

**EFFECTS OF DEVOLUTION ON THE ROAD SECTOR AND LIVELIHOODS IN KISII
COUNTY, KENYA**

BY

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**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER IN RESEARCH AND PUBLIC POLICY**

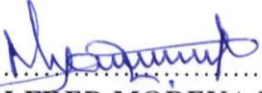
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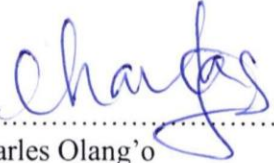
DECLARATION

I declare that this thesis is my original work and has not been presented for the award of a degree in any other University.

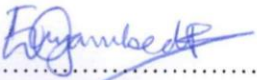

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DEDICATION

To my parents,

Mr. Isaya Mogoi Nyagwoka and Mrs. Naomi Mokeira Nyagwoka

My wife, Edna Kerubo,

and

Our Sons Jayden Zabisnky, Preston Kay and Kylion Konte.

ABSTRACT

After a successful general election on 9th March 2013, Kenyans launched a devolved system of governance that was brought about by the new Constitution, in 2010. The constitution established two levels of government namely, National and 47 county governments. These governments have specific statutory functions stipulated in the Fourth Schedule of the constitution. From the devolved functions, Kisii County Government identified road transport as a major stimulator of economic development, therefore prioritizing road development by allocating a considerable budget towards improving road accessibility. The available reports show that within the first four years of devolution, the Kisii County Government had opened and improved 1,850 kilometers of County roads. However, the source of these evidence has not been verified by empirical studies to confirm their veracity. The study sought to establish the effect of devolution on the road sector and livelihoods in Kisii County. Specifically, the study sought to find out how devolution had improved road accessibility in Kisii County since the start of devolution in 2013, determine how improved road accessibility affects the livelihoods of Kisii residents, and assess the level of public satisfaction with improved road accessibility. This study was anchored in the souffle theory of decentralization (Andrew Parker, 1995) and Principal - agency Theory. Parker (1995) contends that the three components of devolution must complement one another for there to be a responsive local government that will ensure effective, efficient, and sustainable service delivery besides maintaining fiscal discipline. The study utilized a cross-sectional research design, where the target population was 585,712 adults aged 20 years and above. A sample size of 204 respondents was derived using Yamane (1967). Multi-stage sampling, systematic sampling, probability proportional to size sampling, and purposive sampling methods were also used to select respondents. The study employed semi-structured interviews, key informant interviews, non-participant observation, and focus group discussions to collect data. Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed using the content analysis technique supported by verbatim quotations. The study findings revealed that devolution contributed greatly to improved road accessibility. The study also established that road accessibility had a significant effect on people's livelihoods. The study further established that the level of public satisfaction was low with regards to roads development programs. The study concluded that devolution not only improved road accessibility in Kisii County but also significantly improved the resident's livelihoods, whereas, on the low level of public satisfaction, the study concludes that public involvement in decision making is critical in development. The study, therefore, recommended the review of the existing national integrated road policy with a view to transfer all access roads to county governments to minimize overlapping functions between governments, address road management in counties and ensure; effective, efficient and sustainable development in the road sector and people's livelihoods. Similarly, the study recommended for systematized and inclusive training programs aimed at sensitizing the public on the role of devolution and the need for their active involvement in governance.

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DEFINITION OF KEY TERMS

- Accessibility:** The ease of movement or transport of goods and services from one location to another.
- Constitution:** This is an instrument or a set of laws that organizes and manages governance.
- Citizens:** Are naturalized members of a state or country who owe allegiance to its government and are entitled to its protection (Oxford American Dictionary, 2015). In this context citizens refer to members of a devolved state, who collectively form the ‘public’.
- County government:** This are local government by law with administrative, fiscal, and political functions. In Kenya County governments consists of two arms; County Assembly charged with legislative and oversight powers, and the Executive Arm (Constitution of Kenya, 2010).
- Devolution:** This is a statutory transfer of powers from a central government to regional or sub-national governments. These powers mostly involve administrative, fiscal and political powers.
- Public Participation:** Public participation is the process utilized by a government agency or an organization to consults the stakeholders, citizens or interested parties before making a decision. For purposes of this study, public participation is a consultative process where the government engages the public to seek opinion on management of public affairs, policy, and legislation or on oversight of development matters.

Service Delivery:	Entails the provision of public services such as; Clean drinking water, health, electricity, accessible roads, schools and clean environment.
Livelihoods: life	These are means or conditions of securing the necessities of such as employment, income, food security, agricultural Production etc.
Food security:	Involves availability or easy access to sufficient and nutritious food materials in Kisii County
Road Accessibility:	The quality of the road that enables individuals or traffic to reach a particular place or area in all weather conditions.
Public satisfaction:	This is the general citizen contentment with government performance or quality of services offered by the government or a government entity.
Soufflé theory	This is a theory of decentralization that suggests that for devolution to be successful, the three components i.e., Administrative, fiscal and political decentralization, must complement each other to ensure successful devolution.
Matatu	14-Seater Passenger vehicles

ACRONYMS AND ABBREVIATIONS

CEC	County Executive Committee Member
COG	Council of Governors
CIDP	County Integrated Development Plan
EACC	Ethics and Anti-Corruption Commission
ICJ	International Commission of Jurists
IEA	Institute of Economic Affairs
KNBS	Kenya National Bureau of Statistics
KCSA	Kisii County Statistical Abstract
KURA	Kenya Urban and rural roads
KeRRA	Kenya Rural Roads Authority
KeNHA	Kenya National Highway Authority
SID	Society of International Development
MCA	Member of County Assembly
MRP	Minor Roads Programmes
RARP	Rural Access Road Programme
ROK	Republic of Kenya
TI	Transparency International

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Devolution is a statutory form of decentralization that has increasingly gained attention worldwide as a means for improving access to public goods that satisfy the needs of the residents (Furtado, 2001). It is deeply rooted in the political economy argument that it leads to better sub-national performance (Rosenbaum, 2013). Devolution is, therefore, the last and strongest form of decentralization. The first form of decentralization is de-concentration which refers to the shifting of responsibilities to local administrators who are closely supervised by the central government. It is the weakest form of decentralization. The second is delegation which involves the transfer of decision-making and administration to semi-autonomous organizations or public corporations. Devolution is the third and the purest form of decentralization where the citizens are heard, and their vote counts in assembling the governance structures (Kauzya, 2007). Devolution happens when sub-national governments receive; administrative, political, and fiscal powers to perform devolved functions and responsibilities (Olatona & Olomola, 2015). In devolution, sub-national governments can elect their leaders, raise their revenue, and establish self-governing authority to make investment and policy decisions (Olatona & Olomola, 2015). It is therefore lauded as a critical ingredient of good governance and economic development, hence a panacea to socio-economic constraints facing many developing countries.

In the last three decades alone, over 80 countries around the world have transferred their responsibilities of the state to sub-national governments (Ahmad, Junaid, Devarajan, Khemani & Shah, 2005). Significantly, in these countries, devolution was advocated for as a solution to the socio-economic problems plaguing fragile and plural societies (IEA, 2010; Othieno, 2012). For example, devolution in South America was adopted to strengthen the transition to democracy. In Eastern Europe and Russia, it was part of a political transformation from a centralized to a decentralized system of governance to improve public participation in decision-making (Shah & Thompson, 2004). While in Sri Lanka, it was adopted to cure ethnic and regional conflicts (Treismann, 1998), whereas in Chile, to improve service delivery (Shah & Thompson, 2004). Devolution, therefore, provides an organizational platform for uniting competing interests into a formal rule-bound bargaining process (Treismann, 1998) that promotes consensus.

At the global level, devolution has catalyzed a sudden change in economic growth in many developing countries such as; Chile, India, China, and Indonesia (Balunywa, Nangoli, Mugerwa, Teko, & Mayoka, 2014). Though devolution had not formally occurred in China, widespread fiscal decentralization empowered the regional and local governments with considerable influence on policy innovation (Ma, 1996). In Indonesia, devolution was 'big bang' as described by World Bank because of the speed and scale of reforms undertaken (Hofman, 2003). Hani (2003) analyzed devolution and service delivery in Indonesia, focusing on the road sector. Her findings established that most districts improved their local road infrastructure (Hani, 2003). However, Indonesia experienced several challenges on-road service delivery as a result of devolution, such as; increased disparity in the quality of local roads among regions due to low capacity, low budgetary allocation for roads, and lack of strong regulations for procurement (Komite Pemantauan Pelaksanaan Otonomi Daerah, 2011). However, studies conducted in Chile and Peru revealed that investment in rural roads and other infrastructure sectors had a higher potential for jump-starting the local economy (Escobal & Torero, 2005). However, Peru faced the challenge of inadequate resources to finance operations and maintenance of the decentralized units, thus resulting in re-centralization (Burki, Perry & Dillinger, 1999; Humplick & Moini-Araghi, 1996). A study by Bell & Dillen (2011) examined the effect of providing all-weather roads to drought-prone villages in India. Their findings revealed that all-weather connections measurably reduced the unit cost of transport, and pupils lost substantially fewer days of schooling. They further indicated that the sick received timely treatment in a hospital (Bell & Dillen, 2011). Even though these studies are critical in contextualizing the role of devolution on road accessibility, their focus was majorly in South America and Asia; hence the link between devolution and road accessibility in Africa is scarcely explored.

In Africa, many countries are implementing devolution reforms to decentralize the public sector to the periphery or lower-level decentralized units. The need to alter the system of governance was triggered by the belief that devolution enhances the efficiency and responsiveness of government in the provision of public goods. Some countries that have attempted to implement devolution reforms in Africa include; South Africa, Mali, Nigeria, Ethiopia, Tanzania, Uganda, and Kenya (Dickovick & Riedl, 2010). In Uganda, the local governments are responsible for district and urban roads, while local communities take charge of community access roads (Tanzarn, 2000). Similarly, in many other Sub-Saharan African governments, devolution has been used to revitalize and rebuild local road networks and strengthen their administrative systems (Humplick & Moini-Araghi, 1996). Despite the effect of devolution in Sub-

Saharan Africa, few studies have examined devolution experiences on road accessibility and the effect on livelihoods across the African region comprehensively and comparatively (Batchelor, Smith, & Fleming, 2014), which now inspires this study.

Road accessibility has a significant effect on people's livelihoods. Evidence from Ghana, Ethiopia, and Uganda shows that upgrading footpaths into accessible roads has a greater advantage than upgrading existing local roads into all-weather roads (Starkey & Hine, 2014). These findings support Mu and Van de Walle (2011), who established that improved feeder roads led to a greater increase in educational enrollment, literacy level, market access, employment level, and economic diversification. While in West Bengal, rural roads led to increased productivity and income level besides expanding household consumer choices among the farmers (Raychudhuri, 2004). Conversely, Hine and Riverson (1982) established that upgrading footpaths to improve accessible roads was a hundred times greater than improving existing roads due to reduced transport costs when human portorage is replaced. This was also supported by Binswanger-Mkhize et al., 1993, Fan & Zhang, 2004, and Gollin & Rogerson, 2014 who noted that improved rural road accessibility in Ethiopia led to; higher yields, enhanced production, employment, living standards, and poverty reduction. There was also a notable increase in trade in rural Sub-Saharan Africa when local road accessibility was improved (Buys et al., 2010; Mu & van de Walle, 2011). For instance, in Uganda, the improvement of basic feeder roads had greater benefits where approximately 34 people were taken out of poverty for every 1 million shillings invested; hence the impact of small feeder roads on poverty reduction was three times greater than gravel or tarmac roads per unit of investment (Fan, Zhang, and Rao, 2004). Despite the efforts made by these studies (Donnges, Edmonds & Johannessen, 2007; Mohapatra et al., 2007; Raychudhuri, 2004; and Fan, Zhang, and Rao, 2004) to show the effect of improved roads accessibility on livelihoods, most of them focused on other aspects of livelihoods in their analysis other than road accessibility. Thus, their finding cannot be relied upon to conclusively and satisfactorily elucidate the effect of improved road accessibility on people's livelihoods.

In Kenya, devolution was adopted as a remedy to a number of challenges that had permeated the society for decades, such as; the chronic ethnic conflicts that were fueled by the perceptions of marginalization and exclusion (Akech, 2010). The administrative inefficiencies, skewed allocation of resources, corruption, and lethargy that had characterized the national government (Barret et al., 2007) and

deterioration of essential services to the people, such as poor road network due to centralization of power (Wangari, 2014). The devolution system in Kenya is anchored on the supremacy of the constitution, the principle of public participation, and the sovereignty of the people (International Commission of Jurists, Kenyan Chapter, 2013). Significantly, the fourth schedule of the constitution stipulated the functions of county governments in Kenya (Government of Kenya, 2010). Some functions include; county health services, agriculture, pollution control, trade, and county transport. For this study, Kisii County sought to establish the effect of devolution on the road sector and livelihoods between 2013 to 2017. County road development involved; opening up new access roads, graveling roads, rehabilitating existing roads, and constructing bridges (Constitution of Kenya, 2010). With the onset of devolution, many roads have been constructed across the counties to improve accessibility; thus, 7,000 kilometers of roads were improved within the first two years of devolution in Kenya (Council of Governors, 2015). Yet, there is a scarcity of empirical studies to support this claim, implying that road sector policies need to be revised or properly implemented to guide road development under devolution.

The ultimate goal of improving road accessibility was to enhance people's livelihoods (Kiprono, 2014). According to Simiyu, Mweru & Omete (2014), devolution has a positive effect on the socio-economic welfare and empowerment of the local people besides influencing the economic development potentialities in various parts of the country (Ndung'u, 2014). Therefore, improving the accessibility of local roads will promote market integration, improve agricultural productivity, and increase opportunities for farm and non-farm income-generating activities (Philemon, 2014), thus affecting the lives of the local communities. It is, however, critical to note that most of these studies were done in the infancy of devolution in Kenya. Thus, their findings could not be relied upon to explain the current state of devolution and its effect on road accessibility and the resultant effect on people's livelihoods.

On 9th March 2010, Kenyans passed a new constitution that gave birth to a devolved system of governance, which introduced two-tier governments, i.e., the national government and 47 county governments. The basic tenets on which devolution was anchored include; the promotion of democratic and accountable governance fostering of national unity by recognizing the diversity and the rights of communities to manage their affairs and to further their development, among others. These tenets laid the framework on which county government offers services to the people of Kenya. Similarly, the constitution gave the public powers of self-governance and enhanced public participation in the

management of government affairs (COK, 2010). It is, therefore, important to note that the constitution recognized public participation as a fundamental enabler of devolution and therefore empowered the citizenry by putting in place particular safeguards in the constitution to enforce adherence to the public participation process in decision-making and ensure citizens' satisfaction with public service delivery (constitution of Kenya, 2010). Despite the emphasis in the constitution for active citizen engagement in matters of public interest, the citizenry has not yet found their voices in civic associations to influence the performance or delivery of services. They have continued participating in self-help groups and local associations with localized concerns rather than civic activities (SID, 2016). A study conducted by Transparency International (2014) in 16 Counties in Kenya established that 53% of the respondents expressed dissatisfaction with the county governments, while 18% expressed satisfaction (Transparency International, 2014). These studies extensively focused on the effect of devolution on general service delivery while paying little attention to how the services were offered and their effect on people's attitudes.

Kisii County government prioritized road development by allocating a considerably higher budget to the roads sector, unlike other sectors of the economy as well as in the neighbouring counties in the Lake region economic bloc. For instance, in the 2013/2014 financial year, Kisii County allocated 367 million to the road sector, which was 24% of the development expenditure; in 2014/15, allocated 982.19 million shillings, about 31% and in 2015/2016, 947.79 million shillings, that is 26% of the development budget (Kisii County Statistical Abstract, 2015; COB, 2017). While in the neighbouring counties, such as Nyamira county, allocated to the road sector; in 2013/2014 26 million 2014/2015, 132.77 million and 379.64 million, respectively, while Migori and Kisumu in 2013/2014 allocated 167.6 M; 31.8M, 2014/2015, 83.7M;747.6M and 2015/2016, 36.58M and 557.81M respectively (COB, 2014, 2015, 2016, 2017).

Table 1. Amount (Kshs) allocated to road sector in Kisii County and neighbouring Counties

Amount (millions) allocated to the road sector			
County	2013/2014(m)	2014/2015 (m)	2015/2016 (m)
Kisii	367m	982.19m	947.79m
Nyamira	26m	132.77m	379.64m
Homabay	340m	303.07m	444.82m
Migori	167.6m	83.7m	36.58m
Kisumu	31.8m	747.6m	557.81m
Bomet	531.1m	424.5m	275.8m
Kericho	271.5m	596.07m	872.08m

Source: Controller of Budget 2014 -2017

From the allocated financial resources to the road sector, the county government opened new roads, graded and gravelled them into accessible roads, and rehabilitated existing weather roads improving their accessibility. From the available reports, within the first four years of devolution, the Kisii County Government had opened up and graded over 1,000 Kilometers of earth roads and gravelled over 850 kilometres bringing the total of earth roads graded and gravelled to 1850 kilometres of roads improved (ADP, 2018). Despite the improved road accessibility, there is scarcity of empirical evidence to support these claims.

