food insecurity? If yes, when?
2. Have you experienced drought? If yes, when?
3. How did you cope with the drought / food insecurity periods?
4. Did you experience staple food crisis around the election years 2007, 2013 and 2017?
5. Were there any short term or long-term government policies put in place during this time?
6. If yes, how did you perceive those government food policies?
7. Has food been used as a campaign tool during the election periods? If yes, how?

B. RETAILERS

1. Was your business affected during the drought/ election periods? If yes, how?
2. What coping strategies did you use to deal with the maize crisis?
3. How did the government respond to the maize crisis?
4. How did you perceive the government food policies in respect to resolving maize crisis?
5. How was your business affected due to the government policies?
6. What were some of the government food policies guiding your trade actions, if any?

C. KEY OFFICIALS

1. How do you feel about government efforts in dealing with the maize crisis?
2. What is your perception on how the government has tried to solve drought effects in Kenya in the past two decades on household basis?
3. What were the long term and short-term policies that were put in place by the government?

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TO WHOM IT MAY CONCERN

Dear Sir/Madam,

INTRODUCTORY LETTER TO CONDUCT RESEARCH STUDY – CHRISTINE WACHU MWANGI

I am writing on behalf of Jaramogi Oginga Odinga University of Science and Technology (JOOUST) to introduce to you Miss Christine Wachu Mwangi. Ms Mwangi is a student Department of International Environment and Development Studies, Norwegian University of Life Sciences, pursuing a master's degree in international development studies.

Jaramogi Oginga Odinga University of Science and Technology (JOOUST) in partnership with Norwegian University of Life Sciences and Swedish Agricultural University with support from the Swedish Research Council are implementing a project on Conflict, Violence and Environmental Change: Investigating resource governance and legitimacy in transitional societies. The project is being implemented in Kenya and Nepal.

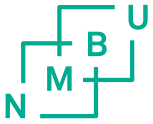
It is on this collaboration that Ms Mwangi will be attached to our University over the period of her research in Kenya. I will be her supervisor for the research and as part of the fulfillment for the master's degree, she is expected to carry out a field research that will enable her to write her master thesis.

Christine will be researching on the topic: *Political Instability and food security: Kenya's maize crisis during election periods.* She intends to carry out her data collection from 11th March until 1st April.

Any support provided to Ms Mwangi will highly be appreciated.

Yours sincerely,

DR. BENARD MUOK, PHD



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