ENVIRONMENTAL FACTORS INFLUENCING PERFORMANCE OF KERRA ROADS PROJECTS IN MOIBEN SUB COUNTY, UASIN GISHU COUNTY, KENYA

STELLA W. MURIUKI

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DECLARATION

I, the undersigned, declare that this research project report is my original work and that it has not been presented in any other University or Institution for academic credit.

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Stella W. Muriuki Date

L50/10648/2018

SUPERVISORS

This research project report has been submitted for examination with my approval as university supervisors.

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Prof. C. M Gakuu Date

Director, ODEL Campus

University of Nairobi

DEDICATION

I would like to dedicate this research project report to my entire family members for the support they have accorded me throughout my education life.

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ABBREVIATIONS & ACRONYMS

EWSC:	Embu Water and Sanitation Company
KURA:	Kenya Rural Roads Authority
NACOSTI:	National commission for science, technology and innovation
NEPAD:	New Partnership for Africa‘s Development
NGOs:	Nongovernmental organizations
PPP:	Public private partnerships
SPSS:	Statistical packages for social sciences
UNCTAD:	United Nations Commission for Trade and Development
WRMA:	Water resources management authority
KeRRA	Kenya Rural Roads Authority
KeNHA	Kenya National Highway Authority
GoK	Government of Kenya

ABSTRACT

KeRRA road construction projects have experienced a myriad of challenges which has hindered effective completion of the projects across the 47 County governments in Kenya. In the third world countries, completion rates of roads construction is low and since devolution, Kenya has been on the front line in investing in various projects at national and county levels. Most of the roads are not completed on time, while others are not completed at all. The purpose of this study was to ascertain the environmental factors influencing performance of KeRRA road projects in Moiben Sub County, Uasin Gishu County in Kenya. The specific objectives were; to determine the extent to which political aspects influence performance of KeRRA roads projects; examine the exthent to which economic conditions influence performance of KeRRA roads projects, ascertain the extent to which legal aspects influence performance of KeRRA roads projects, examine the extent to which socio-cultural norms influence performance of KeRRA roads projects. Theories considered in the study were; Structural functionalism theory and resource based theory. The study adopted a descriptive survey research design. The target population was 360 respondents while the sample size was 189 respondents. The respondents were sampled out based on stratified random sampling and simple random sampling. The questionnaires and an interview schedule were used in data collection. Content validity was adopted in this study. Reliability was measured using cronbach's alpha. The study results were presented using both descriptive statistics and inferential statistics. The results were, political aspects had (β =.123, p = .000, < .05), economic conditions had (β = 1.088, p = .044, < .05), legal aspects had (β = .389, p = .000, < .05), socio – cultural aspects had (β = 1.389, p = .000, < .05). The study concludes that both political, economic, legal and socio - cultural aspects have a significant effect on the performance of KeRRA roads projects in Moiben Sub County. The study recommends that the national and county government should provide incentives and enabling political environment for successful implementation of KeRRA projects. Disbursement of funds meant for construction of KeRRA projects in Moiben Sub County should be disbursed on time. The Sub County should put in place stringent procurement laws. The community's socio - cultural orientation should not be undermined during the implimentation of KeRRA projects.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The period taken in executing construction of KERRA road projects is increasingly becoming an issue of major concern among stakeholders. This causes stress in the roads construction projects due to issues such as accumulated rate of interests by commercial banks, cost overrun, inflation, sponsor pressures and the possibility of disputes and claims leading to litigations or arbitrations (Osazuwad, 2010). In construction industries the most performance problems are brought about by delays in completing the projects

Performance is the realization afterwards of objectives set prior to undertaking a given activity (Pitagorsky, 2013). Poor Performance occurs because of inability to foresee shortfalls earlier. The aftermath of poor performance is insufficient cash inflows, lack of satisfaction by the clients and the corporate image is negatively affected as quality and how soon projects are completed becomes derailed. Delays results in projects not benefiting the intended beneficiaries and eventually end up increasing cost and time that is supposed to be spent in completing the project.