Kisii County has a conducive climate with good fertile soil and reliable rainfall throughout the year, where agriculture is the major economic activity. However, before the introduction of devolution, Kisii County had a total length of 669 km of earth roads (Kisii County Government, 2013). Most of these roads were in poor condition, with accessibility limited to dry seasons in most cases. There were also inadequate feeder roads connecting villages, farmlands, schools and market centres. This mainly affected the agricultural sector in the region, especially the perishable horticultural products, which could not access factories and markets on time during the rainy season resulting in huge losses, which in turn increased the poverty among the residents of Kisii County. With the advent of devolution, there has been a tremendous improvement in road development, where approximately 1,850 kilometres of roads have been improved into accessible roads (Kisii County Government, 2018). Improved accessibility of the County roads has witnessed increased access to markets and schools, increased agricultural

productivity, and opportunities for youth employment and income generation. Despite these benefits, few studies have shown how improved road accessibility affects people's livelihoods.

The public participation process in Kisii County is still in its infancy stages despite the developments of the policy and legislation on public participation, establishment of public participation and civic education directorate and staffing it with relevant officers. The implementation of these documents remains a challenge that continues to disadvantage the people of Kisii County. This is because the public participation process carried out by the county government has not fully adhered to the constitution as envisaged resulting to low public satisfaction on service delivery. Transparency International (2014) established in its study on the level of public satisfaction with devolution in Kenya that the majority of the residents were dissatisfied with county governments on their service delivery. Whereas these studies focused on the level of satisfaction with devolution on service delivery in Kenya, there is a critical need to explore how services offered by the county governments, such as improvement of road accessibility, satisfy the residents. Without exploring the levels of public satisfaction on the effect of devolution on road service delivery, it will not be easy to ascertain the worthy of services offered.

1.2 Statement of the Problem

Devolution has increasingly gained attention worldwide as a mechanism for enhancing the delivery of public goods to local communities. Many countries worldwide have adopted a devolved system of governance that seeks to promote economic growth and development. In Kenya, for instance, evidence suggests that with the onset of devolution, county governments improved approximately 7,000 kilometres of roads in the first two years, which in turn enhanced livelihoods and the local economic potentialities in various parts of the country. In Kisii County, the available reports show that within the first four years of devolution, the Kisii County Government had opened and improved approximately 1,850 kilometres of County roads. As much as the available reports show improvement of road accessibility in Kisii County, there was scarcity of empirical studies to verify the veracity of these reports. These therefore created the need to carry out a study to establish the effect of devolution of road accessibility in Kisii County.

Road accessibility is a critical factor in improving people's livelihoods. Studies in Ethiopia, Ghana, Nepal, and Uganda show that access roads are essential for communities' access to basic services for their livelihoods. The improvement of road accessibility in Kisii County has been associated with

increased educational enrollment in ECD centres, improved access to market centres, and increased agricultural production and income levels among the residents. However the empirical evidence on the link between improved road accessibility and people's livelihoods in Kisii County is evidently lacking. Hence the need for the current study to investigate the effect of devolution on road accessibility and the resultant effect on people's livelihoods.

Moreover, the Constitution recognizes public participation as a critical enabler of devolution and a key pillar in decision-making with regards to devolved governance in Kenya. Many counties have put in place structures and relevant policy guidelines towards the implementation of the public participation process to ensure the public is satisfied with the development processes in their counties. However, in Kisii County, the implementation of civic education and public participation process is still in the infancy stages; thus, its contribution to public satisfaction with regard to road development in Kisii County is insignificant. This, therefore, raises questions if there is any meaningful contribution of the public in county development programs as envisaged in the Constitution.

1.3 Research Questions

1. How has devolution improved road accessibility in Kisii County since its start in 2013?
2. How does the improved road accessibility affect the livelihoods of the residents of Kisii County?
3. What is the level of satisfaction with regards to improved road accessibility in Kisii County?

1.4 Main Objective

The study sought to establish the effects of devolution on the road sector and livelihoods in Kisii County.

1.5 Specific Objectives

1. To find out the effect of devolution on road accessibility in Kisii County since its inception in 2013.
2. To determine how the improved road accessibility affects the livelihoods of the residents of Kisii County.
3. To assess the level of public satisfaction as a result of improved road accessibility in Kisii County.

1.6 Justification of the Study

Devolution, as the major highlight of the new constitution 2010, promises to deliver effective and efficient service delivery to the ordinary citizens in Kenya. The study findings will therefore contribute to the development of knowledge and experiences on devolution as a new concept in Kenya. The study will also assist the Kisii County Government, Department of Roads, Transport, and Public Works to put in place structures, procedures, and policy guidelines that will spearhead, manage and sustain road development towards affecting people's livelihoods. Further, the information generated will benefit the national government, county governments, and policymakers, who may use these findings to align or revise the current legislation and policies towards enhancing devolution. The study findings will further inform stakeholders and the community, in general, about the status of the implementation of devolution in Kenya. By demonstrating the effect of devolution on the roads sector and livelihoods in the County, the findings will provide the public with a comprehensive view of the relationship between devolution, service delivery, and livelihoods. Finally, these findings contribute to the existing body of knowledge on devolution, thus benefiting the scholars who wish to undertake further research on devolution.

1.7 Scope of the Study

The current study examined the effect of devolution on the road sector and people's livelihoods in Kisii County. It focused on three sampled sub counties namely; South Mugirango Sub-County, Bonchari Sub-County and Nyaribari Masaba Sub-County and five sampled wards namely; Chitago Borabu Ward, Tabaka Ward, Keumbu Ward, Birongo Ward and Bogiakumu Ward. The study interviewed the public, county staff from the department of roads and public works and department of administration and corporate services. Kisii County was considered for this study because of its prioritization of roads development towards opening up the local economy. The research focused on the road projects done between 2013 to 2017 financial years by the Kisii County Government. On the effect of devolution on road accessibility, the study examined the opening up of new access roads, graveling of opened roads, improvement of existing weather roads, the volume and frequency of motor vehicles plying the roads, time of travel, cost of transportation, access to markets and schools and change of transport model. On the effect of improved road accessibility on people's livelihoods, the study examined agricultural productivity, cost of agricultural production, income level, food security, employment creation access to health centers and basic healthcare, access to markets and poverty reduction. Also, the study investigated the effect of road accessibility on public satisfaction by examining; satisfaction with

decision making process, public participation process, quality of roads done, reliability of improved roads and safety of commuters and goods.

1.8 Theoretical Framework

1.8.1 Soufflé theory

This study was guided by the soufflé theory of decentralization proposed by Andrew Parker (1995). According to Parker (1995), devolution comprises three elements, i.e., administrative, fiscal, and political decentralization. These elements must complement one another to produce a more responsive government that is effective, efficient, and guarantees sustainable service delivery and upholds fiscal discipline (Parker, 1995). The theory postulates that like a Soufflé that needs just the right combination of milk, eggs, and heat to rise, so does a successful program of devolution that requires the right mix of political, fiscal, and institutional elements to ensure successful implementation of devolution (Farooq, Shamail & Awais, 2008; Laryea-Adjei, 2006).

Through devolution of fiscal powers, county governments receive an equitable share of revenue from the exchequer depending on a specific set of criterion. The county also generates its own source revenue through levying taxes and charges such as parking fees, license fees, property or sales taxes, or indirect payments. These powers give the county governments the autonomy to decide how to utilize their resources towards providing efficient, effective and sustainable service delivery. The Kisii County government thus prioritized road development by allocating a considerable share of revenue to roads with the aim of improving accessibility in the county. Thus the tenet of fiscal powers in the soufflé theory aligns with the first objective that seeks to establish the effect of devolution on road accessibility in Kisii County. This tenet helps to explain how the Kisii County government receives equitable share of revenue from national government, generates its own revenue that has helped to improve the road network in the wards.

The devolution of political powers devolves policy and legislative powers to county governments. This gave more authority to citizens and their elected leaders for decision-making and also helped to open democratic space for the citizens to elect their leaders and demand accountability in resource use and service delivery, besides creating an enabling environment for public consultations through public participation and engagement that is transparent and accountable to the citizenry. Devolution of political powers thus enables the public to voice their satisfaction or dissatisfaction with the county government's service delivery. At the same time, devolution of administrative powers transferred civil servants and

public functions to county governments as well as governing structures to ensure efficiency and effective service delivery and administration of devolved functions. It also sought to redistribute authority, responsibility and financial resources for providing services among different levels of government (Hossain, 2000). The redistributed authority and responsibility include; planning, financing and management to the local level authorities. This, therefore, gave the county governments the autonomy to respond effectively to the local needs by enforcing regulatory decisions to govern various systems in the county, such as procurement system, health system and human resources management (World Bank, 2008). In applying this theory to the topic under study, the researcher sought to answer research questions one and three; on how devolution has improved road accessibility and the level of public satisfaction with regard to improved road accessibility in Kisii County.

Devolution of fiscal powers provides an in-depth understanding of devolution as exercised by county governments and how devolution of resources contributes to improvement of road accessibility through opening of footpaths into accessible roads, graveling of newly opened and existing roads, reduced time of travel, reduced transport cost, increased access to schools and health centers. The theory also helps to explain how improved road accessibility contributes to public satisfaction in terms of public involvement in decision-making on road development, public participation process, quality of roads done, timeliness and road safety. The theory further unpacks how devolution of political powers has opened democratic space in counties, enhanced public consultations and demand for accountability, thus increasing the level of satisfaction with regard to services offered by county governments. Lastly, the theory informed the research design by providing the rationale for the study, helped to design research questions, developed a framework for data collection and generation tools and a framework for data analysis.

1.8.2 Principal -Agency Theory

The principal-Agent theory was proposed by Jensen and Meckling (1976). The theory proposes a 'principal' with specific objectives and 'agents' who are required to implement activities to achieve those objectives. The agency relationship is central to the principal-agent theory, which depends on power relations and information flow between principals and agents. The question, then, is how principals can manage agents' interests so that they align with the goals they (principals) wish to achieve (Masanyiwa, Niehof, and Termeer, 2012). Mewes (2011) links the agency theory to top-down and bottom-up models.

In the top-down model, county governments are agents, exercising responsibilities on behalf of the citizens in the wards (Principal). In the bottom-up model, the ultimate principals are the citizens or service users in the wards and villages, while the local politicians, who are representatives of the people in decision-making, are the agents. Similarly, the county government administrators responsible for executing service delivery functions are agents of local political leaders and citizens. Consequently, Kayode et al. (2013) further posit that in a democratic polity, the ultimate principals are the citizens who are consumers of specific services provided by the government, whereas the politicians act as agents since they seek the citizen's (Principal) mandate and act as their representatives.

In applying this theory to the topic under study, the researcher sought to answer research question two on how improved road accessibility affects residents' livelihoods. The theory unpacks the relationship between improved road accessibility and agricultural productivity, cost of agricultural production, food security, income level, employment creation, poverty reduction, and market access. The theory also provides the basis for understanding the relationship in which the citizens (Principal) delegate work to the agents (County Government) who performs the task. The politicians also act as the agents of citizens and must act in good faith to fulfil the demands of the Principal. As such, the researcher adopts the Principal Agent theory to understand the social accountability practices between citizens and politicians.

1.9 Conceptual Framework

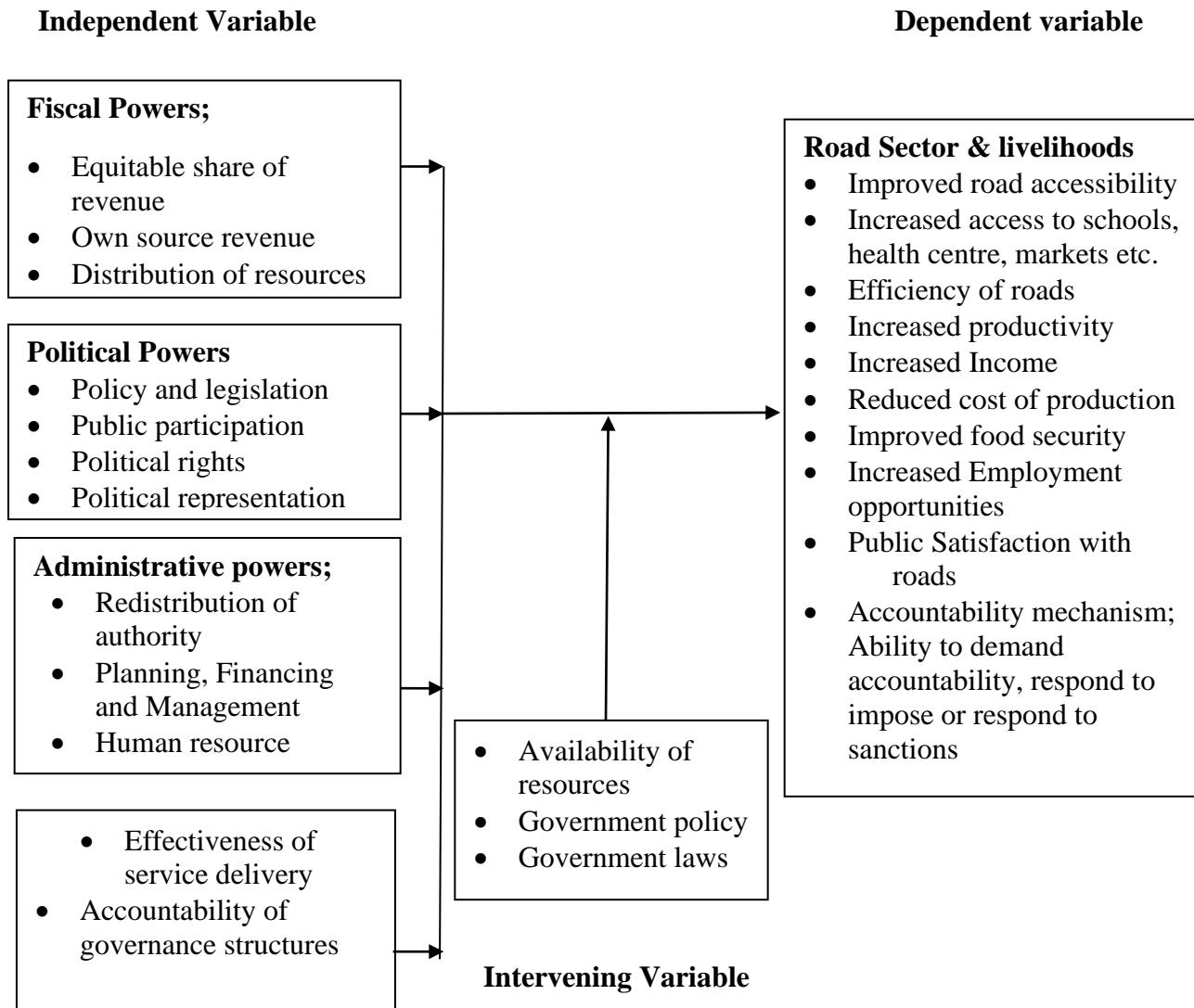


Figure 1. Conceptual Framework

A conceptual framework is a diagrammatic presentation of variables, showing the relationship between the independent, moderating, and dependent variables (Mugenda & Mugenda, 2003). It therefore, illustrates the perceived link between the independent variable (Effect of Devolution) and the dependent variable (Road Sector and Livelihoods). The conceptual framework was founded on the literature review, which depicts a linkage between devolution and road accessibility. In the conceptual framework, devolution aims at increasing the efficiency and effectiveness of road accessibility. To achieve this objective, the county government receives devolved political powers that constitute the policy and

legislative powers, political representation, public participation and political rights to enable the county government to make decisions that satisfy the citizens' needs. County Government also receives fiscal powers that give them the autonomy to raise and expend resources as well as receive an equitable share of revenue to facilitate delivery of services. Administrative powers help to plan, manage, finance and redistribute authority as well as enforce regulatory decisions on various systems used by the county government in improving road accessibility as well as enhancing people's livelihoods. These elements of devolution (Fiscal, Political and Administrative powers) work better when they are complemented with appropriate government laws and policies and availability of resources.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a detailed review of the existing literature on devolution and its effect on the roads sector and livelihoods in Kisii County. The study organized the review to specific sub-topics as per the objectives of the study. They include an investigation of how the Kisii county government has improved roads accessibility, establish how improved road accessibility affects the livelihoods of the residents Kisii County, and assesses the level of public satisfaction on roads service delivery since the introduction of devolution in Kenya.

2.2 Devolution and Road Accessibility

Improved road accessibility has become a major precondition for growth and economic development of the modern-day economy across the world. This is evident from the visible benefits associated with improved road accessibility that include; improved access to local markets and faster movements of commodities across markets, improved access to health facilities, access to school and reduced transportation costs and time expenses. According to Spyckerelle & Morrison, (2001); Romeo & Spyckerelle, (2004), that majority of the requests made by the communes referred to the construction, repair, or rehabilitation of physical infrastructure in Cambodia. In a similar study, Hani (2003), established that decentralization improved the availability of local roads infrastructure. The study further revealed a positive relationship between the local road quality and the change of local government infrastructure stocks after devolution. Crook & Manor (1998), sought to establish whether decentralized governments were responsive to the needs of the poor and whether there was any systematic relationship between variations in responsiveness and the political and regime context of decentralized systems. Using a case study of Kibaale District in Uganda, the study established that road rehabilitation in Kibaale district had a significant effect on economic development: increased district revenues, improved accessibility to and from the community, small scale industry appeared to have grown, and new trading centers and markets sprung up as old ones grew. The findings further established that social benefits such as the health of the residents improved as patients could timely access hospitals for referral health needs (Sverrisson, 1999; Bishop & Tazarn, 1998). From these studies, it's evident that devolution has

played a significant role in improving road accessibility in Africa, despite a dearth of empirical data to show the progress of devolution.

