

EFFECTS OF DEVOLUTION ON FOOD SECURITY IN KERICHO COUNTY, KENYA

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DECLARATION

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

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ABSTRACT

This research aimed to examine the effects of devolution on food security in Kericho County, Kenya. The objectives that guided the study were: to examine the influence of devolution of agricultural sector on agriculture productivity in Kericho County; to determine the influence of the devolution of the agricultural sector on market information systems in Kericho County, and to examine the influence of the devolution of the agricultural sector on the distribution of food in Kericho County. Since the formulation of the new constitution, Kenya has continued to experience fundamental changes in its institutions. Institutions have now focused mainly on the redistribution of resources and economic development. However, the effects and changes in food security are not fully known. This project, therefore, intended to fill this gap. The entitlement theory of famine and the conflict theory are the two theories that the researcher employed in this study. A descriptive research design was adopted in this study as it enabled the researcher to explain, describe, and validate the research findings. Besides, the study used a survey method of data collection involving a target population of 100 residents of Kericho County. Statistical Package for Social Sciences (SPSS) was used for data analysis. Further, the researcher used tables, graphs, and pie charts to present data. The study found that there is a positive but insignificant correlation between the devolution of the agricultural sector and agricultural productivity; there is an insignificant but positive correlation between devolution of the agricultural sector and market information systems; and a positive and insignificant correlation between devolution of the agricultural sector and distribution of food. Therefore, the study concluded that the county government should enact policy on agriculture that will give incentives to farmers to improve agricultural productivity; that county government should strive to improve market information systems to have food security through regular training and seminars to equip the farmers with knowledge about the markets; and that the county government should ensure that food production is done in all parts of the county to ensure even distribution of food across the county. Additionally, the study recommended that similar studies should be conducted in other counties.

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ABBREVIATIONS AND ACRONYMS

FAO:	Food and Agriculture Organization
KADU:	Kenya African Democratic Union
KANU:	Kenya African National Union
KIPPRA:	Kenya Institute for Public Policy Research and Analysis
MDGs:	Millennium Development Goals
MOF:	Ministry of Finance
US:	United States
WFP:	World Food Programme

OPERATIONAL DEFINITION OF TERMS

Devolution: this is the transfer of power and functions to the county government of Kericho from the National Government.

Community development: This is where the local people of Kericho county actively participate in community development.

Devolved funds: money transferred to Kericho County Government from the National Government as per the constitutional framework for resource allocation to the decentralized units of government

Decentralization: the process of redistributing functions and powers from the National Government to Kericho County Government.

County Government: the public administration of a county.

Food access: Involves households or citizens of Kericho County having the economic and physical mechanisms to access food supplies.

Food availability: sufficient supplies of food

Food security: Embodies households or individuals in Kericho County having access to sufficient and nutritious food materials.

Food supply: the production of food and its movement from the point of origin to use or consumption by the residence of Kericho County.

Food utilization: Refers to the consumption of food materials in a way that meets people's dietary and physiological needs.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background of the study about the effects of devolution on food security. It also details the problem of the study, the objectives of the study, research questions, and the significance of the study, the scope and limitation of the study.

1.1 Background of Study

Devolution and decentralization have diverse benefits, including enhancing agricultural productivity, promoting equitable sharing of resources, and reducing development costs. Further, devolution is a practical approach in which democracy can thrive. In essence, democracy strongly correlates to the increment in people's participation and ability to influence political processes (Deweese, Lobao & Swanson, 2003). Globally, many governments have adopted the devolved system. The level of success differs from one country to the other. In the United Kingdom, for instance, devolution did not encompass community participation but instead, it improved how local authorities accessed funds and other resources (Willett & Giovannini, 2014).

The United States of America and India are the other notable countries that have succeeded in devolution. While the United States of America have implemented devolution for over 200 years, India has done so for about 60 years.

In most African countries, the post-independent period is characterized by democracy by consensus with the majority having embraced a one-party system. However, this form of

governance leads to the oppression of the members of the public by powerful leaders. Consequently, there has been contestation which culminated in multiparty in most African countries (Huaghton, Counsell and Viga, 2008). Kenya was not left behind in the struggle for many parties to solve the issues of oppression by rulers. However, a further struggle for good governance in Kenya led to the introduction of the devolved system of governance back in 2010.

Food security in Africa is an evolving concept. In the 1950s to '60s, researchers and government officials used food security and self-sufficiency interchangeably. Food security gets achieved if all individuals or households have economic and physical means to source sufficient and nutritious food for a healthy life (WHO 2009). The 2010 Kenyan constitution enshrines devolution. It created 47 counties that have leadership positions such as those for governors, and Members of County Assemblies (Khaunya, Wawire & Chepng'eno, 2015). Also, it established various institutions/bodies for overseeing accountability. For instance, the Senate and the office of auditor general serve primarily to enhance accountability (Ndung'u, 2014).

In the Eastern African region, governmental regulation in the agricultural sector, trade, and food industry aim at influencing food availability and the price of nutritious foods profoundly. Similarly, regulations impact profitability, food processing, and marketing. Ensuring that the food chain handles food effectively can be the first step in ensuring food availability. Thus, the government may need to implement policies that avoid food wastage, while maintaining food safety at the same time. In the end, the government will have promoted food security to some extent. Ideally, promoting food safety curtails the prevalence of food-borne illnesses, which shields the society from possible social and economic costs associated with the disease burden (FAO 1996).

In the Kenyan context, devolution entails transferring the political, administrative, and fiscal management powers from the national government to the county governments. The powers were transferred to 47 county governments, but there is still some level of coordination between the national and county governments. This cooperation between two levels of government is important as it is intended to heighten national unity, coordination of socio-economic policies, and harmonization of policy formulation (Omari, Kaburi & Sewe, 2013).

The cooperation was envisaged even in matters of food security in Kenya as articulated in the constitution. The Kenyan Constitution asserts that food security is a human right envisaged under the law while the Kenya Vision 2030 is among numerous undertakings by the government to foster food security in Kenya. Some of the ways that the Kenyan government utilizes to overcome the food crisis embodies the use of policies to alter prices, income, and supply.

Communities in different regions in Kenya are already experiencing the impact of devolution. Simiyu and Mweru (2014) noted that devolution had impacted socio-economic welfare and economic empowerment positively. Ndung'u (2014) also expressed a similar opinion particularly by arguing that devolution has promoted economic development across the country.

1.1.1 Devolution

Devolution refers to the statutory granting of power from a central government to a sub-national level government such as local, regional or state levels (Omari et al., 2013) It is one of the different forms of decentralization (Kauzya, 2001). Devolution is a tool of governance that is based on the principle of subsidiarity which assigns specific functions that were previously conducted by the central entity to a lower but feasible sub-center at a lower level (Nyanjom, 2011).

The main rationale for devolution is the issues of efficiency since the fact that devolution is expected to decentralize the functions of government to the lowest feasible level of decision making and policy implementation which is expected to optimize the flow of information and reduced transaction costs. Therefore, just like in the case of Kenya, the decision to devolve government functions is normally as a result of the failure by the central government in service delivery and other functions such as revenue collection (Commonwealth Secretariat and Commonwealth Local Government, 2001).

Nhede (2013) is among several scholars who have investigated the concept of devolution as it prevailed in the era of democratization. The scholar mainly viewed devolution as the decentralization of administrative units, where elected sub-national representatives of government acquired constitutional authority to formulate policies in certain aspects (Nhede, 2013). The resulting lower-tier levels of government, as Nhede indicated, are semi-autonomous because they depend on the national government for some resources and public policies. Indeed, even in countries with the federal form of government like the United States, states run affairs semi-autonomously. Nhede explained that compared with the centralized form of government devolution has higher chances of boosting development and more particularly, solve common problems among African countries such as marginalization and tribalism.

In a simpler version of the definition, Nhede explained devolution as the transfer of tools of governance from the central government to the other sub-national levels of government. As such, tribes that make up the county's population are in a better position to access more resources under the devolution system. For instance, 47 counties in Kenya came along with the need for individuals to occupy different job vacancies in county offices, in which case, tribes living in particular counties accessed employment opportunities.

1.1.2 Food security

Over the past decades, the concept of food security has evolved to reflect changes in official policy thinking (Clay, 2002; Heidhues et al, 2004). According to the World Food Summit (1996), there is food security when everyone, at all times, has economic and physical access to safe, sufficient, and nutritious food that meets their food preferences and dietary needs for an active and healthy life. This is a widely accepted definition of what food security entails. From this generally accepted definition, four dimensions of food security can be identified. These include; food availability, food access, food utilization, and stability.

Food availability entails the presence of sufficient quantities of food that is of appropriate quality supplied to the population either through imports or domestic production. Food availability can also be through aid and donation. Food access entails the ability of individuals to access adequate resources for acquiring quality and sufficient nutritious diet. Utilization is all about using food through adequate diet, clean water, healthcare, and sanitation to an extent that a state of nutritional well-being where all physiological needs are met. On the other hand, stability in food security entails a population having access to adequate foods all the time; thus, stability entails both availability and access to food (FAO, 2006).

The devolved governments in Kenya have a responsibility in ensuring there is food at the county levels. This is because the 2010 constitution ushered in an era where various sectors of the economy including agriculture were devolved. The agricultural sector is a key industry in Kenya due to its contribution to countries' food security as well as employing over 75% of the population and contributing to over 25% of the GDP of the country (Muhumed and Minja, 2019).

1.1.3. Kericho County

Kericho County is one of the 47 devolved counties in Kenya as per the 2010 constitution. The county is located in the South Rift of the Great Rift Valley and is about 256 kilometers from Kenya's capital city, Nairobi. To the North, Kericho borders Baringo County, to the North West it borders Uasin Gishu county, to the west it borders Kisumu county, to the southwest of its borders Homa bay and Nyamira county. The county has a total area of 2479 square kilometers and is made up of 6 sub-counties (County Government of Kericho, 2019). Kericho County is one of the counties where agriculture is the main activity and source of livelihood in Kenya. Therefore, it is an appropriate location to study how the devolved government has contributed to food security.

1.2 Statement of the Problem

Since the formulation of the new constitution, Kenya has continued to experience fundamental changes in its institutions. For instance, institutions have now focused mainly on the redistribution of resources and economic development. Also, political actors at different levels of governance are answerable to voters. Moreover, devolution has significantly reduced the powers and functions of the national government, and instead, it delocalized authority to the county level and communities (Rummery & Greener, 2012). However, the effects and changes in food security are not fully known. This project, therefore, intended to fill this gap.

The food crisis is a global disaster. Estimates indicate that 925 million people around the globe face food insecurity with the majority surviving on relief food. The number is above that of 2007 as a consequence of the food price rise and the overall economic crisis. Unfortunately, the crisis is one of the greatest global challenges that continue to increase, and governments are yet to find sustainable food production mechanisms. Despite the fact that

devolution aimed at bringing services to the people, there is still a problem of food shortage and eradication of hunger and poverty in Kenya. Hence, food security is significant in studies related to development economics and development studies (FAO, 2010).