According to a report issued at Boston, Massachusetts in USA by the chairman of Standish Group about how some construction projects have been failing to meet the owner's satisfaction (CHAOS summary 2009 report). According to the report, 32% of projects were successful because they were able to be delivered within the stipulated timeframe, financial plan and quality that were anticipated, 44% of them were not delivered on time, exceeded financial estimates and were rated below expectations and 24% of projects were also cancelled off before they were delivered because they failed.

In Sri Lanka, road projects that are funded by donors have faced deliverability challenges hence a compromise in the usability of the money donated by the donors. The performance in most of projects funded by donors in Sri Lanka is affected (Jeyakanthan & Jayawardane, 2012). Performance shortfalls are experienced in construction related projects which results into high cost of implementation and may result into cancellation of the contract.

Navaratna and Jayawardane (2007) posit that performance is an indicator that evaluates how successful and efficient a project is. Communication and coordination break down in development projects in Palestine have led to increase in the rate of incomplete projects and quality compromises of those that end up being completed (Banaitiene & Banaitis, 2006). Information related shortfalls contribute to 90% of all the challenges experienced on construction site (Hijazi et al., 2018). Information that is not disseminated on time can cause loss of large amounts of money at the designing stage and actual construction stage. How accurate and timely information is solely depends on mode of communication and how it is efficiently coordinated. In the third world countries, domestic revenues are not enough to deliver services like health, education or even infrastructure. They therefore rely on donor's funds to enable them undertake such projects which require huge amount of money to implement.

There exist a myriad of performance challenges in an African set up when it comes to projects that are financed through foreign aid. According (UNCTAD, 2011) inability to complete projects on time is the major issue affecting deliverability of projects in Africa. The major causes influencing project performance in Ghana are high raw material prices, compromised professionalism, inability to pay contractors monthly, lack of the technical expertise and inability to manage well the contract are the reasons for not completing projects within the stipulated time lines (Le-Hoai et al., 2003).

The Nigerian assembling industry faces project performance is characterized with lack of completion of projects on time. The amounts of money involved in implementing the projects is more than that the one budgeted for is the major problem in Nigeria (Ogunsemi & Jagboro, 2006). Uganda is experiencing delay and/or high donor funded projects non completion rates. Mohamad (2010) attributes this scenario to political insurgency which has negatively affected project implementation as well as the absorptive capacity as is the case of construction projects in some selected districts of Uganda. The researcher further reveals that closure of special account stalled procurements and expiry of special commitments which totally disrupted project activities between March and July 2009.

Roads are the leading mode of transport in Kenya, accounting for about 85% of the total domestic transportation. Infrastructural development has been emphasized in the Kenya Vision 2030 as a precursor for competitive advantage worldwide and also regionally (KRRA, 2013).

Since devolution, Kenya has been on the front line in undertaking road construction projects at national and county levels whereby they are implemented by state corporations like KENHA, KeRRA or KURA.

For the development objectives to be boosted, Kenya embarked on a programme of upgrading and constructing new roads, however this kind of investment projects are costly exceeding Kenya's budget capacity. Due to the huge financial requirement of the projects the sector undertakes, there is need of partnering with other foreign donors for funding of the projects. Satisfaction by customers, operating within financial projections, upholding quality requirements and completing projects on time are prerequisites for successful road construction projects (Omran, 2012).

In order to attain the Sustainable development goals which are inclined with the realization of the Kenya vision 2030 goals the docket of roads and infrastructure pays an important role by providing infrastructural facilities to the general public. These infrastructural facilities are provided through the construction, repair and/or maintenance and roads rehabilitation. The government has increased the amount allocated to the road sub-sector so as realize the big four agenda whose success will be realized through infrastructural development. There is delayed completion rate of road construction in Kenya and stalled projects overtime (Maina, 2013)

There is lack of a comprehensive assessment of what hinders completion of projects that are financed through foreign aid; it is always attributed to costs and deliverables (Shehu & Akintoye, 2009). In Kenya, corruption and non streamlined reporting structures are the major reasons for negative performance of foreign aid financed projects (DFID, 2013). In Turkana County, 65% of the implemented projects (roads, water, education, energy and health) in the year 2014 to 2015 were not completed to the satisfaction of the stakeholders (UKAID, 2016).