2.3 Road Accessibility and Its Effect on Livelihoods

Improved road accessibility has a significant contribution in promoting livelihood condition in society. For instance, improved road accessibility increase access to opportunities for employment, enhances income generation activities, improves agricultural productivity, and ensures food security and reduction of poverty. Lack of improved road accessibility is a central concern to many local communities around the developing world. To ensure there is sustainable economic growth, there is need to access competitive markets for their products and inputs, credit, labor and technology (IFAD, 2001). On the other hand the quality of people's lives in the local areas can be enhanced by increasing access to conducive environment for businesses, employment or entrepreneurial activities (World Bank, 2002), whereas improvements of transport accessibility significantly impacts the people when combined with activities in other sectors, hence, it is becoming increasingly clear that when new roads are constructed and the old ones rehabilitated, they will significantly reduce poverty (Ahmed and Hossain, 1990). Using generalized methods of the moment and auto-regressive distributed lag model, to analyze the role of infrastructure in promoting economic growth, Pravakar, Ranjau & Geethanjali (2010), established that infrastructure and investment played an important role in economic growth in the Chinese economy. Whereas in African countries, Calderon (2009), established that infrastructure stocks and service quality boosts economic growth.

Yano Belo (2011), using a case study, examined the policies relating to improving governance problems driven by political actors in the state institutions and the devolution of public administrative functions within the various levels of government in Papua New Guinea. He established that the 80-kilometer road was built to improve the accessibility of the feeder roads that helped link the highway to enable the villagers to sell their farm products in the main town more easily or buy any needed products in the city and sell them in the village. While Stifel & Minten (2013), established that investments in rural feeder roads was a cost-effective method of reducing widespread poverty, even in unfavorable settings where small-scale farmers had low marketed agricultural surplus. In a similar finding, Stifel and Minten (2008) established that distance from roads was associated with low agricultural yields. The low agricultural

yields productivity was attributed to higher transport costs on farming inputs and outputs, price fluctuations, and insecurity.

Using census data and spreadsheet modeling, to study the impact of roads on poverty in Papua New Guinea, Gibson and Rozelle (2003), established that communities experiencing travel time of more than 60 minutes to the nearest roads had double poverty incidence than those immediately adjacent to roads. On average, the people in Papua New Guinea, highlands spent 75% more time to travel to the nearest mode of motorized transport. In support of these findings, Fan, Zhang, and Rao (2004) on their study on public expenditure, growth, and poverty reduction in Uganda, established that local road improvements had a benefit-cost ratio of 7.2, where 34 people taken out of poverty for a million shillings invested, concluding therefore that the resultant impact of small feeder roads on poverty reduction was three times greater than gravel or tarmac roads per unit of investment (Fan et al., 2004). Whereas in another studies in China, established that despite the huge investments in expressways and their huge economic benefits, the greatest returns on investments were from constructing low-volume roads, which greatly influenced poverty reduction (Fan et al., 2005).

A study conducted in Kenya by Kiprono (2014), on the effect of roads on rural development, established that the total per ca-pita income and expenditure for households increased over the study period. The study further established that improving local roads accessibility to the nearby markets by one percent increased household income by two percent whereas improving roads accessibility major towns by one percent increased household income by one percent thus improving accessibility of roads local communities has a ripple effect on the local economy. From the literature reviewed, it is evident that most of the studies relied on were carried out during the early stages of implementation of devolution in Kenya, hence their findings could not be relied on to conclusively explain the current situation in Kenya.

2.4 Level of Public Satisfaction on Road Accessibility

Public satisfaction involves the general evaluation of the customer attitude towards the quality of goods and services of service provider. It appeals to the emotional reaction of what customers anticipate towards fulfilling their goals and desires and what they ultimately receive from the service provider (Hensenark & Albinson, 2004). Factors that influence public satisfactions regarding improvement of

road accessibility include; frequency of services, affordability, reliability of services, and time, particularly waiting time.

Reliability is the ability to deliver goods and services within the expected timelines accurately and dependably. According to Randheer, Ahmed & Vijay (2011), commuters value more the delivery of services on time. Most business people are satisfied when their goods and services can arrive at their destinations within the shortest time (Annabel, 2005). The improvement of road accessibility ensures easy movement of labor and raw materials, which increases employment opportunities. At the same time, those that do not own any means of transport can transport their commodities (Poleen, 1993). Punctuality of services affects the level of satisfaction on the quality of public transport (Friedman, 2004), however, if public transport is punctual, reliable and convenient, the commuters will be satisfied (Cavana & Corbett, 2007). The time of travel is also an indicator of reliable transport (Li, 2003), however when the total travel time is perceived to be longer, the customers may be unsatisfied. Reliable transportation therefore is necessary to facilitate an effective movement of goods and labor. On the other hand, commuter satisfaction will be guaranteed when there is an increased frequency of transport services (Govender, 2014). The frequency of transport alone may not guarantee satisfaction to the road users, therefore it's necessary that other factors such as affordability, safety, and timelines are put into consideration.

Affordability is a situation where customers are capable of purchasing goods or services. Litman (2009), defines affordability as the capacity to obtain essential goods and services. Okoth (2017) studying the factors influencing customer satisfaction in public transport, argued that affordability, should ideally be that a family spends less than 20% of their total budget on commuting and less than 45% on commuting and rent inclusive. Improving road accessibility is therefore essential for the capacity of the local residents to afford basic necessities besides enhancing the opportunities of the poor and ensure satisfaction resulting from economic development and increased social equity (Okoth, 2017).

A survey conducted by Transparency International (2014) on devolution and governance in 16 Counties in Kenya using a sample of 1,993 respondents, sought to assess citizen awareness and the appreciation of the devolved system of governance. The study further sought to understand the county governments' approval of the new constitution concerning transparency and access to information. On satisfaction

with County Governance, 53% of the respondents expressed dissatisfaction, with only 18% expressing satisfaction. The findings further showed that over half of the respondents reported no visible development due to devolution, hence their disappointment. In contrast, 19% of the respondents were discontented because campaign promises were yet to be fulfilled. In a similar study, Transparency International (2015) sought to track the progress of devolution through the public's eyes. The study sampled 16 Counties and randomly selected 2,153 respondents from the 16 counties. The study purposely chose 16 counties to represent formerly provincial headquarters and others to represent regional balance. The study findings revealed that majority of the respondents were dissatisfied with County governments. From the literature reviewed, it's evident that there is scarcity of published information on the level of public satisfaction with regards devolution in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section discusses the methodology utilized to achieve the research objectives. It outlines the research design, study area, study population, sample size calculation and sampling techniques, data collection procedure, validity and reliability of research instruments and data analysis and presentation, and ethical consideration during the study.

3.2 Research Design

A research design is a comprehensive strategy utilized to integrate dissimilar components of a study in a coherent and logical way to ensure a research problem is addressed properly (Babbie, 2010). Kothari (2004) defines research design as an arrangement of conditions for collection and analysis of data in a manner aimed to combine relevance to research purposes. It is therefore a blue print for gathering, measuring and analysis of data. This study utilized a cross-sectional research design. A cross sectional research design collects data to make observations about a population of interest at one point in time. It is also cheaper to undertake compared to longitudinal survey and the results from the sample can be used to design inferential studies involving larger populations to enable causal analysis. Cross section design is used in preliminary and exploratory studies to allow the researcher to collect information, summarize, present, and interpret for clarification (Orodho, 2008). This study collected data from Bogiakumu Ward, Chitago Borabu Ward, Tabaka Ward, Keumbu Ward and Birongo Ward in Kisii County to ascertain the effect of devolution on the road sector and people's livelihoods. The design was used to collect, gather information, present, and interpret data to clarify the study. The survey design was suitable in this research as it depicted and described the state of affairs as it existed. The design also enables the generation of new information directly from the study participants.

3.3 Study Area

Kisii County is one of the 47 county governments in Kenya. It lies within the latitude 00 30' and 100 South and longitude 340 38' and 350 East. It shares a common border with Nyamira to the North East, Narok to the South, and Homabay and Migori Counties to the West. It is characterized by hilly topography with several ridges and valleys and exhibits a highland equatorial climate resulting in a bimodal rainfall pattern with an average annual rainfall of 1,500mm. The county has a network of 1,133 km of classified roads and 435km of rural access roads. About 171 km of the roads are tarmacked. The

tarmacked roads pass through major town centers like Kisii, Rongo, Ogembo, Nyamache, Gesusu, and Suneka (Kisii County Government, 2013). The county is divided into nine sub-counties and forty-five wards. This study will therefore focus on three sub-counties and five wards. The five wards are categorized as urban wards and rural wards so as to accommodate the diverse perceptions of development by the rural and urban respondents.

3.4 Study Population

The study targeted adult population aged 20 years and above. This is because adults were more informed and able to understand the concepts of devolution and development. Kisii County has a population of 1,266,860 persons (KNBS, 2019), the target population above 20 years old was estimated to be 585,752. The study also targeted the Kisii County staff in the roads sector, which included; the chief officer roads, the director roads, three civil engineers in charge of roads in the selected sub-counties, five ward administrators from the selected sub-counties.

3.5 Sample Size and Sampling Techniques

Sampling is a process of selection of a subset of individuals from within a population to estimate the characteristics of a whole population (Singh & Masuku, 2014). Cooper and Schindler (2003) aver that the basic idea of sampling is selecting some of the elements in a population, so that the same conclusions can be drawn about the entire population thus resulting to reduced cost and greater accuracy of results. Since the whole population was heterogeneous, the study employed multi-stage sampling method which used simple random sampling at each stage. Multistage sampling is a method that divides the population into groups (or clusters) for conducting research. It is a complex form of cluster sampling. During this sampling method, significant clusters of the selected population are split into sub-groups at various stages to make it simpler for primary data collection. Specifically, a two-stage sampling procedure was applied due to the two primary sample units. The primary sample units entailed the sub-counties and wards in Kisii Count. The First stage involved selecting 30% of the 9 sub counties to participate in the study (Borg & Gall, 2003). The sub counties were then randomly picked through lottery. In the second phase the researcher selected 30% of the total wards under the selected sub-counties. The total sample was distributed in proportion to the population per target wards. The selection of the households was done using systematic random sampling. A sampling approach with a statistical significance of 95% confidence level and 5% confidence interval was utilized. Yamane (1967) provides

a simplified formula to calculate sample sizes, which provides a 95% confidence level and P = 0.5 are assumed.

$$n = \frac{N}{1+N(e)^2}$$

Where n is the sample size, N is the population size, and e is the level of precision or margin of error at 7% (standard value of 0.07). When this formula is applied to the above sample, we obtain;

$$n = \frac{585,752}{1+585,752(0.07)^2}$$

$$n = \frac{585,752}{585,752(0.0049)} = \frac{585,752}{2,871.1848}$$

= 204. Therefore n = 204 Respondents

Table 2. Sample size determination using Probability Proportional to Size

Wards	Target population	Working	Sample
Bogiakumu	28,824	(28,824/142,552) × 204	41
Chitago Borabu ward	41,021	(41,021/142,552) × 204	58
Tabaka ward	33,425	(33,425/142,552) × 204	48
Keumbu ward	17,160	(17,160/142,552) × 204	25
Birongo Ward	22,122	(22,122/142,552) × 204	32
Total	142,552		204

Source: KNBS 2019

At each sampled wards, sampling of households was done as indicated below;

3.6 Selection of Households

A systematic random sampling approach was used to identify households for interview. Systematic sampling is a probability sampling method in which researchers select members of the population at a regular interval determined in advance (Thomas, 2020). Systematic random sampling helps obtain representative findings on a vast group of people without having to reach out to each and every one of them, besides minimizing biased samples and poor survey results. The number of households targeted in the survey was 142,552, equal to the number of targeted respondents. Once the researcher arrived in each selected ward, the researcher used a random walk approach to select households. The random walk approach is a simplified cluster sampling method in which a population is divided into a specified number of geographic "clusters" (e.g., villages, neighborhoods, etc.) of a known or estimable population size (Lemeshow & Robinson, 1985). Clusters are randomly selected with probability proportionate to size, and then the desired numbers of households per cluster are selected (Bennett et al., 1991; Lemeshow & Robinson, 1985). In small villages, a full enumeration of households, followed by random sampling, is often possible. In scattered populations, randomly selecting a direction to walk by spinning a bottle, selecting a random starting point, and sampling contiguous households are common (Bennett et al., 1991; Lemeshow & Robinson, 1985).

The random walks were divided into two separate steps. The first step involved selecting a starting point by approximating the ward boundaries with the local administrator's help and then splitting the ward into four transects and then drew a map to determine a central point of the ward and its transects. After splitting the wards into four transects, the total sample in each ward is allocated to each transect ($n/4$). The sampling interval in each transect was therefore determined by the total population of households in the transect and divided by the sample size allocated in each transect. For example, in Bogiakumu ward the total sample population (N) was 41, when the ward was divided into four transects, the sample population in each transect was $41/4$ which gave 10.25, thus the sampling interval (k) = to $41/10.25 = 4$. The sampling interval was different in each ward due to the different sample size of the households.

The researcher spun a stick and randomly picked the first transect that was pointed by the stick as the starting point. Upon getting to the first transect, a stick was spun again and the first household was picked. The study turned right and skipped 4 households and got to the next household. The households

were selected in a way that those far from the center of the ward or those distant from the main road (footpaths) had the same chance of being sampled as more accessible households. Thus, after the first household, the researcher followed a path to the left and selected the fifth household, then followed the subsequent path to the right and chose the fifth household, then to the left again, constantly alternating the direction but skipping four homes. In cases of non-response households, the researcher sampled the very next home in the same order. In these households, the researcher interviewed the head. In cases where the head of the household was absent, the researcher interviewed the senior person present.

The study also used the purposive sampling method to select Key Informants. Purposive sampling is a sampling technique that allows a researcher to use cases that have the required information with respect to the objectives of his or her study (Mugenda and Mugenda (1999). Therefore, subjects are hand-picked because they are informative or they possess the required characteristics. In this study, the sample size of subjects consisted of, one chief officer, director in charge of roads, three site engineers in charge of the road projects, and five ward administrators from the select wards. These together with other participants made up a total of 10 subjects that were interviewed and attained data saturation level at the end of the study.

3.7 Data Collection Methods

Data collection was done using instruments developed by the researcher under the supervision of university supervisors. According to Mwangi (2015), data collection choices are critical for the success of a research. When determining the suitable data collection instruments, a researcher must consider the complexity of the topic, response rate, time, and the targeted population. This study therefore employed a mixed methods approach for data collection. The mixed methods employed include; semi-structured interviews, key informant interviews, non-participant observation methods, and focus group discussions.

3.7.1 Semi-Structured Interviews

The researcher conducted interviews in each household using a semi structured interview guide. Semi structured interviews were used to collect both closed and open-ended questions. This study preferred this kind of interviews because they provided an opportunity for the respondents to give detailed explanations. The interview guide was divided into two sections; Section A sought to establish personal information of the respondents, and section B contained specific questions on the study's objectives. The

semi-structured interviews were administered to 204 household heads. The researcher ensured the household heads were the residents of their ward or had stayed in the ward for at least 10 years. To ensure reliability of their response, the researcher performed some checks and test by asking the respondent the names of their Area chief and Sub-chief and the approximate boundaries of their ward. Those who did not know any were considered a new member in the community. The interviews captured information such as; biographical information of the respondents, the respondents' knowledge of devolution and its effect of county roads, their understanding on the effect of improved roads accessibility in their wards and on their livelihoods and their level of satisfaction with regards to improved roads.

3.7.2 Non-participant Observation

The study utilized a non-participant observation method to collect data on improved road accessibility and livelihoods. In non-participant observation, the researcher gets detached and has 'a birds eye view' of the activities from an angle especially when recording some crucial information or taking a picture of a particular program or activity. This technique assists in avoiding gaps, which would arise from the participatory approach where the researcher would not be able to notice and capture what is going on behind him. The researcher observed road development processes such as opened footpaths, removed boulders on the roads, graveled roads, an even road surface, installed culverts, increased volume and frequency of motor vehicles and motorcycles passing on the improved roads for a period of three weeks. The researcher also observed the effects of road accessibility on the community's livelihoods. The characteristics observed include; number of small-scale businesses on the roadsides, the amount of farm produce being transported to markets, the ease of access to schools and health centers in the wards. The researcher used an observation checklist to collect information quickly and uniformly. The Observational checklist questions that sought to answer the research question one that sought to establish how devolution had improved road accessibility in Kisii County since its inception in 2013 include; were there new roads opened in the wards by the county government? were the new opened roads graveled? were the existing roads in the wards improved into all-weather roads? The data derived from these questions was used to answer the first objective on the effect of devolution on road accessibility. The observation checklist was also used to ask questions whose data was used to answer objective two of the study which sought to establish how the improved road accessibility affects the livelihoods of the residents of Kisii County. Some of the questions in the checklist whose data answered

the above objective include; was there an increase of agricultural products in the markets in the wards, was there increased number of motor vehicles on improved roads? were there new businesses coming up along the improved roads?

3.7.3 Key Informant Interviews

This entailed the administering of in-depth un-structured interview guides/checklists to individuals with knowledge of the issues under investigation. Key informant interviews were used to collect critical information to corroborate information collected from semi structured interviews. Key informant interviews involved interviewing a select group of individuals who provided the needed information, ideas, and insights on the devolution and its effect on the road sector and the livelihoods on the people of Kisii County. The key informants included people who had interacted with road construction projects from the department of roads and county public works. These include; Chief Officer Roads, Director Roads, Site engineers in charge of the sampled sub-counties, and Ward administrators from the sampled wards. The questions were open ended and touched on each objective of the study. Some of the information asked include the effect of devolution on road accessibility on county roads, the effect of improved roads accessibility on people's livelihoods and the levels of satisfaction with regards to improved roads accessibility. This information was captured through note taking and tape recording.