Kenya has historically endeavored to attain self-sufficiency in the production of such types of food like maize, rice, and beans among others. Notably, the country achieved some sufficiency in the production of maize in the 1970s as it had enough quantities for feeding the population and exporting. In retrospect, self-sufficiency may not lead to the automatic achievement of food security. Empirically, if the government solves production deficiencies while the population exhibits lower purchasing power, food insecurity will prevail (KIPPRA, 2007). In Kenya, 51 percent of people lack adequate food.

Devolution has been perceived to be a solution to the problem that affects the population such as corruption, conflicts, inequities, economic stagnation as well as lack of adequate food (Otieno, 2012). Therefore, studies on the influence of devolution on community development are fundamental. So far, there are several studies on devolution in Kenya. For example, Kivuva (2011) did a study on devolution and the marginalization politics in Kenya; Ager (2012) studied devolution in Kenya: “A critique of the concept of constitutionalism”; and Mitullah (2013) conducted a survey of “development ideals and reality: bridging the Kenya gap through devolution”. Although 80% of Kenyans source their livelihoods from agricultural activities, a portion of the population has remained food insecure (Root Capital, 2014). In the last few decades, food security among Kenyan households has been declining dramatically. This has occurred mainly because the country experienced consecutive four years of poor harvests, which left families with no option apart from depending on relief food (Lemba, 2009). However, limited empirical findings are examining how devolution might have impacted food security. For this reason, this study investigated the effect that devolution has on food security in Kericho County.

1.3 Objectives of the Study

The objective of the study is to examine the effects of devolution on food security in Kericho County, Kenya

1.3.1. Specific Objectives

- i. To examine the influence of devolution of agricultural sector on agriculture productivity in Kericho County
- ii. To determine the influence of the devolution of the agricultural sector on market information systems in Kericho County.
- iii. To examine the influence of the devolution of the agricultural sector on the distribution of food in Kericho County.

1.4 Research Questions

- i. What is the influence of the devolution of the agricultural sector on agricultural productivity in Kericho County?
- ii. What is the influence of the devolution of the agricultural sector on market information systems in Kericho County?
- iii. What is the influence of the devolution of the agricultural sector on the distribution of food in Kericho County?

1.5 Significance of the study

The proposed study is beneficial to various groups, which include academicians and researchers, county governments, the national government, and policymakers. It also converts information into functional knowledge which can help develop enterprises promoting productivity with income generation. The national government, county government, and policymakers can be able to devise strategies that can ensure there is enough and adequate

food for its population through increased productivity. Other organizations like FAO would benefit in terms of being able to understand the factors that influence food security and how to combat food shortage. The findings for this study can empower the public by providing information on their role in the implementation of devolution and will be better informed of the prevailing conditions and issues surrounding food production and to step up the war against hunger.

1.6 The Scope and limitation of the Study

The study focused on the effects of devolution on food security in Kericho County. The study involved the residents of Kericho County. This study was delimited on local residents since they are the beneficiaries of devolution. The other limitation of the study is that Kericho County is vast and the administrative locations are also sparsely located. Nonetheless, to solve the challenge of traveling long distances and to ameliorate the costs required to cover those distances to conduct the survey, the researcher contacted the participants on the phone to carry out the survey or sent the questionnaire via email. But more importantly, the questionnaires were issued in person for residents who were within the environs of Kericho town.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents an empirical review of the literature about the devolution of the agricultural sector and its impact on agricultural productivity, food distribution, and market information systems. Further, the chapter presents the theoretical review; specifically, the Entitlement Theory of Famine and the Conflict Theory are discussed. Besides, the conceptual framework of the study is presented as well as the gap in the literature reviewed.

2.1 Empirical review

2.1.1 Devolution of the agricultural sector and agricultural productivity

The decline in agricultural productivity has been another contributor to food insecurity not only in Kenya but also across various parts of the world. Huho and Mugalavai (2010) claimed that much of the food insecurity that several regions in Kenya including Kericho County experience are attributable to the dramatic reduction in agricultural productivity. The major cause of unreliable agricultural production that the author cites is the prevalence of droughts (Huho & Mugalavai, 2010). In the last few decades, industrialization and other human-made activities have resulted in unprecedented climate change characterized by high global temperatures and shifts in rainfall patterns. The obvious consequences have been high rates of drought incidents. Huho and Mugalavai (2010) noted that Kenya had exhibited 28 severe droughts in the last 100 years and the rate is even expected to increase as climate change continues to prevail. As drought incidents increase, the food productivity in Kericho County and other regions of the country continue to decline. The researchers found that over 70% of

Kenya's land had succumbed to frequent droughts and it may be unable to produce food sustainably (Huho & Mugalavai, 2010).

In a conference held by the Council of Governors, (2017), a report on agricultural transformation for food security noted that there has been a substantial increase in food production in the counties. Productivity has increased from 26 percent in 2013 to 31% in 2015. The increase in food productivity was attributed to the provision of tractors by the county governments to help farmers in cultivating their lands; provision of subsidized farm inputs like fertilizers.

A few empirical studies about the impact of devolving the agricultural sector on agricultural activities exist. Muhumed and Minja (2019) studied the "Effect of Devolution of Agricultural Sector on the Citizens' Livelihoods in Wajir County" In their study, they sought to examine the effects of devolution of agricultural sector on food security in Wajir County. A descriptive survey was adopted in this study. The target population was small scale farmers and agricultural officers. Data was collected via questionnaires. The findings revealed that the devolution of agricultural activities significantly and positively affects on food productivity. The authors found that the county government provides extension services, finances, farm inputs, and credits which has significantly increased food production in Wajir. Consequently, food security and income generation have been enhanced courtesy of devolution.

Mutuga, (2018) studied the "Effect of devolution of governance powers from state to county government on the fish farming enterprise in Laikipia country, Kenya." The targeted population was fish farmers in Laikipia. Stratified sampling was used to categorize farmers into large and small scale farmers and data was randomly collected using questionnaires from sampled farmers. The results revealed that there has been a negative impact of the devolution of agricultural sectors on food productivity with regards to fish farmings in Laikipia county.

It was found that productivity declined after agriculture was devolved as a result of the high cost of production attributed to the unavailability of fingerlings and fish feed at the local level. Besides, the government has withdrawn subsidies and extension services were declining after devolution.

The findings in the above studies in Wajir and Laikipia portray a contradicting of the effects of devolving agriculture on food productivity. This shows how different countries perform differently. Therefore, it would be important to carry out similar studies in other counties; hence, the need for this study.

Tsuma, Kibati, Tanui, and Ragama, (2018) researched the “effect of devolved function of agriculture on food production of Kakamega County, Kenya” The study employed descriptive survey research and used both primary and secondary data. Primary data was collected from 192 officers across the counties using questionnaires. The findings revealed that the devolution of agriculture function has positively affected food production in Kakamega county.

2.1.2 Devolution of the agricultural sector and market information systems

Magesa, Michael, and Ko (2014) analyzed the influence of market information systems on food security in the developing world. The researchers began by noting that the development of agricultural market information systems can be traced during the time of economic liberalization. Most governments in Africa and other developing regions established institutions specifically for disseminating agricultural market information (Magesa, Michael & Ko, 2014). In essence, the researchers stated that market information systems could promote the efficiency of the market system. They viewed information to be somehow a public good that is beneficial if readily accessible. After gathering market data, governments disseminate it via mass media and internet platforms. The information may be current or data

compiled over time. The data particularly becomes critical in production planning, government planning, making storage decisions, and devising early warning systems regarding food security (Magesa, Michael & Ko, 2014).

These factors have some influence on the food security status prevailing in the developing nations. If the data indicate a certain expected amount of rainfall, farmers can decide to plant crops that correlate to the predicted amount of precipitation, and thereby, avoid harvesting shortages. Nonetheless, market information systems in the developing world are still in the rudimentary stage as they face multiple constraints. Magesa, Michael, and Ko (2014) noted that most developing nations lag in terms of technological progress and may not avail of all necessary infrastructures. Information and communication technology, for instance, is far behind that of the developed world. In addition to that impediment, the researchers stated that the inaccessibility of markets may hinder information gathering. In the East Africa region where Kenya lies, for example, the long chain of transactions characterizes agricultural markets, which makes information gathering time-consuming and significantly ineffective. Inadequate financing, the lack of transportation means, delays in information dissemination, and poor coordination makes agricultural information market systems to be either ineffective or unavailable in the worst-case scenario.

2.1.3 Devolution of Agricultural Sector and the distribution of food

Devolution was established due to the failure of the central government to provide services to its citizens equally. Therefore, the devolution of the agricultural function to the county government was one way of ensuring that equitable food distribution across the county is achieved. County governments can achieve this by providing basic infrastructure that supports the production and distribution of foods. These infrastructures include roads, wells, dams, markets, offering extension services; helping to solve land disputes, and embracing

community participation in food security agenda. The county governments need to offer supports concerning environmental sustainability; understand the needs of the farmers to help in implementing food security policies (Crosta, Jackson, Valenti, and Pace, 2010).

There are few empirical studies in the effect of the devolution of agricultural functions on food distribution. However, studies on the impact of good governance on food policies have shown that good governance at the local government has a positive impact on food distribution. According to FAO (2011), local government plays an important role in technical support for resource management and allocation which enhances service delivery to the public. Good governance helps in fighting poverty, power, and inequality at the county level which helps to improve food accessibility, availability, usage, and stability.

Osabohien, Ufua, Moses, and Osabuohien (2020) studied “Accountability in agricultural governance and food security in Nigeria” The authors used descriptive and econometric approach in conducting their study. In econometric approach, they examined the long-term relationship between food security indicators such as food distribution and governance in the agricultural sector. The study found that there is a positive influence of good governance in agriculture on food distribution and food access. The available literature has focused on the impact of good governance in the agricultural sector, the main purpose of devolution, food distribution, and food security. However, this study focused on how devolved agricultural functions have influenced the distribution of food.

In their study of “the effect of devolution of agricultural sector on the citizens’ livelihoods in Wajir county”, Muhumed and Minja, (2019) examined the effect of devolution of agricultural sector on food security. The findings revealed that there is a positive correlation between the devolution of agricultural sectors on food production and distribution hence enhancing food security.

2.2 Theoretical review

The theoretical review entails a description of the major theories that organize a study (Smith, 2004). This study was guided by the entitlement theory of famine by Amartya Sen and the conflict theory by Karl Marx.

2.2.1 Entitlement Theory of Famine

The entitlement approach represents views of Amartya Sen. As explored by Nayak (2000); the entitlement approach contains three categories. The endowment set embodies resources that a household owns legally (Nayak, 2000). Resources categorized in the endowment set include tangibles like animals, equipment and land, and intangibles like societal membership, skills, and knowledge. The entitlement set represents all resources an individual or household can acquire using resources in the endowment set (Nayak, 2000). Such goods occur through the production or exchange process. Entitlement mapping (E-mapping) defines the relationship that exists between the first two sets of resources. It mainly describes the rate that individuals convert endowment resources into commodities that make up the entitlement set (Nayak, 2000).

The entitlement theory posited that famine does not occur as a result of food shortage, but rather due to the failure of entitlement. For instance, a household experiences hunger if its entitlement set does not have enough food to prevent starvation when non-entitlement transfers are inexistent (Nayak, 2000). Based on the theory, the entitlement set occurs after E-mapping interacts with the endowment set. Hence, famine exists only after adverse alterations in endowment and E-mapping. Thus, famine is of two types, one that results from adverse changes in endowment, and the other resulting from changes in E-mapping (Nayak, 2000).

2.2.2 The Conflict Theory

The conflict theory is the work of Karl Marx and has been instrumental in the field of social sciences in explaining the reasons why conflicts and class struggles arise. Karl Marx, in this theory, argued that social structure and dynamics of class systems are as a result of the distribution of resources within a social system. Therefore, the theory focuses on the unequal distribution of resources, arguing that different groups and individuals in a social system have unequal access to material and non-material resources (Tucker, 2017). As such, more powerful groups and individuals use their resources to exploit those with lesser power. Notably, a social system has groups and individuals with power imbalances who compete for limited resources. In this regard, social relationships emerge as a result of the competition for scarce resources and the use of unequal power to overpower those with lesser power and resources.

Ostensibly, Karl Marx in the conflict theory emphasized that power imbalances and coercion due to competition for resources create social order. Moreover, the theorist propounded that competition for scarce resources created a stratified society that competes for economic and social resources. However, the stratified society maintains social order through domination, in which case, power rests with those that wield political, social, and economic resources (Collins, 2019). But more importantly, society is dynamic and constantly changing due to competition for limited resources.

2.3 Conceptual framework

According to Kombo & Tromp (2009), a concept is an abstract or general idea inferred or derived from specific instances. A conceptual framework is a set of broad ideas and principles taken from relevant fields of inquiry and used to structure a subsequent presentation. According to (Mugenda & Mugenda 2003 and Smith 2004), a conceptual

framework is a hypothesized model that identifies the model under study and the relationship between the dependent and independent variables.

Independent Variable

Dependent Variable

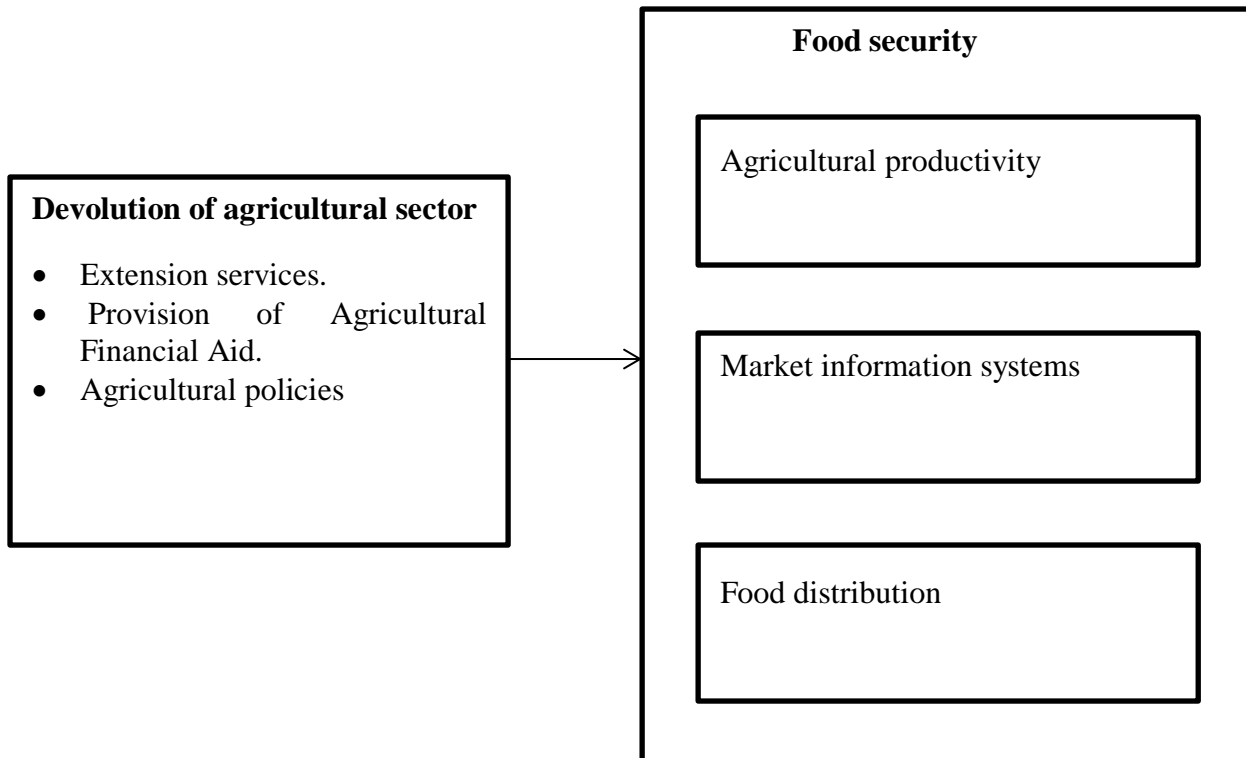


Figure 2. 1: Conceptual framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Research Design

A descriptive research design was adopted in this study as it enabled the researcher to explain, describe, and validate the research findings. The descriptive design attempts to answer the “what?” and “why” questions (Kothari, 2008). The essentiality of this research design is that it does not remove the respondents from their ordinary environment and relies on a survey to collect data. Notably, descriptive research design involves the collection of data from a sample of a population to generalize the findings using one or more variables (Mugenda and Mugenda 2003).

3.1 Variables

This study aimed to examine the effects of devolution on food security in Kericho County. The independent variable is the devolution of the agricultural sector while the dependent variables are agricultural productivity, food distribution, and market information systems.

3.2 Site of the study

Kericho County is the selected site of the research. According to the County Government of Kericho, (2013) the county straddles 2479 square Kilometers and has a population of about 758,339 based on the 2009 national census. It has six constituencies and 15 administrative units. The administrative units are further divided into 85 locations with an equal number of chiefs and 209 sub-locations (County Government of Kericho, 2013).

3.3 Target Population

According to Cooper and Schindler, (2006), the target population refers to research participants from whom the researcher intends to obtain data. Therefore, it is the entire population that facilitated the generalization of results. Ngechu (2004) viewed the population to be a group of people, events, objects, services, or household's understudy/investigation. The population for the study was 390,927 adults aged between 20 years and 69 years who are residents of Kericho County. The targeted population is residents of the six sub-counties in Kericho County as shown in Table 3.1.

Table 3. 1: Targeted population

Sub-Counties	Total Population	Adult 20-59 years	%
Belgut	145,072	62,890	16
Bureti	199,470	86,472	22
Ainamoi	170,625	73,967	19
Kipkelion West	122,530	53,118	14
Kipkelion East	137,580	59,642	15
Soin/Sigowet	126,500	54,839	14
Total	901,777	390,927	100.00

3.4 Sampling Technique and sample size

Sampling refers to selecting objects or cases to be studied from the target population. According to Creswell (2008) factors that influence sample size including but not limited to: population size, research methods, and analysis methods. The researcher will adopt a simple random sampling technique and stratified sampling to select a representative sample for the study. First, stratified sampling will be applied to classify the population into various sub-counties; namely, Belgut, Bureti, Ainamoi, Kipkelion West, Kipkelion East, Soin/Sigowet. On the other hand, random sampling will be used to select a representative sample from each sub-county.

The sample size of the study will be established using Slovin's formula will be used. The Slovin's formula is written as follows:

$n = \frac{N}{1+N(e)^2}$; Where N= Target Population; n= Sample size; and e = error tolerance / confidence level.

In the study, N= 390,927, e = 0.1,

$$n = \frac{390,927}{1+390,927 (0.1)^2} = 99.97$$

$$n = 100$$

Target population	Number	Sample rate 100/390927	Sample size
Belgut	62,890	0.00026	16
Bureti	86,472	0.00026	22
Ainamoi	73,967	0.00026	19
Kipkelion West	53,118	0.00026	14
Kipkelion East	59,642	0.00026	15
Soin/Sigowet	54,839	0.00026	14
Total	390,927		100

The sample size for the study was 100 respondents, 16 from Belgut; 22 from Bureti; 19 from Ainamoi; 14 from Kipkelion West; 15 from Kipkelion East; and 14 from Soin/Sigowet.

3.5 Research Instrument

3.5.1 Questionnaire

A semi-structured questionnaire was used for this study to collect data. This is because it facilitated the quick and easy derivation of information and it was able to collect large data

from a large population in a relatively shorter duration. Open and closed-ended questions were used in the questionnaire as it allowed flexibility as well as restrict the respondents to relevant issues.

3.6 Pilot Test

This is a mock study. It helps in assessing the suitability of data collection instruments and identifies any difficulty that could be experienced during the actual study. The study tool was pre-tested by involving a few agricultural officers working at the county offices. This is to give feedback to the researcher on whether all the areas required in the study are captured well and amendments are made on the study tools in readiness for the actual study.

3.7 Validity

Creswell (2005) defined the concept as the degree at which the results from the study represent the factor being studied. Validity exists in two types: content and face. Content-based validity denotes the probability that a question is likely to be misinterpreted. Face validity measures how the findings fulfill subjective evaluation or fit in social constructs. This study achieved content validity by consulting expert opinion for instant supervisors while face validity was achieved by conducting a pilot study and adjusting any unclear/ambiguous questions.

3.8 Reliability

Reliability measures the ability of an instrument to produce consistent results (Greener, 2008).

Therefore, in this study, some methods were tested to determine whether they could deliver consistent results. Internal consistency technique, for example, was applied in evaluating the

reliability of the questionnaire. Notably, internal consistency techniques utilize Cronbach's Alpha. Usually, the 0.8 coefficient indicates good reliability (Robinson, 2009).

3.9 Data Collection Procedure

The researcher obtained a letter of introduction from the university, which was presented alongside a letter of transmittal to the relevant authorities at the county level. A cover letter accompanied each questionnaire seeking the residents' consent and explaining the aim of the study. It mainly involved the use of primary data and secondary data as documented in chapter two—a literature review. Creswell (2005) viewed primary data to be the information researchers collect for the first time. Thus, semi-structured questionnaires were used in the collection of primary data. In essence, the structured questionnaires were essential in obtaining quantitative data while qualitative data resulted from open-ended questions.

3.10 Data Analysis Procedures

According to Sounders et al (2009), data Analysis entails all the processes and procedures that are employed to make logical deductions from the data sets. For data collected to be meaningful; it needs to be analyzed in a way that is easy to be understood by any rational person. For consistency and comprehensive deductions from data; the questionnaires should be first be edited before the participants' responses are completely processed. The researcher used quantitative techniques in analyzing the data. Descriptive analysis was employed; which included; weighted mean, frequencies, and percentages.