3.7.4 Focus Group Discussions

This is a qualitative approach for obtaining in-depth information by drawing upon the discussant's perceptions, attitudes, feelings, beliefs, experiences, and reactions. The participants for focus group discussions are homogeneously and purposively selected because of their knowledge and experience with the subjects of the study. Three focus group discussions of homogeneous groups of men, women, and youths in the 5 Wards totaling 15 FGDs. The FGDs comprised 6-9 participants selected across the five wards from the ward development committees. It was moderated by the researcher, assisted by one research assistant whose role was note-taking and mobilization of the focused group participants. The researcher discontinued the focus group discussions upon saturation. The researcher ensured that conducting the FGDs was accessible, well organized, safe, comfortable, and well equipped with basic necessities that ensured the FGDs were completed without interruption.

3.8 Data Analysis.

This is a process which involves data entry, coding and computation of certain measures along with searching for patterns of relationship that exist among data-groups (Cooper & Schindler 2014; Kothari 2004). The data generated from the study was checked for completeness, accuracy, response errors, omissions and other inconsistencies. The data was then coded using numerals in order to put it in limited numbers of categories. The data was then analyzed using SPSS version 20. In the analysis, data was then classified, tabulated and summarized using descriptive statistics; percentages, mean, and frequency distribution tables. Pearson correlation analysis was employed to know the relationship between variables. Qualitative data was transcribed and analyzed using content analysis which entails examining qualitative responses from individuals to establish cross-cutting themes and attributes that are not dependent on absolute numbers. Responses with common themes were grouped into coherent categories to develop a framework of thematic ideas while thematic analysis was done by examining and recording patterns across data sets and aggregating of the summary themes into major qualitative findings.

3.9 Validity

The purpose of validity in research is to increase transparency, and decrease researcher bias. It is therefore the extent to which a test measures what it is supposed to measure (Kothari, 2004). Validity of research instruments was verified by scrutinizing the tools and items during their construction. The researcher consulted experts in governance, devolution, and public policy. The experts examined the instruments to ascertain the relevance of the questions to the study. The researcher also conducted a pilot study in Kitutu North sub-county before collecting the actual data. The researcher conducted the pilot study to check the comprehensibility of the questionnaire and its ability to collect the desired information. The Pilot study enhanced the face validity of the instruments.

3.9.1 Pilot Study

Pilot study is a replica and a rehearsal of the main study (Kothari, 2004). A pilot study is conducted to test and detect weaknesses in design and instrumentation (Cooper and Schindler, 2003), by drawing subjects from the target population and simulating the procedures and protocols designated for data collection. Piloting of the study was done in Kitutu North Sub-County to ensure that the semi-structured interviews were stated clearly, had the same meaning to all the respondents, and gave the researcher an

idea of approximately how long it would take to complete the interview. Kitutu North Sub-County provided similar characteristics of the respondents as the area of study. According to Mugenda and Mugenda (2003), a sample equivalent to 10% of the study sample is enough for piloting the study instruments. The study therefore conveniently sampled 20 members of the public in the sub-county to administer semi-structured interviews and then later purposively interviewed the Sub-County Administrator, Sub- County work officer in charge of roads, and the site engineers in charge of road projects in Kitutu North Sub-County. Data collected was quantitatively analyzed using SPSS Software Version 22. The findings were calculated using a correlation coefficient; -

Spearman's Brown Prophecy formula was applied as shown below:

$$\text{Reliability of the entire test} = \frac{\text{Reliability of 0.5 test} (r)}{1 + \text{Reliability of 0.5 test} (r)}$$

Where r , is Coefficient of correlation

The value of the correlation coefficient was 0.7, implying that the tools were reliable.

3.10 Reliability

Reliability is the degree to which a research instrument yields consistent results after repeated trials (Mugenda and Mugenda, 2003). If a researcher administers a test to a subject twice and gets the same score on the second administration as the first test, then there is reliability of the instrument (Mugenda and Mugenda, 1999). In testing instrument's reliability, the researcher applied the test-retest method. This involved administering the same test twice to the same group of respondents who had been identified for the purpose. The researcher also took the instruments for piloting on a population similar to the target population in Kitutu North Sub-County with the objective of eliminating ambiguous items in the questionnaires, establish if there were any problems in administering the instruments to test data collection instructions. The pilot study also was meant to anticipate and amend any logical and procedural difficulties regarding the study and allow preliminary (dummy) data analysis as well as test the reliability of the instrument.

3.11 Ethical Considerations

This study involved the public as the major respondents and some County staff who were key informers. Thus, clear ethical considerations were put in place to guide the study. Before the study commenced, the researcher obtained ethical approval from Maseno University Ethical Review Committee and then obtained informed consent from the public before the interview. Before signing the informed consent, the researcher briefed the interviewees on the objective of the study, its importance to the community and the possible harm or benefits of participating in the study. He also made it clear to the respondents that the study was voluntary, and any respondent was allowed to pull out of the study at their convenience if uncomfortable. The respondent's names did not appear in the study report. The data collected was treated with the utmost confidentiality and strict privacy regulations and was used only for academic purposes. The data was stored in Compact Disc and external hard drive disk with password-protected folders, which were only accessible to the researcher.

Dissemination of Study findings was done after completing the study in the form of a thesis presented to Maseno University library and the Kisii County Government for reference and further dissemination. Further dissemination was done to the beneficiaries through policy briefs, presentations, and Seminars. The study findings published in international journals reach a wider scope of the target beneficiaries nationally and globally.

CHAPTER FOUR

EFFECT OF DEVOLUTION ON ROAD ACCESSIBILITY

4.1 Introduction

This section presents, analyzes and discusses the analysis of data collected on the effect of devolution on improved road accessibility in Kisii County since 2013. The study used the following indicators; opening up of new access roads within the first four years of devolution, graveling of opened roads, improvement of the existing weather roads and effect of road accessibility on; volume and frequency of motor vehicles, time of travel, cost of transportation, change of transport model, access to markets and schools. The results were analyzed and presented.

4.2 Response Rate

The study recorded a response rate of 100% which was very good for analysis. All the 204 household heads were interviewed thus representing a 100%. According to Mugenda and Mugenda, (2003), a response of 70% and above is very good for analysis and reporting in research. The study therefore deemed the response rate of 100% to be very good and adequate for analysis and generalization of the results.

4.3 Demographic Characteristics

Demographic characteristics of the respondents comprised of; age, gender, education and occupation.

Table 3. Respondent’s characteristics

Variable	Frequency	Percentage%	
Age	20-29 years.	57	27.9%
	30-39 years.	63	30.9%
	40-49 years.	30	14.7%
	Above 50 years.	54	26.5%
Gender	Male	108	52.9%
	Female	96	47.1%
Highest level of education	Primary	82	40.2%
	Secondary	83	40.7%
	Tertiary	24	11.8%
	University	14	6.9%
	Other	1	0.3%
Occupation	Employed (salaried)	30	14.7%
	Business	60	29.4%
	Farming	63	30.9%
	Un-employed	51	25.0%

The respondent characteristics displayed in Table 3, shows that out of the total 204 respondents, there were 108 males and 96 females representing 52.9% and 47.1%, respectively. The study also sought to find out the age distribution among the respondents. To fulfil this the researcher asked the respondents to indicate their age and the results are presented in Table 3; 27.9% between the ages of 20 to 29 years, 30.9% between 30 and 39 years, 14.7% between 40 to 49 years, and 26.5% were above 50 years. Cumulatively, 58.8% (20-29, 30-39yrs) of the respondents were youthful. The constitution of Kenya 2010, recognizes a youth as a person aged between 18 to 35 years. This is in line with KDHS (2014) survey, which showed that most Kenyan population is youthful. The youthful population is synonymous with activeness, experienced, energetic and responsible (Kimani, 2015). The age of the members of society plays a pivotal role in influencing social-economic development.

The highest academic qualification possessed by the respondents was an undergraduate degree with 6.9%, while 11.8% of respondents had college education. Majority (40.7%) had obtained secondary school education and (40.2%) primary school education, respectively. These findings agree with the Kisii County Household Baseline Survey Report (2014), showing that 28% of the household heads had attained upper primary and 39% secondary school education, respectively. The level of education of the respondents as a demographic indicator would influence participation in decision making with regards to

development in the County government. According to Tara & Thomas (2010), older adults with a higher education did a better job of remembering specific criteria and utilizing them when making decisions.

On occupation, majority, 30.9% of the respondents, were businessmen, 29.4% farmers, and 14.7% had formal employment, while unemployed was 25%. These findings agree with the Society for International Development (SID), which established that only 13.8% of the active population was in formal employment, with 51.3 % being in informal sectors of the economy across the County while the unemployed was 26.1%. Devolution saw the elevation of village towns into ward administrative centers and sub county headquarters away from the county headquarters.

4.4 Devolution and Road Accessibility

The study sought to establish the effect of devolution on road accessibility.

Table 4. Improved Road accessibility in Kisii County

Improved road accessibility	Frequency	Percent
Strongly agree	18	8.8
Agree	115	56.4
Disagree	61	29.9
Strongly disagree	10	4.9
Total	204	100

The study findings revealed that majority, 65% of the respondents agreed that the county government had significantly improved road accessibility in Kisii County. Many of those in agreement contend with having witnessed the opening up of new access roads, grading, and graveling them to improve accessibility. To understand the extent to which the county had improved road accessibility, the study sought qualitative information from the focus group discussions on the status of roads before devolution. One of the discussants stated that;

Before the county governments came into being, we had very few roads, in fact there was only one major road in the ward that connected the business centers in the ward and other wards. This road was only accessible in the dry season and impassable during the rainy season. However, with the advent of devolution, we have witnessed many footpaths in the villages opened and improved into accessible roads as well as existing earth roads improved into all-weather roads.

These findings are also corroborated by the Key informants who revealed that before devolution, Kisii County had only 293 Kilometers of graveled roads with 669 kilometers of earth roads. However, with the introduction of devolution in Kenya, the county government has graveled additional 850 kilometers

of roads, opened and improved 1000 kilometers earth roads by grading. These findings concur with Wagana (2017), whose study revealed that in the first three years of devolution, the quality of roads in many County Governments in Kenya had greatly improved; thus, concluding that most rural roads in the counties were now accessible after devolution. In a similar finding, Njuguna (2012) while analyzing devolution and its impact on the community in Kiambu County, established that access to markets had improved through improved roads and feeder roads such as the Ikinu-Githiga road. It's evident from these findings that, devolution has significantly contributed to the improvement of road accessibility in Kenya. The Kisii County Integrated Development Plan 2013-2017, indicated that the county government planned to open up all market centers in the wards and villages by opening new access roads and gravelling them to link major town and market centers with all seasoned roads. Its evident from these findings that indeed the country government has improved road accessibility by constructing more than 1000 kilometers of roads. These findings are therefore important for this study as they help to comprehend the concept of devolution of fiscal powers to county governments and how the devolved fiscal powers facilitate service delivery in counties in Kenya.

The study further sought to establish, if there was opening of new roads in the first four years of devolution.

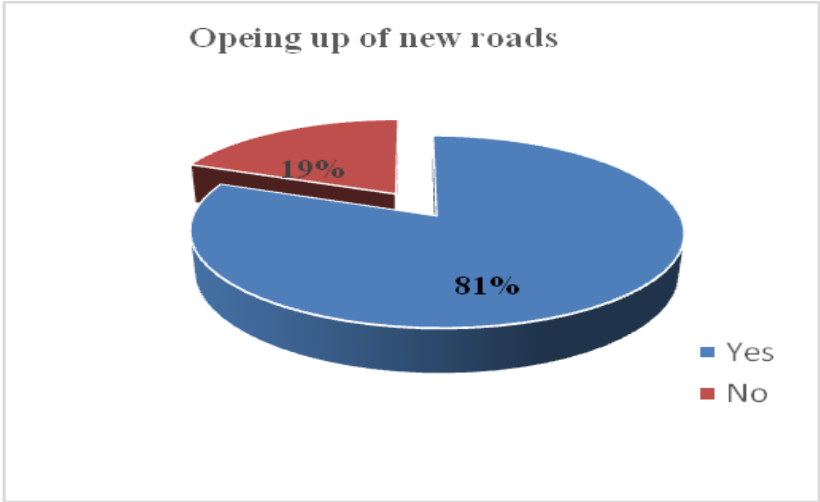


Figure 2. Opening up of new roads

The findings established that an overwhelming majority, 80.9%, of respondents confirmed the opening up of new access roads within the first four years of devolution in Kisii County. Many of those in agreement aver that the county government opened a number of footpaths in the villages into new accessible roads. These findings are corroborated by the one of the Key Informant who stated that;

Since the inception of devolution, the county government has opened approximately 1000 kilometers of new access roads within the first four years of devolution. These roads were opened by removing boulders, stamps, expanding the road surface and grading them into accessible roads.

The researcher went on further to find out if the newly opened roads had been graveled. Most respondents, 59.3%, indicated that some of the newly opened roads had been graveled. These findings were supported by the Key informant who revealed that; *'The Kisii county government had graveled about 850 Kilometers of access roads within the first four years of devolution'*. These findings were consistent with Starkey & Hine (2014), who established that upgrading footpaths into accessible roads provided substantial benefits to the community. The studies also agree with the souffle theorists that with a strong political and administrative leadership and a vibrant bureaucracy, there will be a sustainable, effective and efficient services delivery.

In contrast, 40.7% of respondents reported that among the vast network of new roads opened, only a few roads were fully graveled, many others opened were graveled in patches, particularly on critical areas such as hilly parts, swampy places, and corners. However, most newly opened earth roads were yet to be graveled. This affected accessibility of some roads in the wards, especially during the wet season where no vehicles could access the villages or ward towns. To ascertain why only a few roads were graveled, the study sought qualitative responses from the Key informants. One of the informants stated that;

The county government prioritized opening and grading of the new access roads in all wards in the 2014/2015, 2015/2016 financial years, with a few resources directed towards gravelling of the opened roads. Only a few roads per ward were graveled, with much graveling done on the most critical sections. Graveling will be done fully when all village paths and trails are opened into accessible roads.

Despite the light and intermittent graveling of newly opened roads, the respondents were contented with the efforts made by the county government to gravel some roads particularly the most critical roads and sections of the roads that hindered accessibility within the villages. The respondents therefore suggested the need for a county roads policy framework to guide on opening of footpaths, graveling them into accessible roads and maintenance besides providing strategies on resource mobilization towards road construction, since the existing policies such as the Integrated National Transport Policies are inadequate in addressing opening of new roads in the counties.

Existing weather roads were the sole means of connectivity in the wards and villages in Kisii County before devolution. The researcher was keen to establish if the existing weather roads had been improved into all-weather roads since the start of devolution in Kisii County.

Table 5. Existing weather roads improved into all-weather roads

Existing weather roads improved	Frequency	Percent
Yes	118	57.8
No	84	41.2
No response	2	1.0
Total	204	100

The findings revealed that majority, 57.8% affirmed that existing weather roads had been improved into all-weather roads against 41.2% who denied. To ascertain how the existing weather roads were improved, the study sought further explanations from the respondents.

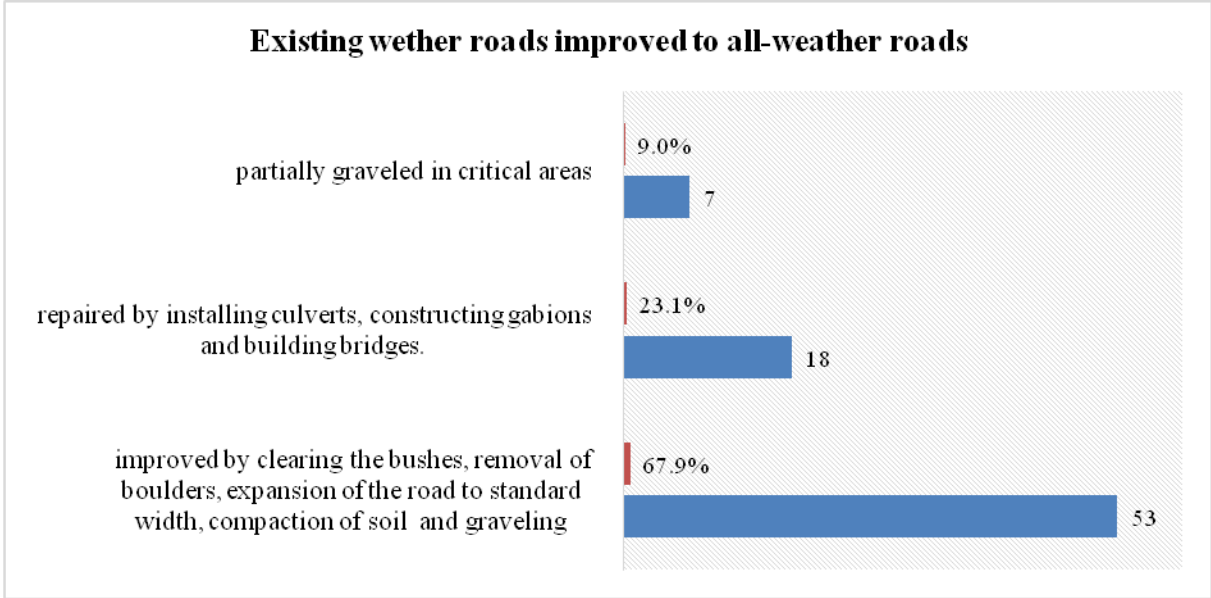


Figure 3. Existing weather roads improved to all-weather roads

The majority, 67.9% of the respondents revealed that most existing weather roads in their wards were repaired by clearing the bushes, removing boulders, expanding the road to a standard width, compaction of soil on the roads, and graveling to improve accessibility. Other (23.1%) respondents indicated that existing earth roads transiting across wards were repaired by installing culverts, constructing gabions,

and building bridges along the roads to ensure connectivity to major towns across the wards and facilitate service delivery. To corroborate these findings, one of the key informants indicated that;

As at 2013, Kisii County had only 293 kilometers of graveled roads and 669 kilometers of earth roads. Most of the existing roads were link roads that linked major towns in the wards and other special purpose or function of government such as schools, markets, and health centres. With the advent of devolution, we have improved most of these existing weather roads by repairing them and graveling to improve access to basic services. We have also, repaired the drainage systems on these roads and constructed new culverts, gabions, and bridges along the roads to increase accessibility.

These findings concur with Chongvilaivan (2015), who explored the impact of local road accessibility on the well-being in Timor Leste. He established that all weather roads were significant in raising household well-being. In support of these findings, Esaba (2014) carried a study in Busia to establish factors influencing maintenance of roads. The study found that when roads are improved into all-weather, the outcome is increased income from farming activities and more stable prices, thereby enabling the poor to improve labor force mobility by increasing household job opportunities. These findings align with the SDG Goals 9 and 11 which supports quality, reliable, sustainable and resilient infrastructure that is safe, affordable, accessible and sustainable.

Despite these milestones achieved on the existing weather roads, some respondents (41.2%) noted with concern that during the rainy period, some roads remained impassable due to washed up gravel by the storm waters. Similarly, some existing roads were not improved nor touched because they were under to the national government, particularly the local Member of Parliament who managed them through the local CDF Committees. Despite this, the study findings confirm improvement of existing weather roads across the county implying that devolution, empowered the county governments to plan, redistribute authority, manage devolved resources towards improving roads at the wards level. To address the challenge of some existing roads not improved due to management by national government, the public suggested the need for the transfer of management of all rural roads within the jurisdiction of county government to counties. In addition, promote collaboration of county governments, the national government and private partners to enhance road accessibility by using modern technology in road construction besides tarmacking major trans-wards roads to enhance sustainability, economic growth, and effective service delivery to the local people. This could be done through the review and harmonization of the existing road policies that have inadequately addressed county roads

development. On whether the improved road accessibility affected traffic volume and frequency of motor vehicles plying the improved roads?

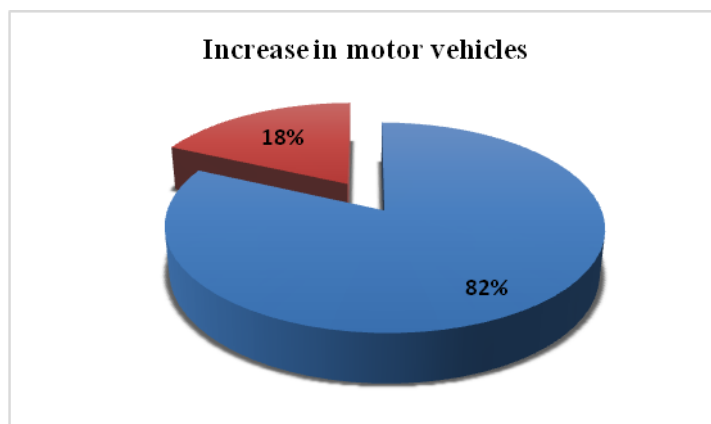


Figure 4. Number of motor vehicles plying improved roads

The study established that an overwhelming majority, 82% acknowledged that improved road accessibility increased traffic volume and frequency of motor vehicles on the improved roads. They argued that the number of motor vehicles automatically increased with the accessibility of the improved roads, thus improving access to health centers, schools, and markets. The study established that the demand for transport increased as more and more people from the villages sought to travel to the local town centers and outside their wards to earn a living. One of the discussants in the focus group discussions validated these findings by indicating that improved road accessibility saw an increase in the number of passenger vehicles, trucks, and pickups ferrying goods to and from the wards to other places in the county or outside the county.

With the improved road accessibility, we have witnessed an increased number of passengers and commercial vehicles at any time of the day. Even the cost of transport has drastically reduced thus increasing movement of people into the ward and outside as well as increasing goods transported to and from the wards. Hitherto, it was very difficult to access the villages and town centers in the wards due to lack of accessible roads.

The findings of the focus group discussions conclude that devolved governance played a vital role in improving road accessibility, primarily in the rural parts of the country that were lagging due to lack of accessible roads. These findings concur with Jakarta (2010), whose study in India revealed that improved road accessibility led to a 100% increase in traffic volume and frequency in the surveyed villages. Similarly, Ahmed & Nahiduzzaman (2016), carried a study in Bangladesh on the impact of rural accessibility on women empowerment. Using historical analysis between 2007-2009, established

that traffic level significantly increased for motorized and non-motorized traffic after improved accessibility of local roads.

In contrast, the study established that some villages were yet to experience the increased volume and frequency of motor vehicles. This was evident from the numerous complaints raised by majority of the respondents indicating that some sections of their earth roads had not been graveled and had already been washed away by storm waters. They averred that their means of transport were still rudimentary as they relied on walking, bicycles, and animal carts to transport their goods, while the others carried their loads on their heads for up to five kilometers or more in some circumstances. The respondents, however, acknowledged the pace with which the county government was improving roads in the villages hence the hope that their villages could equally be accessible.

The study also examined the effect of road accessibility on the time it took local people to move from one point to another using improved roads. The findings established that majority, 92.2% of the respondents indicated that improved roads reduced time of travel.

Table 6. Road accessibility and time of travel

Road accessibility and time	Frequency	Percent
Yes	188	92.2
No	16	7.8
Total	204	100

The respondents attributed the reduction of time travel to the to the increased traffic volume and frequency of vehicles and motorcycles due to improved roads thus reducing waiting time and lag time between the stations. The reduced time increased productivity of the farmers as they had ample time to complete their task at the farm and later had time to engage in other activities that increased their revenue.

One of the discussants stated that;

Nowadays we take approximately 20 minutes in a 10-kilometer journey unlike in the previous state of roads before devolution, where we could take 30 minutes to one hour depending on the weather condition. Also, in cases of medical emergency such as accident, pregnancy or sickness, we accessed nearby hospital within minutes due to improved roads, unlike in the past when accessibility to the same hospitals was limited to dry seasons only and took longer to access them due to poor road network.

It was clear from FGD reports that time of travel had reduced drastically because of change in road accessibility. These findings are consistent with USAID report (2006) that revealed, that road improvements in Afghanistan saved 0.15 minutes per km for farmers’ travel time by car and 1.14 minutes per km by truck, while non-motorized transport gained up to five minutes per km. In concurrence with these findings, Jakarta (2010), study on the benefits of road accessibility on the livelihood of the targeted beneficiaries in India, established, that on average, the local road improvements reduced travel time by 64 minutes of the original travel time.

The study further explored the effects of road accessibility on the cost of transport.

Table 7. Effect of road accessibility on transport cost

Road Accessibility on Transport cost	Frequency	Percent
Yes	149	73.0
No	55	27.0
Total	204	100

The findings reveal that majority, 73% of the respondents agreed that improved road accessibility significantly reduced the cost of transport. They argued that improved accessibility in the wards increased the volume of motorized and non-motorized means of transport plying the wards resulting to reduction in cost of transport. They further indicated that improved roads surfaces enhanced the speed of vehicles hence increasing the trips covered by motor vehicles thus reducing the cost of transport.

The focus group discussion responses confirmed these findings by revealing that improved roads drastically reduced transport cost. The FGDs further showed that improved roads neutralized the monopolistic tendencies of the few local vehicles that took advantage of poor road users to hike the cost of transport. One male discussant thus stated;

The improvement of roads around the villages in the ward has greatly reduced the cost of transport. This has influenced mobility of the local people within the wards and across the neighboring towns for markets and other activities to promote their livelihoods, unlike before devolution, when traveling outside the ward was costly and tedious to the local communities. Nowadays the villages are open and accessible to the outside world and the people are purchasing goods in major towns and transporting them to the local markets at a cheaper cost.

Another female discussant stated that;

With the improved roads, am able to realize some profits from selling my vegetables. Previously transport to the market took almost all the profits.

These findings agree with Ahmed and Nahiduzzaman (2016), whose study in Bangladesh found that improving road accessibility reduced transport costs. While Loksha & Mahesha (2016) found that improved roads reduced transaction costs associated with agriculture thereby reducing the costs of acquiring inputs. These findings confirm a strong direct relationship between road accessibility and cost of transport. It is important to emphasize on the improvement of road accessibility with the aim of reducing transport costs and associated charges. The policy makers therefore must advance the will and cooperation to identify and resolve the challenges impeding road accessibility so as to minimize the costs associated with transportation.

Improved road accessibility is purported to have influenced the change of transport model. To ascertain the veracity of this statement, the researcher sought answers from the respondents on how improved roads influenced the change of transport model in the county.

Table 8. Change of transport Model

Change in Transport Model	Frequency	Percent
Yes	182	89.2
No	22	10.8
Total	204	100.0

The study findings revealed that majority, 89.2% indicated that improved road accessibility influenced the change in transport model, against 10.8%. Many of those in agreement aver that before devolution, most people utilized traditional means of transport preferably human portorage, animal carts, and bicycles. However, with the advent of devolution, roads have been improved hence catalyzing the change from the traditional mode of transport to a motorized mode of transportation. This was buttressed by the focused discussions as indicated by one of the female discussants;

Initially our villages were connected by footpath and trails, thus we walked, or used bicycles and most of the time, we head loaded our luggage to markets. But as devolution was introduced, the footpaths were expanded into accessible roads thereby attracting mini-buses, probox cars and motorcycles into the villages and heavy commercial vehicles that transported goods such as building material, household goods and fertilizer into the villages and agricultural produce out of the villages thus influencing the change of transport mode from traditional to modern methods of using vehicles.

According to Limi, Lancelot, Manelici & Ogita (2015), improved road accessibility in rural areas increased public transport and motorized vehicles. These findings are in concurrence with Rodrigue (2013), whose study on the geography of transport systems analyzed transportation modes, modal competition, and modal shift. He established that a modal shift takes place when a transport mode becomes more advantageous than another due to comparative advantage of costs, convenience, speed, or reliability. On improved access to markets, the study examined the effect of improved roads on access to markets.

Table 9. Effect of improved roads on Access to Markets

Roads And Access to markets	Frequency	Percent
Yes	152	74.5
No	52	25.5
Total	204	100.0

The findings established that 75% of the respondents affirmed that improved roads increased access to markets. Many of those in agreement argue that road accessibility increased the volume and frequency of motor vehicles which facilitated easy access to markets in and outside the wards and fueled the crop up of market centers along the roads. Access to markets therefore reduced transportation cost of farm produce to the market, enabled farmers to transport their bulky goods to the markets. It also boosted agricultural productivity as the farmers were able to access farm inputs besides increasing income to the local people. According to one of the male discussants;

As the footpaths were expanded and existing earth roads accessibility improved, we witnessed many small-scale markets springing up along the improved roads, besides increasing access to major markets in the wards and county. With the improved accessibility on our roads, we are now able to transport our produce to major markets in the county as well as sell our produce at a profit unlike in the past before devolution when accessing major markets in wards was difficult and expensive due to distance and cost of transportation of farm produce.

Another discussant who is a small-scale trader stated that;

‘As the road was improved along my village, I found it easy to sell most of my bananas and sugar cane at the newly started market centres in the village town center along the new improved road, where I was able to make more profit than before devolution when I only managed to head-load some of my stuff to the nearest market which was 2 kilometers away in the ward’.

These findings agree with the report by the German Financial Cooperation (KfW 2013), which concluded that good roads helped in the marketing of products and facilitated the flow of goods into the villages. However, in contrast, 25.5% of the respondents believed that improved market access decreased market competition, resulting in the fluctuation of consumer goods prices and lower incomes for farmers. However, the study established that those farmers who received low cost of their products were those who sold their produce to the middlemen in their villages, unlike those who took their produce to the nearest markets. Majority of those who sold their produce to the middle men were found to be pressed for quick money to pay for school fees, purchase household items and for transport of farm produce to the markets. In spite of these challenges experienced by some traders, most farmers appreciated the improved roads due to the reduced time and transportation costs to markets.

Access to schools and learning institutions is critical to the well-being of society. The researcher sought the respondents’ opinion on whether road accessibility had any effect on access to schools in Kisii County.

Table 10. Effect of Road Accessibility on Access to Schools

Road Accessibility and Access to Schools	Frequency	Percent
Yes	173	84.8
No	31	15.2
Total	204	100.0

The results show the majority, 85% of respondents in agreement that improved roads improved access to schools. The researcher went on further to establish whether road accessibility had any effect on school enrollment rates. An overwhelming majority, 95% of the respondents, revealed that improved road accessibility increased access to early childhood school enrollment. The study established that enrollment rate increased after devolution because most schools in the villages were connected with accessible roads. The focus group discussions corroborated these findings by asserting that most government institutions in the ward were given priority in road accessibility including schools. These assertions are summarized by one of the male FGD discussants who stated that;

It has become easy to enroll pre-primary and primary school children in nearby schools because of the improved access to schools. Since the county government had given priority to improving road accessibility to schools and other public institutions in the wards, thus encouraging school attendance in children. Before devolution it was difficult for our children to access schools in the village, especially primary schools built in the center of the villages, particularly in the lowlands

or highlands with only footpaths and inaccessible roads. Pupils could take longer to access their schools while parents with young children found it difficult and time-consuming escorting their young children to far away schools. Sometimes during the rainy season, children deferred going to schools.

According to Vasconcellos (1997), children in developing countries experience many challenges getting to and staying in schools. Besides socio-economic challenges, distance-related obstacles, particularly poor road networks, hinders access to schools especially where children must walk long distances to widely dispersed schools or to nearby urban areas to access schools. These findings agreed with Bell and Van Dillen (2014) that school attendance was higher in villages with all-weather roads than those without. In a similar study, Aggarwal (2018) established that improvement of the local roads increased school enrolment for 5-14 years old children living in villages provided accessible roads. These findings therefore confirm that devolution of fiscal powers has an effect on the improvement of road accessibility which in turn has a tremendous effect on early child school enrollment rate in Kisii County. In addition, the study reveals that improved roads accessibility increased access to markets, influenced change of transport model and reduced time and cost of transport. This affirms that distribution of authority and proper governance strategy in implementation of devolved resources in county governments increased service delivery particularly in infrastructural development.

CHAPTER FIVE

EFFECTS OF ROAD ACCESSIBILITY ON LIVELIHOODS

5.1 Introductions

This section presents and discusses the analysis of data collected on the effect of improved road accessibility on the livelihoods of the residents of Kisii County. Livelihoods were measured using the following indicators; Agricultural productivity, cost of agricultural production, food security, income level, employment creation, poverty reduction and access to markets. Correlation analysis is a statistical method that measures the strength of the relationship between two variable and compute their association. When the correlation coefficient is positive (+), it implies a positive relationship while a negative relationship (-) implies that when one variable decreases, the other variable increases (Mugenda and Mugenda, 2003).

5.2 Road accessibility on livelihood of the residents

In this study, livelihood is defined as means or conditions for securing the necessities of life to ensure sustainability. Such conditions include; opportunity for employment, income, food security, agricultural production among others. The study sought to establish, if road accessibility had any effect on people's livelihoods in Kisii County. The study established that majority, 73% of respondents agreed that improved road accessibility positively affected their livelihoods. Using the Pearson product-moment correlation coefficient analysis, presented in Table 11; the study established that road accessibility and livelihoods was statistically significant and positively correlated (A, B) $r = .143 * p = 0.042$. This implies that any positive change or increase on road accessibility could positively change people's livelihoods.

The focused group discussants stated that;

Opening of villages roads in the wards has improved our living conditions. For instance, majority of the local people here are now able to access markets to sell their surplus produce thus earning income or purchase farm inputs and household items. The youths are also able to earn a living from the growth of small-scale markets and businesses along the roads and the new employment opportunities that have emerged such as boda-boda businesses, barber shops, selling of farm produce along the roads and provision of labor in farms, hotels and matatu industry that thronged the improved roads.

Table 11. Correlation Matrix Results

	A	B	C	D	E	F	G	H	I	
A	Pearson Correlation	1								
	Sig. (2-tailed)									
B	Pearson Correlation	.143*	1							
	Sig. (2-tailed)	.042								
C	Pearson Correlation	.323**	.001	1						
	Sig. (2-tailed)	.000	.987							
D	Pearson Correlation	.306**	.065	.896**	1					
	Sig. (2-tailed)	.000	.353	.000						
E	Pearson Correlation	.313**	-.102	.937**	.822**	1				
	Sig. (2-tailed)	.000	.148	.000	.000					
F	Pearson Correlation	.259**	-.183**	.371**	.316**	.407**	1			
	Sig. (2-tailed)	.000	.009	.000	.000	.000				
G	Pearson Correlation	.182**	.298**	.614**	.574**	.491**	.218**	1		
	Sig. (2-tailed)	.009	.000	.000	.000	.000	.002			
	Sig. (2-tailed)	.182	.686	.962	.803	.677	.536	.026		
H	Pearson Correlation	.080	.050	.120	.114	.111	-.020	.054	1	
	Sig. (2-tailed)	.258	.476	.087	.106	.113	.772	.445		
I	Pearson Correlation	.059	.021	.163*	.138*	.196**	.012	.109	-.020	1
	Sig. (2-tailed)	.403	.761	.020	.049	.005	.863	.121	.778	
	N	204	204	204	204	204	204	204	204	204

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Key: *A - Road accessibility, B - Livelihoods C- Agricultural Productivity D-Cost of agricultural productivity E- Food security, F- employment G- healthcare H- income & expenditure I- Poverty reduction.*

These findings are consistent with Njenga & Davis (2003), Edmonds (1998), Chambers (1998), and Fan, Brzeska & Shields (2007), who established that road accessibility is central to the improvement of livelihood outcomes. Some of the livelihood outcomes include; increased income levels, increased social well-being in non-material goods, improved food security and, increased access to markets. The study further revealed that road accessibility contributes to sustainable livelihoods resilient to external shocks and stresses.