Weighted mean was calculated by using the aggregated statistical mean of the responses for each variable. Inferential statistics such as correlation analysis was also used to test for the relationship of the variables. The organized data was interpreted on account of concurrence to objectives using the assistance of Statistical Package for Social Sciences (SPSS) to

communicate the research findings. The analyzed data was presented in frequency and percentage tables; this enhanced easier interpretation and understanding of the research findings.

A multiple linear regression model was used to test the significance of the effect of the independent variables on the dependent variable. The multiple linear regression model is as shown below.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$$

Whereby;

Y = Devolution of Agricultural sector

B_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficients of determination

X_1 = Agricultural productivity

X_2 = Market Information Systems

X_3 = Food Distribution

ε = Error term

3.11 Data management and Ethical considerations

The first step of data management involved data entry into computer software, the Statistical Package for Social Sciences (SPSS). During the entry, the researcher removed redundant data and codes the qualitative responses to ease analysis. Besides, the researcher created backups and saved the data using a secure password to prevent access from unauthorized third-parties. Further, the ethical considerations that the researcher intended to undertake involved total confidentiality of respondents, protecting the privacy of respondents, and ensure that respondents upon request could know the findings of the study.

CHAPTER FOUR

RESULTS AND FINDINGS

4.0 Introduction

This section presents the findings of the study, which sought to examine the effects of devolution on food security in Kericho County, Kenya. The study examined the effect of devolution on agricultural productivity; the effect of devolution in the improvement of market information systems and planning skills; and the effect of devolution on the distribution of food in Kericho County.

4.1 Response rate

The researcher distributed 100 questionnaires to the sampled respondents. However, only 76 questionnaires were appropriately filled and returned. This represents a 76% response rate as shown in Table 4.1.

Table 4. 1: Response rate

Responses	Frequency	Percentage
Returned	76	76
Unreturned	24	24
Total	100	100

4.2 General Information

The study sought to establish the general information including the respondent's gender, respondent's age group, the highest education qualifications, and the sub-county they come from. The results are presented below.

4.2.1 Respondent's gender

The researcher sought to establish the gender of the respondents. The results are represented in figure 4.1.

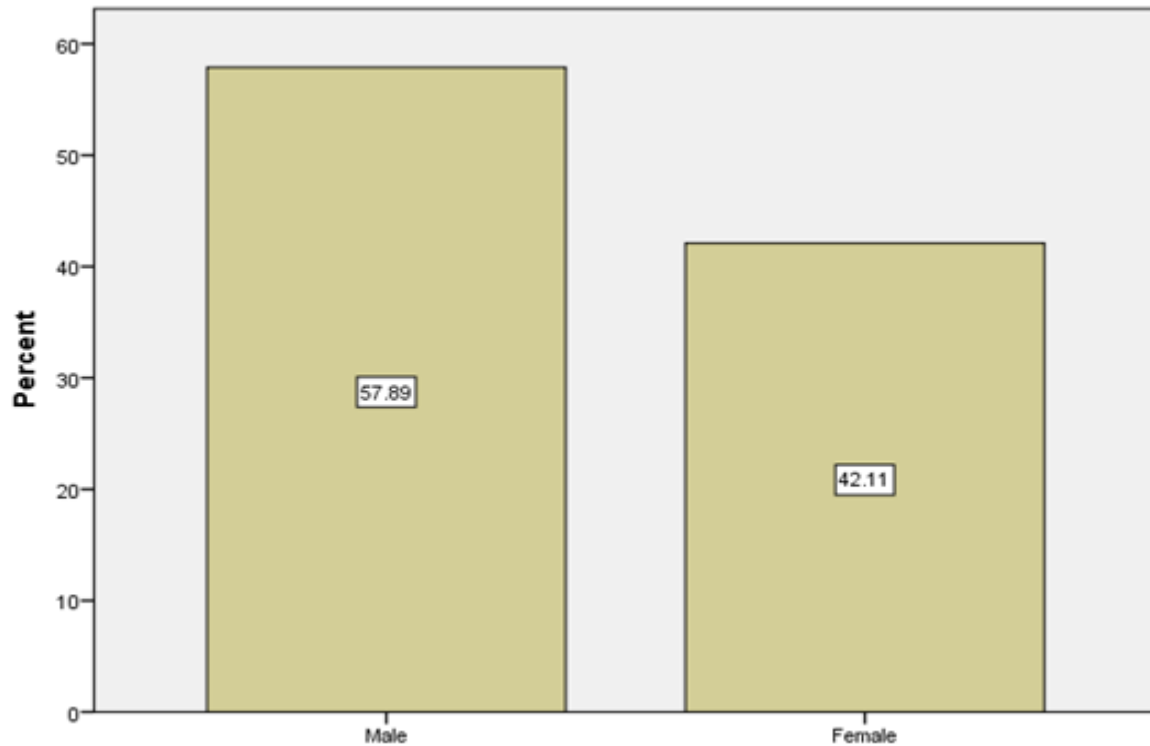


Figure 4. 1: Respondent's gender

Source: (Research data, 2019)

The findings show that both genders were fairly represented in the study, but male respondents were more at 57.89% than their female counterparts who were 42.11%.

4.2.2 Respondent's Age group

The researcher also sought to establish the aged group of respondents. The results are presented in Figure 4.2.

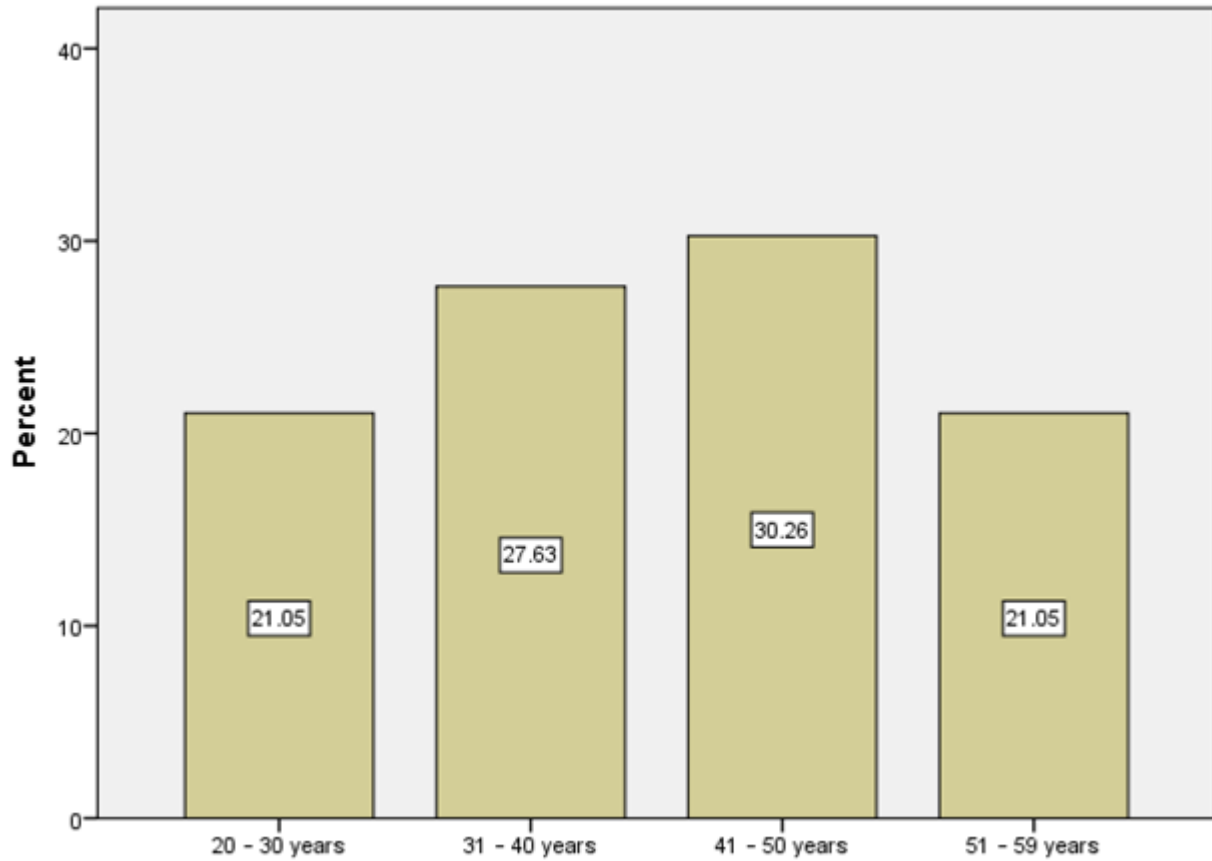


Figure 4. 2: Respondent’s age group

Source: (Research data, 2019)

The results revealed that the respondents were fair distributed across the targeted age groups for 20 to 59 years. However, the majority of the respondents were aged between 41 and 50 years at 30.26%. This is followed by the respondents who were aged between 31 and 40 years at 27.63%; and respondents who were between 20 and 30 years and between 51 and 59 years old at 21.05% each.

4.2.3 Highest level of education

The study sought to know the highest level of education the respondents had attained. The level of education is an important characteristic that might affect an individual’s attitudes and that way of understanding any particular social phenomena. Thus, the response of an

individual is likely to be influenced by his or her education level. The results are presented in Figure 4.2.

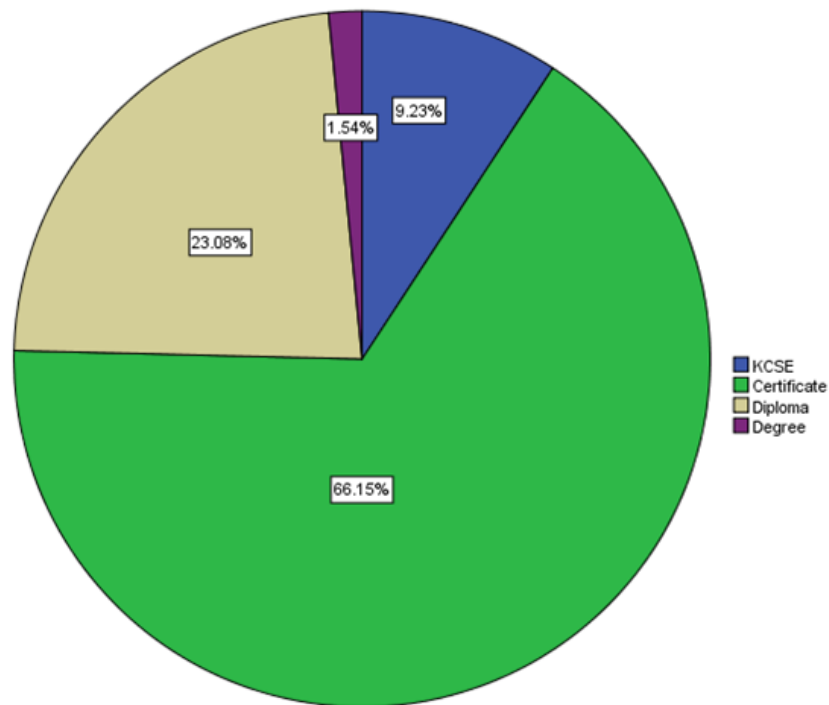


Figure 4. 3: Respondent's level of education

Source: (Research data, 2019)

The findings show that most of the participants had attained a certificate as the highest academic qualification education as shown by 66.15%. This is followed by 23.08% who had a diploma as the academic qualification; then by 9.23% who had attained KCSE as their academic qualification. Only 1.54% of the respondents had attained a degree as their highest academic qualification.

4.2.4 Respondents' residence sub-county

The study was conducted among the residents in Ainamoi; Bureti; Soin; Kipkelion West; Kipkelion East and Belgut sub-counties in Kericho County. The participants were required to indicate their sub-county. The results are presented in Figure 4.3.

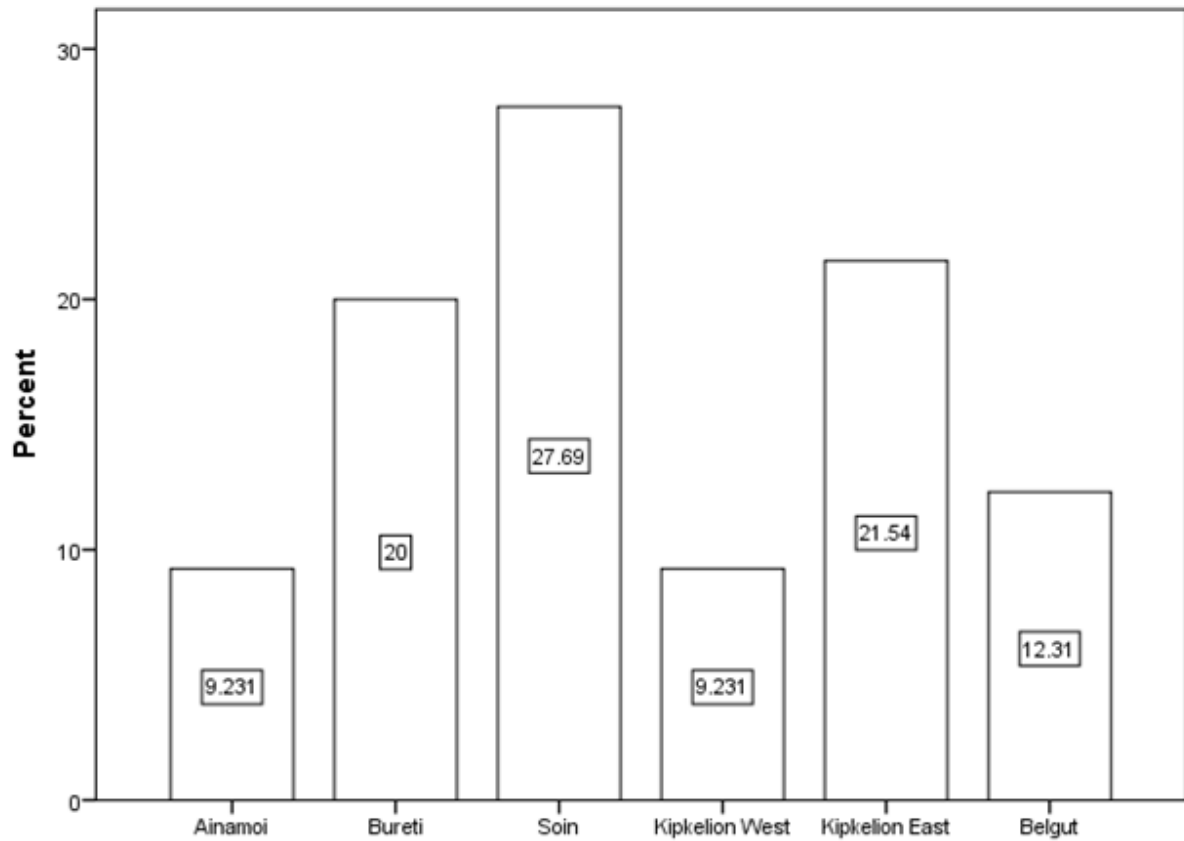


Figure 4.4: The residence sub-county of respondents

Source: (Research data, 2019)

The results show that most of the participants came from Soin indicated by 27.69% of the participants; followed by Kipkelion East at 21.54%; then by Bureti at 20%; followed by Belgut at 12.31%, and finally by Kipkelion West and Ainamoi at each 9.231%.

4.3 Effect of devolution of agricultural sector on agricultural productivity

The study sought to establish the respondent's opinion about whether the devolution of the agricultural sector has influenced agricultural productivity. The results are presented in Figure 4.3

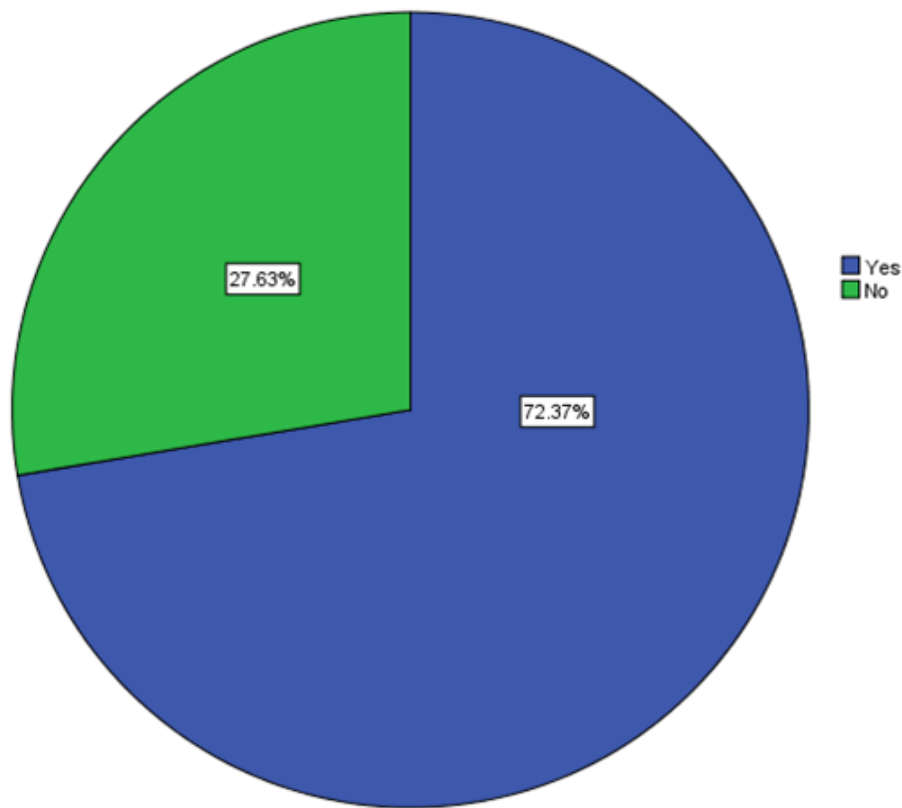


Figure 4.5: Respondents opinions whether devolution affect agricultural productivity

Source: (Research data, 2019)

The study further sought to establish the participant’s agreement or otherwise to statements relating to the effect of devolution of the agricultural sector on agricultural productivity in Kericho County. The results are presented in Table 4.2.

Table 4.2: Descriptive statistics for the effect of devolution of agricultural sector on agricultural productivity

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
Devolution has led to an increase in food availability in Kericho County	49.2	24.6	9.2	13.8	3.1	4.03	1.2
As a result of devolution, there has been the stability of food supply and access	12.3	63.1	12.3	9.2	3.1	3.72	0.91

More physical and economic access to food has been provided	30.8	46.2	10.8	12.3	0	3.95	0.96
Our area has no cases of food shortage	35.4	6.2	1.5	36.9	20	3.00	1.64
Projects after devolution have increased level of community participation in food production	7.7	43.1	13.8	29.2	6.2	3.17	1.13
We hardly experience economic changes as a result of devolution	12.3	13.8	29.2	24.6	20	2.74	1.28
More employment opportunities have been created through devolution in cases of food Production	7.7	30.8	20	26.2	15.4	2.89	1.23
Member of county assembly partners with the community to plan and develop projects	6.2	23.1	26.2	27.7	16.9	2.74	1.18
Many of the projects within our area have been through the combined input of different funding agencies	16.9	29.2	23.1	20	10	3.22	1.26
Our member of county assembly does not have the capacity to cater for food security needs	13.8	12.3	13.8	44.6	15.4	2.65	1.28
There has been an increased level of food production and utilization as a result of devolution	6.2	32.3	24.6	20	16.9	2.91	1.21
Community residents are aware of food availability schedules	10.8	24.6	27.7	33.8	3.1	3.15	1.09
Aggregate Scores						3.18	1.20

Source: (Research data, 2019)

The results of descriptive statistics on the effect of devolution of the agricultural sector on agricultural productivity showed an aggregate mean of 3.18 and an aggregate standard deviation of 1.20. The high standard deviation implies that there are high variations in responses. The mean of 3.18 implies that many respondents were neutral in their responses; hence, the mean was skewed towards neutral. However, most of the participants agreed that the devolution of the agricultural sector has led to an increase in food productivity in Kericho County as demonstrated by 49.2% who strongly agreed and 24.6% who agreed. However, 13.8% disagreed, 3.1% strongly disagreed while 9.2% neither agreed nor disagreed that devolution has led to an increase in food availability in Kericho County.

Most of the respondents agreed that as a result of devolution, there has been the stability of food supply and access as shown by 63.1% who agreed and 12.3% who strongly agreed. On

the other hand, 9.2% disagreed, 3.1% strongly disagreed while 12.3% neither agreed nor disagreed that there has been the stability of food supply and access a result of devolution. Most of the participants also agreed that devolution has provided more physical and economic access to food as shown by 46.2% of the participants who agreed and 30.8% who strongly agreed. On the other hand, 12.3% disagreed while 10.8% of the respondent neither agreed nor disagreed that more physical and economic access to food has been provided.

Most of the participants disagreed that their area has no cases of food shortage as shown by 36.9% who disagreed and 20% who strongly disagreed. However, 35.4% of the respondents strongly agreed, 6.2% agreed, while 1.5% neither agreed nor disagreed that their area has no cases of food shortage. The majority of the participants were for the position that projects after devolution have enhanced community participation in food production as shown by 43.1% who agreed and 7.7% who strongly agreed. However, 29.2% disagreed, 6.2% strongly disagreed but 13.8% neither agreed nor disagreed that projects after devolution have improved the community participation in food production.

Most of the participants disagreed that they hardly experience economic changes due to devolution as shown by 24.6% disagreed and 20% strongly disagreed. On the other hand, 29.2% neither agreed nor disagreed, while 12.3% strongly agreed and 13.8% agreed that they handily experience economic changes as a result of devolution. Additionally, most participants disagreed that more employment opportunities have been created through devolution in cases of food production as shown by 26.2% of the respondents who disagreed and 15.4% who strongly agreed. However, 30.8% of the participants agreed, 7.7% strongly agreed, while 20% neither agreed nor disagreed that more employment opportunities have been created through devolution in cases of food production.