Despite the positive implications of road accessibility on people's livelihoods, 27% had a contrary opinion. They argued that not all the residents of Kisii County felt the effect of improved roads due to

poverty. Most of those who had a contrary opinion argued that with improved roads, their lifestyle changed from hard to harder as the villages were opened to the outside world where outsiders came in to purchase food stuffs such as maize, beans, bananas and animals to sell to the other parts of the country leaving the locals starving. They also stated that the scramble for the local agricultural produce by the traders' increased prices of the local products which became out of reach of the common residents. According to Starkey and Hine (2014), the poor marginally benefited from the improved road accessibility. The poor are disadvantaged by the externalities related to growth due to inadequate resources to take advantage of the available opportunities brought about by improved roads. There is, therefore, the need to support of the local people so as to take advantage of the opportunities presented by road accessibility.

The study also analyzed the effects of road accessibility on agricultural productivity.

Table 12. Road accessibility and Agricultural Productivity

Improved agricultural productivity	Frequency	Percent
Yes	130	63.7
No	74	36.3
Total	204	100.0

The results showed that majority, 63.7% of the respondents were in agreement that improved road accessibility increased agricultural productivity. They stated that improved roads saw increased food production in the wards this was as a resulted of improved accessibility to farmlands and markets, accessible and relatively cheap farm inputs such as fertilizers, seeds, and labor, easy transportation of farm produce, and utilization of modern methods of farming. One of the discussants indicated that;

Improved road accessibility increased access to farm inputs in our local shops at friendly cost than before when we could travel to major towns like Nyamarambe to purchase the commodity thus incurring additional costs such as transport costs which affected our productivity. Farmers were also motivated to farming a variety of products due to access to ready markets, access to extension services and subsidized farm inputs such as maize seeds and fertilizers that were brought to our local dealers in the wards from the major distributors in Kisii Town.

The correlation coefficient analysis established that road accessibility and agricultural productivity were statistically significant and positively correlated (A, E) $r= 0.323^{**}p=0.001$. Thus, concluding that to

improve agricultural productivity, road accessibility was a basic pre-condition. These results are consistent with Dorosh, Wang, You & Schmidt (2011), whose study on road connectivity, population, and crop production, found that improved road accessibility increased agricultural productivity in Sub-Saharan Africa. To ascertain the level of productivity, the study further inquired if they had access to land as a means of production. The study established that 69.6% of the respondents had access to land against 30.4% who had no access to land. The findings conclude that majority of people in the wards were predominantly farmers. Those without access to land, practiced businesses such as buying and selling of farm products, while the others were employed in the farmlands in their villages.

The study went on further to inquire on the effect of road accessibility on the cost of agricultural production.

Table 13. Effect of improved road accessibility on the cost of agricultural production

Road accessibility and Cost of production	Frequency	Percent
Yes	140	68.6
No	64	31.4
Total	204	100.0

The study shows that majority, 68.6% agreed that road accessibility reduced the cost of agricultural production, against 31.4% of the respondents. Many of those in agreement argued that improved road accessibility increased the availability of farm inputs at a relatively lower cost, reduced the cost of agricultural production and transport, increased frequency and volume of transport, and access to ready markets.

One female discussant stated that;

The improvement of village roads has drastically reduced the cost of agricultural production as farm inputs were made readily available, labor was now available at a relatively cheaper cost and we accessed ready markets for our perishable products quickly and cheaply unlike before devolution.

The correlation analysis found that road accessibility was statistically significant and positively correlated to the cost of agricultural productivity at $r(A, D) = 0.306^{**}p=0.01$. These results concur with Kiprono (2014), whose study on roads and development in Kenya found that good roads raise the output price of producers and lower production costs. In support of this findings, Fungo, Krygsman, and Nel's (2017) established that transport price showed a negative relationship with crop yield with an elasticity

of -0.291, implying that a one percent reduction in the transport price increased crop yield by 0.291%. The researcher went further to inquire on the effect of roads accessibility on the cost of goods and services. The results showed that majority, 65.2%, of the respondents were in agreement with the statement suggesting that improved road accessibility increased access to goods and services at a relatively friendlier cost. One female discussant indicated that;

We easily access household items like salt, sugar and even animal feeds in a friendly cost in our local shops than before. Most of the local shops have stocked their shops with variety of goods for the local people due to the improved roads thus minimizing expenses for the people who need not to travel far for the same products.

In concurrence with these findings, Airey and Cundill, (1998) concludes that improved road accessibility led to greater competition and falling fares on goods transported in Meru. During the survey and interaction with key informants, the study further observed that there was an increased supply of goods and services in the markets along the roads and shops. Access to healthcare is critical to people's livelihoods. The study assessed the effect of improved road accessibility on access to basic health care for the people of Kisii County.

Table 14. Effect of road accessibility on access to basic healthcare

Accessibility to Healthcare facilities	Frequency	Percent
Yes	155	76.0
No	49	24.0
Total	204	100.0

The findings shown in Table 14 reveals that majority, 76% of the respondents, affirmed that road accessibility increased access to basic healthcare at the local health facilities. Many of those in agreement averred that improving roads influenced the physical and cognitive accessibility to basic health care services. They also indicated that the county's construction of existing and new road networks had minimized time, distance, and cost that hampered access to basic health care in the county. To corroborate these findings, the study sought to establish from the focus group discussions how improved road accessibility in the wards affected their access to basic health services. One female discussant stated that;

Accessing basic health services has become easy and timely due to the improved roads connecting health centers. When emergency cases arise, ambulances are able to access the villages to take patients to the nearest health facilities for treatment. Whereas on maternal cases

and critical illnesses that require referral to specialized hospitals has become accessible with a turnaround time of 1 hour to 1:30 minutes unlike before devolution accessibility was limited to dry season while in some areas with footpaths there was no accessibility at all.

The correlation coefficient analysis established that road accessibility was significant and positively correlated with healthcare (A, G) $r = 0.09$ $p = 0.001$, implying that an increase of improved roads conversely improved access to healthcare. These findings concur with those of Bell & Van Dillen (2014), whose study in India established that all weather roads decreased the duration of the journey to nearby villages by approximately 130 minutes. Improved roads ensure cases such as pregnancy, accidents, and infectious diseases are handled on time to save the patients. Banerjee et al (2015) and Mohapatra, (2007), supported this study by revealing that the villages connected with all-season roads had increased access to improved health care, better management of infectious diseases, and timely attendance to emergencies.

From these findings, road accessibility remains a critical factor in access to basic healthcare in society despite the geographical differences and factors such as; the number of equipped hospitals, number of trained health workers, and availability of medicine that influence access to healthcare. According to Starkey (2014), roads are very significant in overcoming the potential delays in healthcare such as; the decision to seek healthcare, travel to access care, and treatment within the healthcare system. In terms of food security, the study was keen to establish if improved road accessibility enhanced food security in the County.

Table 15. Road accessibility and food security

Road accessibility and food security	Frequency	Percent
Yes	66.7	66.7
No	33.3	33.3
Total	100.0	100.0

Majority of the respondents, 66.7% opined that improved road accessibility enhanced physical accessibility to food in the county. Improved roads increased access to food all year round due to reduced cost of production, increased access to farm inputs, and reduced transportation costs to markets. According to one of the focused group discussants;

Increased connectivity to the villages and ward centers enhanced access to farm inputs such as subsidized quality seeds and fertilizers, increased access to extension services, ready markets for

farm products, which in turn led to increased agricultural productivity particularly food crops that greatly improved food security in the region. At the same time improved access to markets increased access to food and food stuffs besides facilitating the distribution of food across the county

The study went on to establish that the relationship between food security and road accessibility, was positively correlated $r = 0.313^{**}$ $P = 0.001$, implying that improving road accessibility improved food security. These findings are in support of Gebrehiwot (2008), who conducted an impact evaluation on rural food security in Tigray, Ethiopia. The study revealed that improved rural transport and communication was necessary for improved household food security and poverty reduction. Whereas Wagale, Singh, and Sarkar (2019), study in India, established that improvement of local roads increased agricultural activities by 80%. These studies conclude that with improved road accessibility, there will be a food secure world where those living in poverty can participate in production to gain food and income. The researcher was also interested in finding how road accessibility affected income of the residents in Kisii County. The study established that majority, 74% of the respondents averred that roads accessibility increased access to opportunities for income generation for the people of Kisii County.

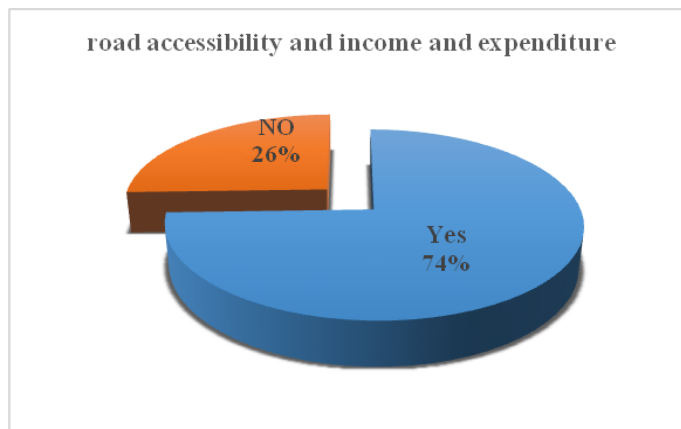


Figure 5. Effects of improved road accessibility on the level of household's income

The correlation analysis, revealed that road accessibility was statistically significant and positively correlated with income level. (A, H) $r = 0.080$ $p = .258$. To support these claims, the study posed questions to the focus group discussion on how the improved roads affected their household income levels. The participants in the FGDs argued that improved roads increased income generation activities from farm and non-farming activities to the residents of Kisii County. According to one of the discussants;

As the roads became accessible, we started realizing increased income opportunities from selling the surplus agricultural produce in the markets and along the improved roads due to increased traffic volume. While many youths previously idling in the villages became engaged in income-generating activities such as boda-boda businesses, hawking household goods and working in farms to earn a living. Others obtained employment on other non-farm businesses such as salons, hotels, and *Kinyozi* shops that emerged along the improved roads.

These findings agree with Wang & Sun (2016), whose study in China, established that an increase of improved local roads network translated to a significant increase of per capita net income of rural households. In a similar study in Nepal, Charlery, Qaim, and Hall (2016) found that new roads had a positive impact on household income. These studies conclude that improving local roads will have a positive change in terms of growth and development besides increasing opportunities for the generation of income. The study was also curious to understand how improved road accessibility affected poverty reduction. The findings revealed that majority, 81.4% of the respondents stated that improved road accessibility reduced poverty levels.

Table 16. Road accessibility and Poverty reduction

Road accessibility and Poverty reduction	Frequency	Percent
Yes	166	81.4
No	38	18.6
Total	204	100

Majority of the respondents averred that improved road in the wards had an effect on reduction of poverty in the county. Those in agreement stated that the major cause of poverty was the isolation of households from the basic infrastructure particularly accessible roads thus resulting to lack of access to basic social and economic activities. According to World Bank (1999), poverty was the inability to satisfy basic needs, to mitigate poverty its critical to enhance the connectivity of isolated people (World Bank, 1994; World Bank, 2009; Pomfret, 2006). The FGDs indicated that improved road accessibility increased access to basic services which mitigated the poverty levels in the community such as access to markets for selling surplus produce. According to one of the male discussants;

Opening of village and wards to the outside world through accessible roads has reduced our operation costs in farming, transport and has increased access to markets where we are able to sell our produce at a profit. It has also increased competition in the supply of transport services which has resulted to reduced transport costs thus increasing disposable income from surplus agricultural produce, and non-farming activities.

The Pearson correlation analysis revealed that road accessibility and poverty reduction were significant and positively correlated, implying that improving road accessibility significantly reduces the poverty levels. Fan et al. (1999), study in India, on government expenditure and poverty, established that investment in roads lifted the poor above the poverty line. Similar findings by Khandker et al. (2006) established that improving rural road reduced poverty significantly through higher agricultural production, higher wages, lower input, and transportation costs, and higher output prices.

In contrast, some of the respondents noted that, despite improved road accessibility’s potential to make a substantial contribution to poverty reduction, other factors such as governance, conflict, and physical factors such as population density, resource endowments, climate change and terrain hindered improvement of road accessibility from benefiting the poor. It is therefore important that the county government incorporate these factors in the design and management of transport infrastructure projects besides putting in place tailored interventions towards improving the welfare of the poor so as to alleviate poverty in the County. Lastly, the study analyzed the effect of road accessibility on employment opportunities.

Table 17. Road accessibility and employment creation

Employment creation	Frequency	Percent
Yes	126	61.8
No	78	38.2
Total	204	100.0

The results showed that, majority of the respondents (61.8%) were in agreement that improved roads accessibility increased access to opportunities for employment. The study further revealed that improved roads provided a viable environment for thriving small-scale businesses along the roads. As well as enhanced mobility to workplaces or to nearby town centers which provided the needed employment.

The focus group discussions agree with these findings as summed up by the youth FGD Discussant;

Road accessibility has enabled many of our people to use motorized transport to ferry people and goods to nearby markets thus earning us income. At the same time, there were new income generating opportunities that arose as a result of improved roads that have also increased income into our pockets such as; matatu and motor cycle businesses, food vending kiosks, saloons and barber shops along the roads, selling farm produce, and hotels have provided new opportunities

for the people especially youths to generate income unlike before when the villages were isolated from the rest of the world.

The Pearson correlation analysis shows the relationship between road accessibility and employment creation to be significant and positive $r(A, F) = 0.259^{**}$, $P = 0.001$. This means that, when road accessibility is improved, employment opportunities increases and vice versa These results concur with Randa (2011), who established that individuals moved out of unemployment to employment particularly in agriculture and other newly created service sectors. Whereas Nakamura et al. (2019) findings on the impact of evaluation on the construction of a rural road on welfare and economic outcomes in Ethiopia revealed that improved access to rural roads increased the number of waged household members. These findings conclude that improved road accessibility greatly influences livelihoods thus confirming the tenets of souffle theory and principal-agent theory.

To implement devolution and achieve effective and efficient service delivery in counties, there must be good relationship between county and national government in order to facilitate adequate devolution of fiscal powers. Similarly, there must also be a balance and synergy between political, fiscal and administrative powers devolved to county governments. The findings indicated an improvement in people's livelihoods implying a well-balanced principal of devolution.

CHAPTER SIX

EFFECT OF IMPROVED ROADS ACCESSIBILITY ON PUBLIC SATISFACTION

6.1 Introduction.

This section presents and discusses the analysis of data collected seeking to establish the level of public satisfaction with regard to improved road accessibility in Kisii County. The study sought public views on; satisfaction with the decision-making process, public participation, quality of roads done, reliability, and safety of the improved roads.

6.2 Level of public satisfaction with improved road accessibility

The study inquired from the respondents, if they were ever involved in decision-making on road development projects in their ward.

Table 18. Public involvement in decision making

public involvement in decision making	Frequency	Percent
Yes	95	46.6
No	108	53.4
Total	204	100.0

The findings revealed that the majority, 53.4%, denied any involvement in decision making concerning road development, against 46.6% who confirmed involvement. The study established that majority of those who disagreed indicated that identification of road projects was single-handedly made by the area MCA and the county leadership against the local people's wishes. They further revealed that most public participation meetings were held at the sub-county headquarters away from the wards, denying residents an opportunity to give their views and decide the fate of development of their wards. These findings are corroborated by the FGDs who decried lack of involvement of the public in development matters. The FGDs noted that most of those who attended were mostly opinion leaders nominated by the area MCA.

One male FGD discussant thus stated;

At no point was i invited or involved in decision-making or consulted concerning roads development in my ward. I heard rumors that there was public participation meeting held at the sub-county headquarters, but we had no knowledge or invited to attend. Mostly those who attend are people who are in good terms with the member of the county assembly.

These findings are consistent with Layson & Nankai (2015), whose findings on public participation and satisfaction in urban regeneration projects in Tanzania, established that majority of the respondents were not aware of the preparation of the urban regeneration plan. In a similar study, Ronoh (2017) analyzed the public participation process in the devolved system of governance in Kenya. The study findings revealed that county governments or assemblies had not involved the majority of the people in decision-making. These findings imply that most development activities such as road construction was undertaken with little or no input from the public. This denies the citizenry the needed knowledge on development programs and the status of implementation of the same thus exacerbating public dissatisfaction on service delivery by the county government. An effective public participation process must be looked beyond the enactment and development of public participation policies and guidelines. One of the underlying assumptions of devolution was that devolution would spawn sustainable growth and economic development. To ascertain the importance of citizen involvement in governance, the study sought to find out from the respondents if public involvement in decision-making had any effect on service delivery.