Most of the respondents disagreed that county assembly members partners with the community to plan and develop projects as demonstrated by 27.7%, who disagreed and

16.9% who strongly disagreed. On the other hand, 23.1% agreed and 6.2% strongly agreed while 26.2% neither agreed nor disagreed that county assembly members partners with the community in planning and development projects. Additionally, most respondents agreed that most of the projects in their area have been as a result of combined efforts by various funding agencies as shown by 29.2% agreed, 16.9% who strongly agreed, but 20% disagreed and 10% strongly disagreed and 23.1% neither agreed nor disagreed that many of the projects in their area are as results of combined input by various funding agencies.

The study further showed that most of the participants disagreed that their member of county assembly does not have the capacity to cater for food security needs as shown by 44.6% who disagreed and 15.4% who strongly disagreed. On the other hand, 13.8% strongly agreed, 12.3% agreed but 13.8% neither agreed nor disagreed that their member of county assembly does not have the capacity to cater for food security needs. Most of the participants agreed that there has been an increased level of food utilization as a result of devolution as shown by 32.3% who agreed and 16.2% who strongly agreed. However, 20% of the participants disagreed and 16.9% strongly disagreed, but 24.6% neither agreed nor disagreed that there has been an increased level of food utilization as a result of devolution. Finally, most of the respondents disagreed that community residents are aware of food availability schedules as shown by 33.8% of the respondents who disagreed and 3.1% who strongly disagree. On the other hand, 24.6% agreed, 10.8% strongly agreed; while 24.6% neither agreed nor disagreed that community residents are aware of food availability schedules.

4.4 Devolution of the agricultural sector and market information systems

The researcher sought to establish the respondent's opinion concerning whether the devolution of agricultural functions has improved market information systems in Kericho county. The results are presented in Figure 4.4.

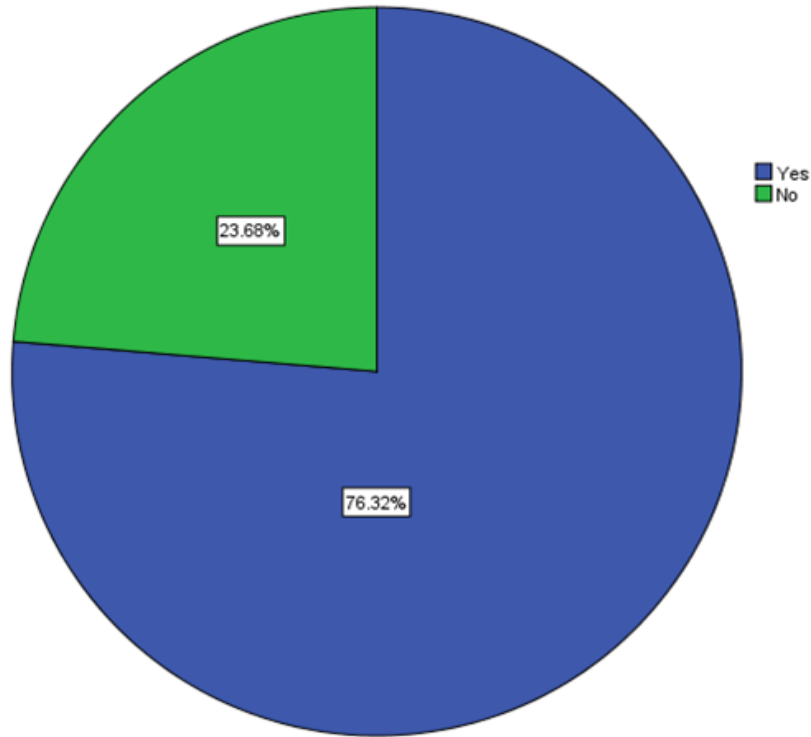


Figure 4.6: Respondents opinion whether devolution has improved market information systems

Source: (Research data, 2019)

The study sought to examine the effect of devolution of agricultural function on the market information systems. The results are presented in Table 4.3.

Table 4.3: Descriptive statistics on the effect of devolution of agricultural sector on market information systems

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
Devolution has made it easier for farmers to get access to the market through improved roads	63.2	27.6	0	6.2	0	4.45	0.90
Devolution has improved agricultural extension services in Kericho county	19.7	59.2	11.8	9.2	0	3.89	0.83
Devolution has brought agricultural training closer to farmers which enhanced our productivity	50	25	0	10.5	14.5	3.86	1.49
The county government give farmers timely information about farm inputs to use on our farms	53.9	21.1	6.6	18.4	0	4.11	1.16
Devolution has boosted agribusiness through agricultural training and providing	56.6	36.8	0	6.6	0	4.43	0.81

Source: (Research data, 2019)

The results of descriptive statistics on the effect of devolution of the agricultural sector on market information systems showed an aggregate mean of 4.15 and an aggregate standard deviation of 1.04. The high standard deviation implies that there are high variations in responses as shown in Table 4.3. The high mean of 4.15 is an indication that most of the respondents agreed with the majority strongly agreeing with the statements; hence, the mean is skewed more to strongly agree.

The majority of the respondents agreed that devolution has made it easier for farmers to get access to the market through improved roads as represented by 63.2% who strongly agreed and 27.6 % who agreed. However, 6.2% of the respondents disagreed that devolution has made it easier for farmers to get access to the market through improved roads.

Most of the respondents agreed that devolution has improved agricultural extension services in Kericho County as shown by 59.2% who agreed and 19.7% who strongly agreed. However, 9.2% of the respondents disagreed while 11.8% neither agreed nor disagreed that devolution has improved agricultural extension services in Kericho County. The majority of the respondents agreed that devolution has brought agricultural training closer to farmers which enhanced their productivity. This is represented by 50% of the respondents who strongly agreed and 25% who agreed. However, 14.5% of the respondents strongly disagreed and 10.5% disagreed that devolution has brought agricultural training closer to farmers which enhanced their productivity.

Most of the respondents agreed that the county government gives farmers timely information about farm inputs to use on their farms as represented by 53.9% of the respondents who strongly agreed and 21.1% who agreed. On the other hand, 18.4 % of the respondents

disagreed while 6.6% were neutral. The majority of the respondents agreed that devolution has boosted agribusiness through agricultural training and providing market information as represented by 56.6% of the respondents who strongly agreed and 36.8% who agreed. However, 6.6% disagreed that devolution has boosted agribusiness through agricultural training and providing market information.

4.5 Devolution of the Agricultural Sector and the distribution of food

The researcher sought the respondent's opinion on whether the devolution of the agricultural sector has influenced the distribution of food in Kericho County. The results are presented in figure 4.7.

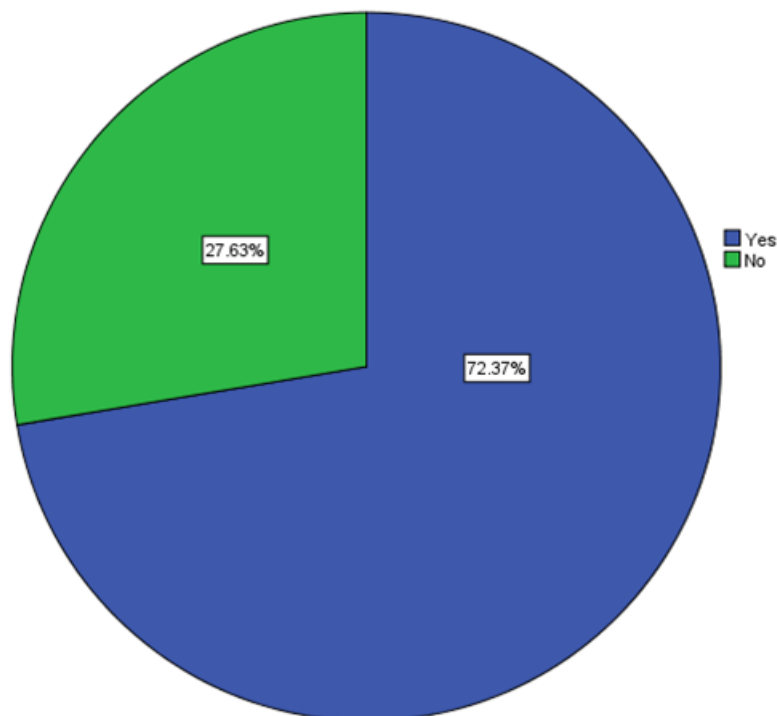


Figure 4.7: Respondent's opinion whether Devolution of the agricultural sector has influenced the distribution of food

Source: (Research data, 2019)

The findings revealed that the majority of the residents of Kericho County were for the opinion that devolution of the agricultural sector has influence food distribution in the county as represented by 72.37% who indicated yes, while 22.63% were for the contrary opinion.

Table 4.4: Descriptive statistics on the effect of devolution of agricultural sector on food distribution

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
Devolution has made it possible for us to take our farm produce to the market on time.	53.9	42.1	1.3	2.3	0	4.48	0.66
The county government has built more markets where we can access farm produce easily	69.7	22.4	6.6	1.3	0	4.61	.68
Devolution has improved Domestic production which has improved food accessibility to all parts of the county.	69.7	23.7	0	6.6	0	4.57	0.80
County government has made it easier for farmers to sell their produce to nearby counties and in turn, buy from them.	61.8	35.2	0	0	0	4.62	0.48
Aggregate Scores						4.57	0.66

Source: (Research data, 2019)

The findings of the descriptive statistic show a high aggregate mean score of 4.57 and a standard deviation and 0.66. The high mean score indicated that most of the respondents strongly agreed with the statements; hence, the responses were skewed towards a strongly agreed. However, low standard deviations are an indication of low variations in responses.

The majority of the respondents agreed that devolution has made it possible for them to take their farm produce to the market on time as shown by 53.9% of respondents who strongly

agreed and 42.1% who agreed. However, 2.3% of the respondents disagreed and 1.3% neither agreed nor disagreed that devolution has made it possible for them to take their farm produce to the market on time.

Most of the respondents agreed that the county government has built more markets where they can access farm produce easily as shown by 69.7% of the respondents who strongly agreed and 22.4% who agreed. On the other hand, 1.3% of the respondents disagreed and 6.6% neither agreed nor disagreed that the county government has built more markets where they can access farm produce easily.