Table 19. Effect of public involvement in decision making on Service delivery

Public involvement effect on service delivery	Frequency	Percent
Yes	190	93.1
No	14	6.9
Total	204	100

The study established that an overwhelming majority (93%) of the respondents agreed that public involvement in decision-making improved service delivery. Many of those in agreement argued that public involvement in decision-making allows the residents to identify which road is to be prioritized, ensures development is done according to the community demands and ensures accountability of contractors. At the same time, public involvement acted as a monitoring tool that minimized the wastage of public resources. One male discussant argued that;

When the people are involved in decision making concerning their development, they will be able to identify and prioritise those projects that effect their lives most. Their involvement will also improve openness, transparency and accountability in the implementation process as the people will own and monitor the project progress thus helping to minimize wastage of resources and ensure sustainability of the projects.

These findings support, Rugo (2012), whose study revealed that Local Authorities had shifted expenditure focus to local needs such as clinics, roads repair, and water against what had been earlier prioritized (Devas and Grant, 2003).

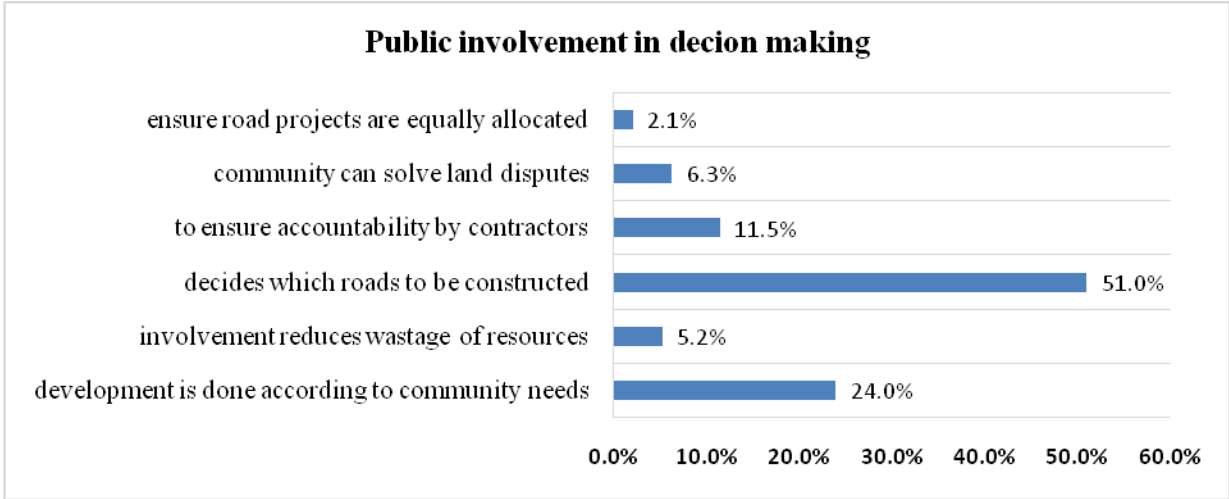


Figure 6. Effect of public involvement on decision making

The study revealed that majority, 60% of the respondents were dissatisfied with the public participation process employed by the county government. Many of those discontented argued that the community was not involved in public participation activities nor made aware when public participation activities were being conducted.

Table 20. Public satisfaction with citizen participation process

satisfaction with the participation process	Frequency	Percent
Yes	81	39.7
No	123	60.3
Total	204	100.0

Similarly, the respondents averred that many respondents refused to participate due to distance and high transport costs since most public forums were held at the sub-county headquarters. One of the discussants summed up by stating that;

The public participation process employed by the county government has not adhered to the constitution since it discriminates stakeholders by selectively inviting opinion leaders instead of all residents of the ward in the identification, design and implementation process to ensure equity in service delivery. Also, the county held most public forums at the sub-county headquarters away from the wards thus proving expensive to the local community members thus denying the local members an opportunity to contribute in these forums.

These findings are consistent with Kinyanjui & Misaro (2013), who established that the majority of the respondents did not participate in seminars, workshops or educational tours as would be desirable for exposure. Wangari (2014) while analyzing factors influencing citizens' satisfaction with service delivery in Muranga County, found that majority (39.4%) of respondents attended less than three workshops organized by the county, whereas (25.8%) did not attend any public forum organized by the county. These studies conclude that public satisfaction with development programs in counties was still nascent in Kenya. Despite public participation being enshrined in the Constitution, citizens were yet to be involved in planning and execution of development projects in their wards. This shows a worrisome trend in service delivery which could imply that majority of the programs being implemented by the county government are not meant to satisfy the people needs but for political expediency.

These studies therefore assume that lack of involvement in decision making, long distances and transport costs to public forums, failure to take into consideration people views, poor communication and lack of civic education are among the challenges that have led to the perception of failure in the county development agenda hence widespread dissatisfaction with county development programs. The study was also interested to know from the members of the public whether they were satisfied with improvements done on the county roads.

Table 21. Satisfaction with improvements done on the county roads

Satisfaction with improvements on roads done	Frequency	Percent
Yes	78	38.2
No	126	61.8
Total	204	100.0

From the findings, the study shows that majority, 62% were dissatisfied with the improvements done on their roads. Many of those dissatisfied argued that most opened roads were poorly done. For instance, culverts were not installed; grading and compaction were done poorly, while some roads were yet to be graveled. They further revealed that the few roads graveled were only graveled in patches to cover the critical areas. The focus group discussions captured the feelings of the people. According to one of the discussants;

I am not happy with how the county government has constructed the roads because; immediately they finished excavating the soil, they compacted and sprinkled gravel sporadically on the roads,

which later was carried away by storm water as soon as the roads were completed. Some roads opened are still not yet graveled until now causing us untold suffering.

These findings concur with Ketoyo (2017), who studied the influence of public participation on the implementation of county government funded Projects in Nairobi County. The study established that majority of respondents were not satisfied with project execution. These findings and sentiments of the focused group discussant exposes the poor workmanship on county roads that has been brought about by weak legal and institutional arrangements in the development of county road sector. The existing national road development policy does not address opening of footpaths and existing county roads thus exposing the residents of counties to poor service delivery.

There is therefore the need for the county government and the national government to review the existing road policy to ensure equity in service delivery, quality assurance and standardization in road development in Counties in Kenya. In an attempt to establish if the quality of roads constructed in the wards met the people’s expectations. The study inquired from the respondents if their expectations on quality of roads were met.

Table 22. Satisfaction with the quality of roads constructed

satisfaction with quality of roads done	Frequency	Percent
Yes	90	44.1
No	114	55.9
Total	204	100.0

The findings revealed that majority, 56% of respondents were dissatisfied with the quality of roads done by the county government. The respondents registered their disappointment, arguing that most constructed roads were without a proper drainage system; a few roads were graveled. The poor roads hampered accessibility in some parts of the county. One focused group discussant argued that;

What we expected from devolution and what we have is completely different. In fact, when devolution came, we expected to have, if not tarmacked roads, well graveled roads with proper drainage systems that could withstand storm water due to the nature of our weather conditions. But what we have is dilapidated roads after construction due to poor workmanship and lack of maintenance. We are back to where we were four years ago.

The study also sought respondents' perceptions on the effect of quality of roads on service delivery. From the majority of respondents (86.3%), good quality roads greatly influenced agricultural productivity, increased access to markets, and accelerated the reduction of production costs. They will

also promote the safety of goods and passengers, improve living standards of people, and the economic growth of the regions covered by these roads. The study however noted that quality of roads was not primary as it dependent on many aspects such as resource availability, expertise and materials for construction.

On reliability, the study sought public opinion to establish if the improved road accessibility improved the reliability of services in the county. The study shows that many of the respondents (71%) were satisfied with the reliability of improved roads. Those in agreement contended that improved roads, increased connectivity of villages to town centers, minimized the cost and time taken from one location to another, increased access to markets, health centers and schools. One elderly discussant indicated that;

Considering the status of roads before devolution, I can say that these roads are reliable since we can access our markets, schools, water sources or even hospitals despite the limited accessibility to the dry seasons due to diminishing gravel as a result of heavy rains rendering them impassable.

These findings were supported by, Randheer Kokku et al. (2011), arguments that commuters value the delivery of services on a timely basis, thus the public will be satisfied if they are assured that their luggage, labour, and raw materials reach their destination as desired (Annabel 2005). The study further explored whether the public were satisfied with the improved road accessibility on road safety.

Table 23. Satisfaction with improved roads Safety

Road safety and Improved roads	Frequency	Percent
Yes	149	73.0
No	55	27.0
Total	204	100

The results show that majority, 73% were in agreement that improved road accessibility guaranteed their safety. They argued that improved roads minimized accidents due to the removal of potholes and uneven surfaces. The increased traffic volume and frequency of motor vehicles also minimized congestion and eliminated overloading and misplacement of customer’s luggage. This was evident from the focus group discussions responses as summed up by one of the female discussants who stated that;

Improved roads increased the safety and confidence of pedestrians and passengers as the road width was made wider to accommodate more than one vehicle, road surface was made even and

graveled to improve traction during the wet season. Also, the increased volume of motor vehicles reduced congestion and minimized overloading that characterized the few vehicles plying the roads before devolution. Safety of customer luggage's also improved.

These findings underscore the need for road safety while improving road accessibility. According to the Interface for Cycling Expertise report (2017), safety of roads entails the reduction of road risk of road injury and minimizes fear of road injury. These findings align with Chelugo, Abiero & Mwatela (2015) whose study established that improved roads increased road safety by minimizing and eliminating causes of accidents. Despite the improved road safety, a few respondents (27%) reported increased accidents along the improved roads. The study, however, established that most of the accidents were as a result of over-speeding and overlapping of motor vehicles. Therefore, it is imperative that road signs and speed pumps are erected along the road to check speed. The study was also keen to investigate how satisfied were the public with regards to time taken from one destination to another on the improved roads.

Table 24. Satisfaction with time taken to reach various destinations using improved roads

Satisfaction on time taken	Frequency	Percent
Yes	132	64.7
No	72	35.3
Total	204	100.0

The study findings established that majority, 64.7% of the respondents were satisfied with the time taken from one location to another using the improved roads. Many of those in agreement argued that the improved roads minimized the time taken from one point in the wards to another compared to the previous period before devolution. According to one of the discussants in the focus group discussions;

Improved roads accessibility has reduced our time of travel from one location to another. For instance, before devolution, when roads were dilapidated, i used to take 45 minutes walking or sometimes 20 minutes cycling from my home to the clinic that is 5 kilometers away. Today with improved road surfaces, I hardly take 10 minutes on my bicycle.

These findings are supported by Friman (2004), whose study explored implementing quality improvements in public transport in Sweden. According to Friman (2004), service punctuality affected commuter satisfaction with the quality of public transport service. Time of travel is therefore critical in the growth of an economy. This is evident where service delivery is dependent on mobility of goods and

services. Any delay occasioned by distance and poor roads will result to increase in direct and indirect costs that can affect service delivery. Thus, improving road accessibility minimizes cases on unforeseen delays in mobility of labor, good and services. These findings conclude that devolution of political powers significantly influenced democratic and accountable exercise of power where the citizens exercised their rights to choose their leaders, call their leader to account and demand service delivery.

CHAPTER SEVEN

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

This chapter presents the summary, conclusion and recommendations based on the objectives of the study. The aim of the study was to establish the effect of devolution on the roads sector and the livelihoods of the people of Kisii County. This involved investigating how devolution has improved road accessibility in Kisii County since its inception in 2013, determine how improved road accessibility affects the people's livelihoods, and assess the level of public satisfaction resulting from improved road accessibility in Kisii County. The summary, conclusions and recommendations in this chapter were derived from the findings and discussions under chapters 4, 5, and 6.

7.2 Summary of Findings

7.2.1 Devolution and road Accessibility

The first objective of the study was to investigate how devolution has improved road accessibility in Kisii County since its inception in 2013. The study used the following indicators; opening up of new access roads within the first four years of devolution, graveling of opened roads, improvement of the existing road network; volume and frequency of motor vehicles, time of travel, cost of transportation, change of transport model, access to markets, and schools. Based on the above indicators, the study findings revealed that devolution contributed significantly to road accessibility in Kisii County. This was evident from the massive opening of footpaths into accessible roads within the first four years of devolution, graveling of the newly opened roads, and improving the existing weather roads into all-weather roads. The study also revealed that improved road accessibility increased traffic volume and frequency of motor vehicles in the wards and fueled the demand for transport. In addition, the study found that improved roads reduced travel time as the roads became passable in all weather conditions and also influenced the change in transport model from rudimentary system to the modern mode of transport. While on the cost of transportation, the study revealed that improved roads accessibility reduced the cost of transportation which saw increased access to basic services such as health care, markets and schools. However, from the huge network of roads opened, the study found that a few roads were fully graveled, while many others opened were sparingly graveled, with no compaction done. The

rest of the roads were graveled in patches particularly on critical areas such as hilly parts, swampy places, and sharp corners to facilitate mobility.

7.2.2 Improved Road Accessibility on the Livelihoods

The second objective of the study sought to establish the effect of road accessibility on people's livelihoods. The indicators used to measure livelihoods included; agricultural productivity, cost of agricultural production, food security, income, employment opportunities, and poverty reduction. The study established that improved road accessibility improved people's livelihoods in Kisii County. The correlation coefficient analysis revealed that road accessibility and livelihoods were statistically significant and positively correlated, implying that an increase in improved road accessibility positively influenced the people's livelihoods.

On the effect of improved roads on agricultural productivity, the study revealed that improved roads increased production levels. The study also revealed that road accessibility and agricultural productivity were statistically and positively correlated. The study also sought to establish the level of productivity in the county by assessing the number of residents accessible to land. The study revealed that majority of the respondent had access to land as a means of production; hence many people in the wards were predominantly farmers, while those who did not have land practiced business. Similarly, on the cost of agricultural productivity, the study revealed that the cost of agricultural production drastically reduced due to improved roads and the cost of goods and services. The correlation analysis shows that road accessibility was statistically and positively correlated with the cost of production (A, D) $r = 0.306^{**}$ $p = 0.001$.

On access to healthcare, the study findings revealed that there was a visible effect of road accessibility to healthcare facilities. Improved roads accessibility influenced physical and cognitive accessibility to health care as many health facilities in the wards and sub-counties had been served with all-weather roads. The study also established that improved road accessibility enhanced food security in the county. This was evident from the correlation analysis that found food security to be significant and positively correlated with road accessibility. (A, D) $r = 0.313^{**}$ $p = 0.001$.

On the effect of improved roads accessibility on income, the study established that road accessibility increased access to opportunities for income generation for the people of Kisii County. This was revealed by the Pearson correlation coefficient that indicated that income levels are correlated with road accessibility (A, H) $r = 0.080$ $p = .258$. While on the effect of improved roads on poverty reduction, the study found that improvement on road accessibility increased the exposure of the isolated households to social and economic opportunities, thus reducing poverty levels. In summary, the study revealed that road accessibility and poverty reduction was positively correlated. (A, I) $r = 0.059$ $p = 0.403$. While concerning employment, the study found that improved road accessibility increased access to employment opportunities. Improved roads provided a viable environment for small-scale businesses. The study further revealed that road accessibility enhanced mobility to workplaces and nearby town centers, which provided the needed employment. The Pearson correlation analysis shows that road accessibility and employment creation was significant and positive. (A, F) $r = 0.259$ $p = 0.001$.

7.2.3 Level of Public Satisfaction on Roads Accessibility

Lastly the study explored the level of public satisfaction with regards to improved road accessibility in Kisii County. The study examined the following indicators of public satisfaction; public involvement in decision making, effect of public involvement in decision making, satisfaction with public participation process, satisfaction with improvements done on the county roads, quality and reliability of roads, safety of improved roads, satisfaction with the time of travel.

The study revealed that majority of the residents were not involved in decision-making. Major decision-making concerning development programs were done by the Area MCA and County Government Officials. The study further revealed that most public forums were held at the sub-county headquarters instead at the ward level thus denying local people the opportunity to participate in decisions about their programs of development. On how public involvement in decision making affected service delivery, the study established that public involvement in decision making led to clear identification and prioritization of projects that were beneficial to the public, ensured development was done as per the community demands and ensured transparency and accountability of public resources.

On satisfaction with public participation process conducted, the study revealed that majority of the respondents was dissatisfied with the public participation process. This was due to; lack of involvement,

lack of information or awareness when public participation activities were being conducted, distance, and high cost of transport due to centralization of the public meeting at the sub-county headquarters and failure to recognize contributions made by the public. In addition, on satisfaction with improvements done on the roads, the study found that most respondents were dissatisfied with the poor workmanship on county roads since most of the roads opened were not compacted nor graveled hence washed away by the rains. For instance, culverts were poorly or not installed, graveled roads had already been swept by heavy rainfall, while many roads were not graveled while others were graveled in patches to cover the critical areas only.

On the satisfaction with quality and reliability of improved roads, the study established that majority of the members of the public were dissatisfied with the quality roads done. This was because some roads were scantily graveled, others were graveled in patches while those that had already been graveled had been swept by rains. While on reliability of the improve road accessibility, the study revealed that many residents were satisfied with the reliability of the improved roads accessibility. This was because the people were able to access schools, markets, heath centers, farm inputs and building timely manner. While on the effect of improved roads on safety, the study established that improved roads were deemed safe for use. The study also established that travel time reduced due to the increased traffic volume and frequency.

7.3 Conclusion

From the study findings, the following conclusions can be made;

7.3.1 Effect of Devolution on Road Accessibility

The study confirmed that devolution has greatly improved road accessibility in Kisii County. This was evident from the massive opening of footpaths into new access roads and graveling the opened roads into all-weather roads. The study also established that the existing weather roads were improved into all-weather roads thus improving accessibility. This was evident through the increased volume and frequency of motor vehicles in the wards, reduced time and cost of transportation, change of transport model and increased access to markets. The study, therefore, concluded that devolution has a positive effect on roads accessibility in Kisii County. These findings concur with Njuguna (2012), whose findings concluded that devolution enhances the good living of the people, improves the accessibility of services such as schools, health facilities, and creates employment for the people.

7.3.2 Effect of road accessibility on livelihoods

On the effect of road accessibility on people's livelihoods, the study showed a significant positive correlation between road accessibility and livelihoods in Kisii County. The study therefore concluded that improved road accessibility increased agricultural productivity, reduced cost of production, improved food security, enhanced income generation to the residents, increased employment opportunities, and enhanced strategies for poverty reduction. The study also revealed that road accessibility improved the health status of the local people through improved access to healthcare. In support of these findings, Yeamin et al. (2016), findings concluded that improved road accessibility dramatically changes the living standard of the local people due to enhanced local socioeconomic and cultural environment.

7.3.3: Public satisfaction on improved road accessibility

The last objective of the study sought to establish the levels of public satisfaction on improved road accessibility. The study findings revealed that majority of the members of the public were dissatisfied with public participation processes offered by the county government. Similarly, on satisfaction with road development done, the study established that majority of the respondents were not satisfied with the improved roads accessibility. The study further established that the members of the public were not

involved in decision-making since major decision concerning development programs was done by the local MCA and County Government Officials. The study also indicated that most county public forums were conducted at the sub-county headquarters instead of the ward level denying local people the opportunity to participate in road project development.

On reliability of improved roads accessibility, the study revealed that the majority of the residents were satisfied with reliability of improved roads accessibility as well as safety and timelessness of the improved accessibility. The study therefore concludes that the public were not satisfied with road accessibility programs in Kisii County.

7.4 Recommendations

The study analyzed the effects of devolution on the road sector and livelihoods in Kisii County. The study made the following recommendations;

7.4.1 Devolution and Road Accessibility

The study summary and conclusion revealed that devolution had improved road accessibility in Kisii County. Specifically, the study found that the opening of footpaths into accessible roads was done, graveling of newly opened roads was done, and existing weather roads improved. Despite these achievements, some roads were not graveled particularly roads under national government. The study, therefore, recommends the county government to put in place relevant policy interventions to address road construction, in particular, graveling, repair, and maintenance of county roads. These policy interventions should also address collaboration of government agencies to aid the counties in attracting development partners to support in road development. The study also recommends for the review of the existing national integrated road policy, with a view to transfer all access roads within the jurisdiction of counties to county government to minimize overlapping functions between national government and counties, address opening of footpaths and new roads in counties and quality assurance and standards in local road construction.

7.4.2 Road Accessibility and Livelihoods

The summary findings, revealed that road accessibility had a significant positive relationship with livelihoods in Kisii County, implying that an increase in road accessibility greatly improved livelihood

conditions. For instance, the study established that road accessibility increased agricultural productivity, reduced agricultural production cost and transportation cost, enhanced food security, income and expenditure, increased employment opportunities, and enhanced poverty reduction. Despite the positive implications of improved road accessibility on people's livelihoods, the study exposed that the poor marginally benefited from the gains brought by improved road accessibility due to a lack of resources. The study, therefore, recommends for the enhancement of devolution by increasing resources allocated for development programs into counties to reduce poverty by promoting economic growth and development.

The study further recommends for the national government and counties to put in place measures to ensure that all development programs implemented in the counties are tailored towards impacting the people's livelihoods. Lastly, the findings revealed that improved road accessibility increased agricultural productivity, resulting to a surplus of similar products in the markets, consequently reducing demands and leading to price fluctuation. Therefore, the study recommends the establishment of policy guidelines on trade, licensing, and marketing to regulate pricing to ensure no exploitation of the local farmers and businessmen.

7.4.3 Level of Public Satisfaction

The summary findings revealed that public satisfaction on improved road accessibility was low. This was evident from the dissatisfaction with lack of citizen involvement in decision making, dissatisfaction with public participation process, dissatisfaction with the quality of roads done. However, the study revealed that the public was satisfied with the reliability of improved roads. From these findings, the study recommends for the development of a clear strategy of implementing citizen participation policy guidelines, and decision-making structures to enhance the involvement public participation processes. The study also recommends for rigorous civic education programs in counties to sensitize the citizens on their role in devolution and the need for active involvement. It also recommends for a continuous engagement with the public by encouraging them to attend consultative meetings and public forums to actively participate, lodge complaints and monitor implementation of programs in the community. Lastly the study recommends public participation events to be devolved to the lowest units in the ward to ensure there is informed citizenry on governance.

7.5 Suggestions for Further Research

The study sought to establish the effects of devolution on road sector and livelihoods in Kisii County Kenya. While the objectives of the study were accomplished, the study suffered some limitations which may require consideration by future studies. A similar study can therefore be done to; Assess the impact of devolution on the road sector and livelihoods to help identify the current constraints of devolution, which if solved will help intervene in the relationship between devolution and road accessibility in Kenya. A similar study can also be replicated in other counties not covered in the study to validate these findings. Furthermore, in terms of methodology, future scholars can conduct a longitudinal study as well as appreciate both the quantitative and qualitative aspects of research.

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APPENDICIES

APPENDIX I: CONSENT FORM

MASENO UNIVERSITY,
SCHOOL OF GRADUATE STUDIES,
MASTERS IN RESEARCH AND PUBLIC POLICY

CONSENT FORM

You are requested to participate in this study on the effects of devolution on the road sector service delivery in Kisii County, Kenya. This research is being conducted by Alfred Moreka Nyagwoka, a student at Maseno University, school of graduate studies undergoing masters in research and public policy and it should take approximately 30 minute to complete. Your participation in this study is voluntary and you may exit the study at any time without penalty. You are free to decline to answer any particular question you do not wish to answer for any reason. You will receive no direct benefits from participating in this research study, However, your responses will help us understand the effects of devolution on the road sector service delivery in Kisii county. There are no foreseeable risks involved in participating in this study other than those encountered in day-to-day life. Your responses will be stored in a password protected electronic format only accessible to the researcher. This study will protect your identity such as your name, email address, or IP address. Thus, your responses will remain anonymous.

If you have any questions regarding the study or the procedures, you may contact my research supervisor, Dr. Charles Olango on Mobile No.0713 705 778 or email; colangomaseno. gmail.com. If you feel you have not been treated according to the requirements of this form, or that your rights as a participant in research have not been honored during the course of this study, or you have any questions, concerns, or complaints that you wish to address to someone other than the investigator, you may contact the coordinator for Masters in Research and Public Policy Prof. Nyambedha on Mobile No. 0713 816 189

If you agree please sign here sign -----
Thank You

APPENDIX II
SEMI-STRUCTURED INTERVIEW GUIDE

INTRODUCTION

You are kindly requested to provide genuine answers to the questions asked. The information you provide will be treated with the utmost confidentiality and will be used to accomplish academic goals. Do not include your name anywhere in the questionnaire. Note that there are no wrong or right answers. Please Tick [or x] in the box.

SECTION A

GENERAL INFORMATION

1. What is your age bracket?
a) 20-29 Yrs. [] b) 30-39 Yrs. [] c) 40-49 Yrs. [] d) Above 50 yrs. []
2. What is your gender?
a) Male [] b) Female []
3. What is your marital status?
a) Single [] b) Married [] c) Widowed [] d) Divorced /separated []
4. What is your highest level of education?
a) Primary [] b) Secondary [] c) Tertiary [] d) University []
e) Other.....
5. What is your occupation?
a) Employed (salaried) [] b) Business [] c) Farming []
d) Others specify.....

SECTION B.

A. IMPROVEMENT OF ROAD ACCESSIBILITY

1. Do you agree that the county has improved road accessibility in your ward?
a) Strongly agree
b) Agree
c) Disagreed
d) Strongly disagreed.

Explain your response.....

2. Could you say that within the last four years of devolution, there has been opening up of new access roads?
a) Yes [] b) No [] c) No response. []

If yes explain.....

3. Have you witnessed gravelling of new access roads?

- a) Yes [] b) No [] c) No response []

If yes, explain how it was done?

4. Are there existing weather roads that have been improved into all-weather roads in your area since devolution came into force?

- a) Yes [] b) No [] c) No response []

If yes, Explain

5. Does improved road accessibility have any effect on the?

- i. Number of motor vehicles plying the improved roads
- ii. Frequency of motor vehicles
- iii. Time of travel?
- iv. Cost of goods?
- v. Cost of transport?

Explain your answer.....

6. Do you think improved road accessibility influenced the change in the Transport model in the ward?

- a) Yes [] b) No []

If yes Explain how.....

7. Do you think improved road accessibility increased access to markets in the county?

- a) Yes [] b) No []

If yes, what was the effect of improved access to markets in the wards.....

8. Does improved road accessibility increase access to schools?

- a) Yes [] b) No []

If yes, what was the effect of road accessibility on school enrollment?.....

B. Road Accessibility and Livelihoods

1. Do you think road accessibility has improved the livelihoods of the residents of Kisii County?

- a) Yes [] b) No []

If yes, Explain how

2.a) Do you agree that road accessibility has improved agricultural productivity in your ward?

- a) Yes [] b) No []

If yes, Explain How?.....

2 b) Do you have access to land?

a) Yes [] b) No []

If yes explain.....

3. Do you think the improved road accessibility has reduced the cost of agricultural productivity in your area?

a) Yes [] b) No []

If yes, Explain how?

4. Has Road accessibility contributed to improved food security in your ward?

a) Yes [] b) No []

If yes, Explain how?

5. Do you agree that road accessibility has contributed to employment creation?

a) Yes [] b) No []

If yes, Explain your answer?

6. Do you agree that improved road accessibility improved income levels of the households in Kisii county?

a) Yes [] b) No []

If yes, explain how income levels increased?

7. Do you think improved road accessibility has a positive effect on poverty reduction?

a) Yes [] b) No []

If yes, Explain your answer?

STATUS PUBLIC SATISFACTION

1. Have you ever as the members of the public been involved in decision making concerning road development projects in your area?

- a) Yes []
- b) No []
- c) No response

If yes Explain how you were involved in decision making on road development projects?

.....

2. If Not in question one above, who identifies road projects in your area?

- a) Through the area, Member of the County Assembly
- b) Through the area MP
- c) Through the County leadership
- d) None of the above

3. Do you think public involvement in development affects road service delivery in Kenya?

- a) Yes []
- b) No []

If yes, Explain how?.....?

4. a) Are you satisfied with the public participation process offered by the County on development programs?

- a) Yes []
- b) No []

b) If yes, Explain your answer.....

c) If Not, why? Explain.....

6. a) Are you satisfied with improvements done on the county roads in your area?

- a) Yes []
- b) No []

b) If yes, Explain your answer.....

c) If Not, why, Explain?.....

7. a) Does the quality of roads constructed in your area meet your expectations?

- a) Yes []
- b) No []

b) If yes, Explain your answer?

c) If Not, Why? Explain your answer?.....

8. Are the improved roads reliable?

- a) Yes []
- b) No []

If yes, Explain your answer?.....

9. Can you agree that the quality of roads affects service delivery to the people?

- a) Yes []
- b) No []

If yes, Explain how?.....

10.a) Are you satisfied with the time taken to reach your various destinations using the improved roads?

a) Yes b) No

b) If yes, Explain your answer?.....

c) If Not, why, explain?.....

**APPENDIX III
KEY INFORMANT INTERVIEW SCHEDULE**

Introduction

These interview guides are for research purposes and Key informants are requested to respond as naturally as possible. Your confidentiality and anonymity are guaranteed.

Please be specific as possible.

Thank you.

Interviewers name Date.....

Section A: Road Accessibility

1. In your opinion, what was the state of county roads before devolution? Explain.
2. How has the County improved road accessibility in Kisii County?
3. How many kilometers of county roads has the county government improved since it came into existence?
4. What are some of the activities undertaken to improve road accessibility in Kisii County?
5. Describe the status of new opened roads by the county government in the first four years of devolution?
6. How the new opened roads graveled? Discuss.
7. What is the status of existing roads in Kisii County and how have they been improved?
8. What is the effect of improved road accessibility on the;
 - i. Number of motor vehicles plying on the improved roads
 - ii. Frequency of motor vehicles
 - iii. Time of travel?
 - iv. Cost of goods?
 - v. Cost of transport?

APPENDIX IV: FOCUSED GROUP GUIDE

Ward..... Sub County..... Group.....

1. How has devolution affected road accessibility in Kisii county? Discuss;
2. What was the state of roads in Kisii County before devolution?
3. How has the county government improved road accessibility in Kisii County?
4. How has the county dealt with the existing roads?
5. What is the effect of improved roads on;
 - i. Number of motor vehicles plying on the improved roads
 - ii. Frequency of motor vehicles
 - iii. Time of travel?
 - iv. Cost of goods?
 - v. Cost of transport?
6. What was the mode of transport in the wards before devolution?
7. What was the effect of improved road accessibility on the transport model?
8. How did the improved roads affect access to markets? Discuss
9. How did the improved roads affect access to schools? Discuss
10. What was the effect of improved road accessibility on the people's livelihoods?
11. How did the improved road access affect agricultural production?
12. How did the improved road access affect the cost of agricultural production?
13. What is the effect of improved road access on the cost of goods and services?
14. How has the improved roads affected the ease of access to basic healthcare in the ward?
15. How has improved road accessibility promoted food security in the county?
16. How does improved road accessibility affect the local people's income levels
17. How has the improved roads contributed to poverty reduction in the ward?
18. How has the improved road access affected employment creation in the ward?
19. How has the public been involved in decision making concerning road development projects in the ward?
20. Are you satisfied with the public participation process conducted by the county government?

21. Are you satisfied with improvements done on the county roads?
22. How satisfied are you with the quality of road services provided by the county government?
23. Are you satisfied with reliability of the improved roads?
24. Are you satisfied with the safety of improved roads?
25. Are you satisfied with the timelessness with improved road accessibility?

**APPENDIX V
OBSERVATION CHECKLIST**

Ward.....

Sub-County.....

No	Questions	Yes	No	Comments
Road accessibility				
1)	New roads opened in the ward by the county government?			
2)	Are the roads graveled?			
3)	Are the existing weather roads improved into all-weather roads?			
4)	Are the roads connecting to basic social and economic centres in the ward improved?			
5	Culverts installed?			
6	Bridges constructed?			
7	Storm water Drainage in place?			
Livelihoods				
1	Increased agricultural produce in the market			
2	Increased small scale markets along the improved roadside			
3	Increased number of vehicles ferrying agricultural produce			
4	Increased sellers and buyers in the market			

Thank You



MASENO UNIVERSITY
SCHOOL OF GRADUATE STUDIES

Office of the Dean

Our Ref: MA/DS/0049/2015

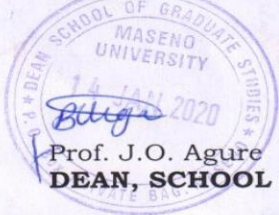
Private Bag, MASENO, KENYA
Tel:(057)351 22/351008/351011
FAX: 254-057-351153/351221
Email: sgs@maseno.ac.ke

Date: 18th December, 2019

TO WHOM IT MAY CONCERN

RE: PROPOSAL APPROVAL FOR ALFRED MOREKA —MA/DS/0049/2015

The above named is registered in the Master of Arts Programme in the School of Development and strategic Studies, Maseno University. This is to confirm that his research proposal titled “Effects of Devolution on the Road Sector and Livelihoods in Kisii County, Kenya” has been approved for conduct of research subject to obtaining all other permissions/clearances that may be required beforehand.



Prof. J.O. Agure
DEAN, SCHOOL OF GRADUATE STUDIES

Maseno University

ISO 9001:2008 Certified





MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
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Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 13th February, 2020

TO: Alfred Moreka Nyagwoka
PG/MA/DS/00046/2015
Department of Research and Public Policy
School of Development and Strategic Studies
Maseno University
P. O. Box, Private Bag, Maseno, Kenya

REF: MSU/DRPI/MUERC/00767/19

**RE: Effects of Devolution on the Road Sector and Livelihoods in Kisii County, Kenya.
Proposal Reference Number MSU/DRPI/MUERC/00767/19**

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 13th day of February, 2020 for a period of one (1) year. This is subject to getting approvals from NACOSTI and other relevant authorities.

Please note that authorization to conduct this study will automatically expire on 12th February, 2021. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 15th January, 2021.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 15th January, 2021.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advise MUERC when the study is completed or discontinued.

Thank you.




Dr. Bonuke Anyona,
Secretary,
Maseno University Ethics Review Committee.

Cc: Chairman,
Maseno University Ethics Review Committee.

MASENO UNIVERSITY IS ISO 9001:2008 CERTIFIED





REPUBLIC OF KENYA



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 844853

Date of Issue: 16/March/2020

RESEARCH LICENSE



This is to Certify that Mr.. Alfred Moreka Nyagwoka of Maseno University, has been licensed to conduct research in Kisii on the topic: EFFECTS OF DEVOLUTION ON THE ROAD SECTOR AND LIVELIHOODS IN KISII COUNTY, KENYA for the period ending : 16/March/2021.

License No: NACOSTI/P/20/4139

844853

Applicant Identification Number

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