4.6 Food security

The researcher sought to establish the respondent's opinion on whether they believe whether the devolution of the agricultural sector has affected food security in Kericho County. The results are presented in figure 4.8

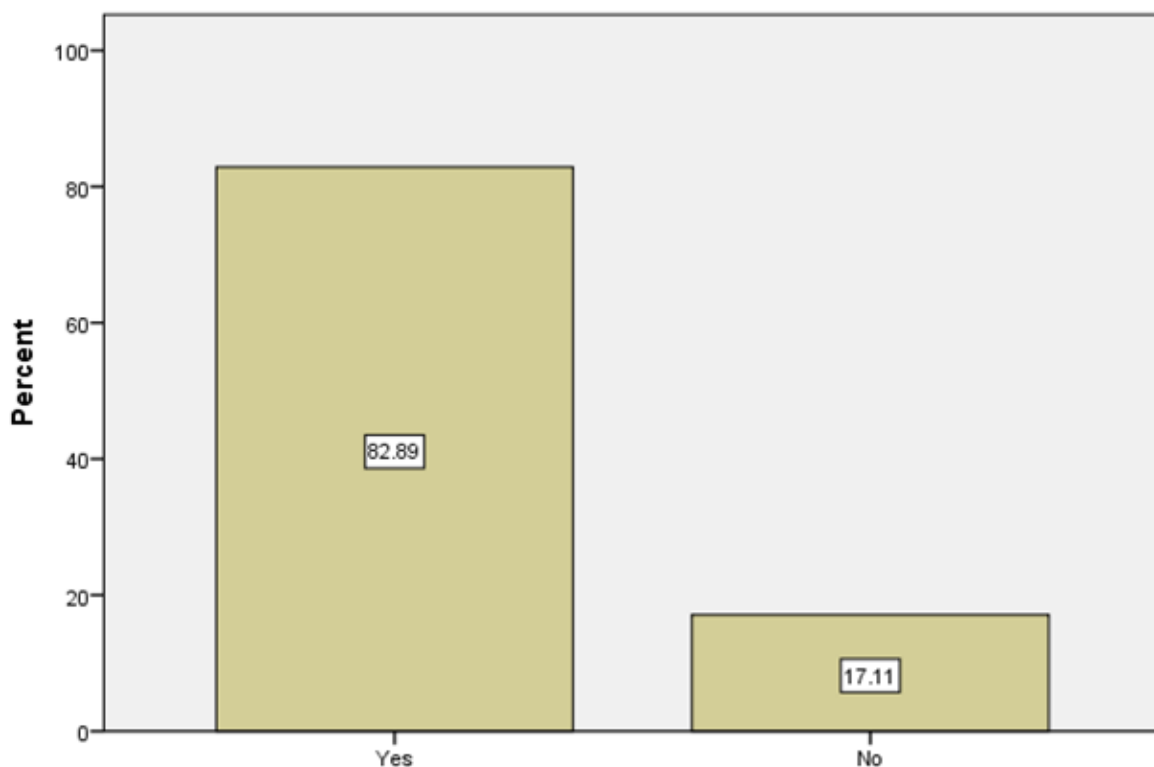


Figure 4.8: Respondent’s opinion whether devolution of the agricultural sector has affected food security

Source: (Research data, 2019)

Table 4.5: Descriptive statistics on the effect of devolution of agricultural sector on food security

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation
The county government has improved extension services which have enhanced food security in Kericho County	78.9	21.1	0	0	0	4.79	0.41
The county Government provide agricultural financial aid that has significantly increased food security in Kericho County	61.8	38.2	0	0	0	4.62	0.48
The county Government has established agricultural policies that have helped in increasing food security	72.4	27.6	0	0	0	4.72	0.45
Devolution of agricultural functions has enhanced agricultural productivity hence increasing food security.	68.4	31.6	0	0	0	4.68	0.46
Devolution of agricultural functions has improved market information systems hence increasing food security.	63.2	36.8	0	0	0	4.63	0.48
Devolution of agricultural functions has enhanced food distribution hence increasing food security.	48.7	51.3	0	0	0	4.48	0.50
Aggregate Scores						4.65	0.46

Source: (Research data, 2019)

The findings of the descriptive statistic show a high aggregate mean score of 4.65 and a standard deviation and a low 0.46. The high mean score of 4.65 is an indication that most of the respondent’s responses were strongly agreed; hence, skewed towards strongly agreed. On the other hand, a low aggregate standard deviation indicated that there is a low variation in responses as shown in Table 4.5.

All respondents agreed that the county government has improved extension services which have enhanced food security in Kericho County with the majority at 78.9% strongly agreeing and the rest 21.1% agreeing that the county government has improved extension services which have enhanced food security in Kericho County. The respondents were also in agreement that the county Government provides agricultural financial aid that has significantly increased food security in Kericho County as shown by 61.8% who strongly agreed and 38.2% who agreed. Further, the respondents agreed that the County Government has established agricultural policies that have helped in increasing food security as indicated by 72.4% who strongly agreed and 27.6% who agreed.

The respondents agreed that the devolution of agricultural functions has enhanced agricultural productivity hence increasing food security as shown by 63.2% who strongly agreed and 36.8% who agreed. The respondents were also in agreement that devolution of agricultural functions has enhanced food distribution hence increasing food security as shown by 48.7% who strongly agreed and 51.3% who agreed.

4.7 Inferential Statistics

Pearson's product-moment correlation was done to assess the correlation between variables. Additionally, multiple regression analysis was done to determine the predictive power between devolution of the agricultural sector and agricultural productivity, Market information systems; and food distribution.

4.8 Correlation Analysis

The data presented about the devolution of the agricultural sector and agricultural productivity, Market information systems; and food distribution were compiled into one variable per factor. Next, a correlation analysis was done at a 95% confidence interval, and a

5% confidence level 2-tailed was conducted. Table 4.6 presents the results of the correlation analyses between the factors.

Table 4. 6: Correlation analysis Matrix

		Devolutio n of the Agriculu ral Sector	Agricultura l Productivit y	Market Informatio n systems	Distribution of Food
Devolution of the Agricultural sector	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	76			
Agricultural Productivity	Pearson Correlation	.148	1		
	Sig. (2-tailed)	.240			
	N	76	76		
Market Information Systems	Pearson Correlation	.157	.119	1	
	Sig. (2-tailed)	.174	.347		
	N	76	76	76	
Distribution of Food	Pearson Correlation	.023	.118	.764**	1
	Sig. (2-tailed)	.845	.349	.000	
	N	76	76	76	76

Source: (Research data, 2019)

The results in the correlation analysis matrix show that there is a positive correlation between the devolution of the agricultural sector and agricultural productivity of magnitude 0.148 and P-value 0.240. The results further revealed that there is a positive correlation between the devolution of the agricultural sector and market information systems of magnitude 0.174 and P-value 0.157. The study also found a positive correlation between the devolution of the agricultural sector and the distribution of food of magnitude 0.845 and P-value 0.023. This implies that the relationship between devolution of the agricultural sector and agricultural productivity, market information systems, and distribution of food is positive by insignificant. On the other hand, the relationship between devolution and market information systems and planning skills is positive and significant.

a) Model Summary

Table 4.7: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.218 ^a	.048	.022	2.29192

Source: (Research data, 2019)

The study variables (Agricultural Productivity, Market Information Systems, and Distribution of Food) explain only 4.8 % of food security as shown by the R squared. This means that other factors contribute to 95.2% of food security but were not part of this study.

b) ANOVA

Table 4.8: Analysis of variance

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	19.209	2	120.604	5.955	.004 ^b
1 Residual	383.462	73	20.253		
Total	402.671	75			

Source: (Research data, 2019)

The significance value is 0.004 which is far much less than 0.05, which implies that the model is statistically significant in predicting how agricultural productivity, market information systems, and distribution of food affect the food security in Kericho County. The F critical at 5% was 5.955. Therefore, the F calculated is greater than the F critical (value = 4.302), showing that the overall model was significant.

c) Coefficient of determination

Table 4.9: Coefficient of determination

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	28.102	2.224		12.636	.000
1 AP	.057	.067	.097	.846	.401
MIS	.226	.119	.337	1.902	.050

DoF	.035	.187	.235	1.325	.189
-----	------	------	------	-------	------

Source: (Research data, 2019)

A.P = Agricultural productivity; MIS= Market information systems; DoF= Distribution of food

The researcher conducted a multiple regression analysis to examine the relations between the independent variable (devolution of the agricultural sector) and dependent variables (Agricultural Productivity, Market Information Systems, and Distribution of Food). As per the SPSS generated Table 4.10, the regression equation adopted is;

$$\text{Food security under devolution} = 28.102 + 0.057 \text{ Agricultural Productivity} + 0.226 \text{ Market Information Systems} + 0.035 \text{ Distribution of Food} + \varepsilon$$

As shown in the established regression equation, when all factors Agricultural Productivity; Market Information Systems; and Distribution of Food are held constant at zero, food security would be 28.102.

The first objective of the study aimed to evaluate the effect of the devolution of the agricultural sector on agricultural productivity in Kericho County. The findings of the regression analysis in Table 4.10 show that Agricultural Productivity is insignificant at $\beta=0.057$; $t = 0.846$; $p = 0.401$. This means that at a 95% confidence level, there is a positive but insignificant correlation between the devolution of the agricultural sector and Agricultural Productivity. The analyzed data shows that when all other independent variables at Zero, a unit increase in devolution of the agricultural sector would lead to 0.057 increases in Agricultural Productivity. The finding is in support of a previous study by Huho and Mugalavai (2010) who noted that much of the food insecurity that several regions in Kenya experience are attributable to the dramatic reduction in agricultural productivity; hence, an increase of agricultural productivity would lead to increased food security.

The second objective of the study was to determine the effect of the devolution of the agricultural sector on market information systems in Kericho County. The findings of the regression analysis revealed that Market Information Systems are significant at $\beta=0.226$; $t = 1.902$; $p = 0.05$. When all other independent variables at Zero, a unit increase in devolution of the agricultural sector would lead to a 0.226 increase in Market Information Systems. This means that at a 95% confidence level, Market Information Systems have a positive and significant correlation on food security under devolution. This supports Magesa, Michael, and Ko (2014) who analyzed the influence of market information systems on food security in the developing world and found that Market Information Systems have some influence on the food security status prevailing in the developing nations.

The third objective of the study was to find out the effect of the devolution of the agricultural sector on the distribution of food in Kericho County. The findings of the regression analysis show that Agricultural distribution of food is insignificant at $\beta= 0.035$; $t = 1.325$; $p = 0.189$. However, there is a positive correlation between the devolution of the agricultural sector and the distribution of food. This is in contradiction to a previous study by Muhumed and Minja, (2019) who found that there is a positive correlation between the devolution of agricultural sectors on food production and distribution hence enhancing food security. When all other independent variables at Zero, a unit increase in devolution of the agricultural sector they would lead to a 0.035 increase in food distribution. This means that at a 95% confidence level, the distribution of food has a negative but insignificant correlation on food security under devolution.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.0 Introduction

The chapter presents a summary of the findings of the study. The chapter also presents the conclusions of the study and recommendations based on the findings. Additionally, the areas for further study are recommended.

5.1 Summary

The study aimed to examine the effect of devolution on food security in Kericho County. It was conducted among 100 residents of Kericho County; however, only 76 questionnaires were appropriately filled and useable for the study. As such, the response rate of the study was 76%. The participants were drawn from all the sub-counties; including Ainamoi; Bureti; Soin/Sigowet; Kipkelion West; Kipkelion East and Belgut. Both male and female participants were fairly represented in the study, but male respondents were the majority at 57.89% while their female counterparts were 42.11%. The participants were drawn from the residents aged between 20 and 59 years old and all age groups in this range were fairly represented in the study. Besides, the respondents had the requisite academic qualification for the study with the majority having achieved at least a certificate. The participants were drawn from all the six sub-counties that constitution Kericho county.

5.1.1 Devolution agricultural sectors and agricultural productivity

The first objective was to examine the influence of the devolution of the agricultural sector on agriculture productivity in Kericho County. Most of the participants indicated that the devolution of the agricultural sector has influenced agricultural productivity. The results of

correlation analysis show that there is an insignificant but positive correlation between the devolution of the agricultural sector and agricultural productivity in Kericho County.

5.1.2 Devolution of the agricultural sector and market information systems and planning skills

The second objective was to determine the influence of the devolution of the agricultural sector on market information systems in Kericho County. Market formation systems are important in production planning, government planning, making storage decisions, and devising early warning systems regarding food security. The results of the correlation analysis revealed that there is a positive but insignificant correlation between the devolution of the agricultural sector and market information systems. This implies that implementation of devolution with regards to agriculture has positively improved market information in Kericho County, but the improvement is insignificant.

5.1.3 Devolution of the agricultural sector and distribution of food

The third objective was to examine the influence of the devolution of the agricultural sector on the distribution of food in Kericho County. The results of the correlation analysis show that there exists an insignificant but positive correlation between the devolution of the agricultural sector and the distribution of food in Kericho County. This implies that the successful implementation of devolution in relation to agriculture leads to improved distribution of food in the county, but the improvement is insignificant.

5.2 Conclusions

The first objective was to examine the effect of the devolution of the agricultural sector on agricultural productivity in Kericho County. Correlation analysis revealed that there is a positive but insignificant correlation between the devolution of the agricultural sector and

agricultural productivity. Therefore, the study concludes that devolution is essential for agricultural productivity, but devolution alone without an appropriate policy on agriculture cannot improve agricultural productivity.

The second objective was to determine the influence of the devolution of the agricultural sector on market information systems in Kericho County. The findings revealed that there is a positive but insignificant correlation between the devolution of the agricultural sector and market information systems. This implies that successful implementation of devolution including policies on agriculture improves market information systems. Therefore, the study concludes that the county government should strive to improve market information systems to have food security. This is because farmers will have the right information about the market for their produce and be in the capacity to plan their production to ensure there is enough food supply in the country.

The third objective was to examine the influence of the devolution of the agricultural sector on the distribution of food in Kericho County. The findings revealed that there is a positive and insignificant relationship between the devolution of the agricultural sector and the distribution of food in Kericho County. Therefore, the study concludes that devolution has positively influenced the distribution of food in Kericho County, but the influence has not been significant.

5.3 Recommendations

The study recommends that the county government should enact policy on agriculture that will give incentives to farmers so as to improve agricultural productivity. This is because increasing productivity for every farmer increases the productivity of the entire county. The study further recommends that the county government should strive to improve market information systems to have food security. This should be done through regular training and

seminars to equip the farmers with knowledge about the markets. The study also recommends that the county government should ensure that food production is done in all parts of the county to ensure even distribution of food across the county.

5.3.1 Recommendation for policy implication

This study was conducted in Kericho County. Since Agriculture is devolved to all 47 counties, it is recommended that further studies are done in other counties to examine the effect of the devolution of agricultural sectors on food security. Besides, the study found that agricultural productivity, market information systems, and distribution of food explain only 4.8% of food security. Therefore, it is recommended that other studies are done to examine other factors that explain food security in counties.

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APPENDICES

Appendix I: Questionnaire

Please answer the questions with absolute honesty. All information provided will be treated with anonymity and confidentiality. Besides, the information will only be used for academic purposes.

Please tick your responses/choices as appropriate

SECTION A: DEMOGRAPHIC DETAILS AND GENERAL INFORMATION

1. Indicate your Gender Male Female
2. Indicated your Age bracket
20 – 30 years 31 – 40 years 41 – 50 years 51 – 59 years
3. Kindly indicate your highest academic level.
KCSE Certificate Diploma Degree Others
(Specify).....
4. Please tick for the sub-county you come from;
Ainamoi Bureti Soin
Kipkelion West Kipkelion East Belgut

SECTION B: DEVOLUTION OF THE AGRICULTURAL SECTOR AND AGRICULTURAL PRODUCTIVITY

5. Do you think the devolution of the Agricultural sector has affected agricultural productivity in Kericho County? Yes No

6. The table below relates to the effects of the devolution of the agricultural sector on agricultural productivity. Please tick the column that represents your opinion more appropriately. Key: 5= Strongly agree (SA), 4= Agree (A) 3=Neutral (N), 2=Disagree (D), 1=Strongly Disagree (SD)

Statement	5-SA	4-A	3-N	2-D	1-SD
Devolution has led to an increase in food availability in Kericho County					
As a result of devolution, there has been stability of food supply and access					
More physical and economic access to food has been provided					
Our area has no cases of food shortage					
Projects after devolution have increased level of community participation in food production					
We hardly experience economic changes as a result of devolution					
More employment opportunities have been created through devolution in cases of food production					
Member of county assembly partners with the community to plan and develop agricultural projects which increased food production					
Many of the projects within our area have been through the combined input of different funding agencies					
Our member of county assembly does not have the capacity to cater for food security needs					
There has been an increased level of food production and utilization as a result of devolution					
Community residents are aware of food availability Schedules					

SECTION C: DEVOLUTION OF THE AGRICULTURAL SECTOR AND MARKET INFORMATION SYSTEMS

7. Do you think devolution of agricultural functions has improved market information systems in Kericho County?

Yes [] No []

8. The table below relates to the effects of the devolution of the agricultural sector on Market information systems. Please tick the column that represents your opinion more appropriately. Key: 5= Strongly agree (SA), 4= Agree (A) 3=Neutral (N), 2=Disagree (D), 1=Strongly Disagree (SD)

Statement	5-SA	4-A	3-N	2-D	1-SD
Devolution has made it easier for farmers to get access to the market through improved roads					
Devolution has improved agricultural extension services in Kericho county					
Devolution has brought agricultural training closer to farmers which enhanced our productivity					
The county government give farmers timely information about farm inputs to use on our farms					
Devolution has boosted agribusiness through agricultural training and providing market information					

SECTION D: DEVOLUTION OF AGRICULTURAL SECTOR AND THE DISTRIBUTION OF FOOD

9. Do you think devolution of Agricultural sector has influenced the distribution of food in Kericho County?

Yes [] No []

10. The table below relates to the effects of the devolution of the agricultural sector on food distribution. Please tick the column that represents your opinion more appropriately. Key: 5= Strongly agree (SA), 4= Agree (A) 3=Neutral (N), 2=Disagree (D), 1=Strongly Disagree (SD)

Statement	5-SA	4-A	3-N	2-D	1-SD
Devolution has made it possible for us to take our market produced to the market on time.					
The county government has built more markets where we can access farm produced easily					
Devolution has improved Domestic production which has improved food accessibility to all parts of the county.					
County government has made it easier for farmers to sell their produce to nearby counties and in turn, buy from them.					

SECTION E: DEVOLUTION OF AGRICULTURAL SECTOR AND FOOD SECURITY

11. Do you believe that the devolution of the agricultural sector has affected food security in Kericho County?

Yes [] No []

12. The table below relates to the effects of the devolution of agricultural sector on food security Please tick the column that represents your opinion more appropriately. Key: 5= Strongly agree (SA), 4= Agree (A) 3=Neutral (N), 2=Disagree (D), 1=Strongly Disagree (SD)

Statement	5-SA	4-A	3-N	2-D	1-SD
The county government has improved extension services which have enhanced food security in Kericho County					
The county Government provide agricultural financial aid that has significantly increased food security in Kericho County					
The county Government has established agricultural policies that have helped in increasing food security					
Devolution of agricultural functions has enhanced agricultural productivity hence increasing food security.					
Devolution of agricultural functions has improved market information systems hence increasing food security.					
Devolution of agricultural functions has enhanced food distribution hence increasing food security.					

Appendix II: Letter of Introduction

Cheruiyot Jael

0714950833

The Area Chief,

Kericho County

Dear Sir/madam,

RE: REQUEST TO COLLECT DATA

My name is Jael Cheruiyot a postgraduate student at Kenyatta University pursuing a Master's degree in public policy and administration. I am currently conducting a research with the aim of finding out the effects of devolution on food security in Kericho County. The chiefs have been selected as to participate in this study by random sampling.

The purpose of this letter is to request permission from your office to collect data from them. response and participation. Thankyou in advance for your consideration.

Yours faithfully,

Jael Cheruiyot.

Appendix III: Budget

<u>Project Development cost</u>	Ksh.	Ksh.
Typing and printing (6copies,40 pages @ 10)	2,400	
Binding (6copies @ 150)	900	
Flash disk	<u>700</u>	4,000
<u>Data collection cost</u>		
Travelling expenses	10,000	
Meals and accommodations	4,000	
Data analysis and computer run	<u>6,000</u>	20,000
<u>Production of the final document</u>		
Typesetting	2,500	
Printing (5 copies, 50 pages@ sh.10)	2,500	
Binding (5copies @ 150)	<u>750</u>	3,750
Miscellaneous expenses		<u>15,000</u>
Total		<u>44,750</u>

Appendix IV: Workplan

Activity	Period in weeks				
	1	2	3	4	5
Pilot study					
Data Collection					
Data editing and coding					
Data analysis					
Report writing					
Presentation					

Appendix V: School permit



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Internal Memo

FROM: Dean, Graduate School

DATE: 20th May, 2019

TO: Cheruiyot Jael
C/o Public Policy & Public Administration Dept.

REF: C153/CTY/PT/33720/2015

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

We acknowledge receipt of your revised Research Proposal as per our recommendations raised by the Graduate School Board of 27th March, 2019 Entitled "The Effects of Devolution on Food Security in Kericho County, Kenya".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

A handwritten signature in blue ink, appearing to read 'Harriet Isaboke'.

HARRIET ISABOKE
FOR: DEAN, GRADUATE SCHOOL

C.c. Chairman, Department of Public Policy and Public Administration

Supervisors:

1. Dr. Patrick Mbataru
C/o Department of Public Policy and Public Administration
Kenyatta University

HI/inn

Appendix VI: NACOSTI Permit



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
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When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/19/87746/30896**

Date: **19th June 2019**

Jael Chepkemoi Cheruiyot
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Effects of devolution on food security in Kericho.*" I am pleased to inform you that you have been authorized to undertake research in **Kericho County** for the period ending **19th June, 2020.**

You are advised to report to **the County Commissioner, and the County Director of Education, Kericho County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.


DR MOSES RUGUT., PhD, QGW
DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kericho County.

The County Director of Education
Kericho County.

National Commission for Science, Technology and Innovation is ISO9001:2008 Certified