There are many genuine reasons as to why performance issues of road projects are experienced such as amendment of designs and closure amendments and delay in releasing of funds to implement such projects. Other reasons negatively influencing how construction projects perform in Kenya are like bad leadership and management, poor relations and lack of employees motivation, lack of adequate infrastructure, political and issues to do with culture and also economic conditions (Strenman 2012).

In most construction projects, delay has been discovered to be in the frontline when it comes to performance issues. The delay affects the overall project in terms of cost overruns, completion time and also quality of the project (Faridi et al. 2006) some of the factors contributing to the delay were identified as delays in procurement of materials, late disbursement of funds and slow decision making brought about by bureaucracy.

Failure of donor funded projects is due to delayed completion rate (Gwadoya, 2012). In the 2010, Kenya experienced losses to a magnitude of over 19.82% due to corruption, high material prices that hindered the projects from recording profits (UNCHS, 2010). Statistically 58% of the projects funded through foreign aid in Kenya are not completed in time; expenditure exceeds budget estimates and lack of satisfaction by the customers (Muchungu, 2012). Therefore, the current study seeks to ascertain the project environmental factors influencing performance of projects that are funded through foreign aid in Moiben Sub County.

1.2 Statement of the Problem

Studies exist on how KERRA projects perform. Little information exists on why most of the projects fail to measure up to the required standards in Kenya. Performance issues in projects from the cost that is associated with developing the initial plan has been the norm in majority road constructions sites. However, insignificant or no efforts have been made to mitigate or avert the mayhem. There have been numerous documented studies on failed or stalled construction projects in Kenya.

According to the Auditor general's report on financial statements of County Executive of Uasin Gishu in 2017 there exists non- completed projects in Moiben Sub County, for example a construction firm was awarded a contract for the construction of a model Sub-county Hospital Phase 1 at Moiben Health Centre. The contract agreement was signed on 25 June 2015 and work expected to be completed within fifty two (52) weeks on 3 August 2016 with effect from 3 August 2015. Information available however, indicate that the contract was delayed in May 2016 due to non-performance by the contractor and that default notices to the contractor for non-performance of the contract prior to termination of the contract were not provided for audit review. Further, no evidence was provided to show that the contractor had provided a performance bond as required in the contract.

There is a significant road network in Uasin Gishu County, 33% (310) kilometers of the roads are bitumen surfaced, those that have marrum are 549 (14%) kilometers and those that have earth surface are 377 (53%) kilometers (UGCG, 2016). This represents significant kilometers of good road network. However in Moiben sub-county, for example Eldoret - Chepkoilel road, Eldoret Iten road, the contracted roads are of low quality and only last between 2-5 years before maintenance because of shoddy works brought about by bureaucracy inflation rates poor planning and public policies and regulations, influencing how the road that are constructed perform.

According to Auditor general's report of 2016/2017 maintenance of kabenes –Kachibora in Soi/Moiben a stretch of 31 kilometers was to start on 14th September to 16th September, 2016 but by April 2017, the completion was at 96.24%. Additionally Moiben-Cheborwa-Kapcherop-kachibora road was to start in November 2016 to March 2017 but the completion was still at 0% by April 2017. To sum it all, Naiberi-sengoit-Moiben Marura road was to kick off in November 2016, however by March 2017 the road was at 0% complete implying that construction had not started. The existence of road projects with poor performance in Moiben Sub County necessitated further research to ascertain environmental factors that affect the performance of KERRA roads projects in the Sub County.

1.3 Purpose of the study

This study intended to determine the environmental factors influencing performance of KERRA roads projects in Uasin Gishu County, Moiben Sub County.

1.4 Objectives of the study

i. To determine the extent to which political aspects influence performance of KeRRA roads construction projects.
ii. To assess the extent to which economic conditions influence performance of KeRRA roads construction projects
iii. To establish the extent to which legal aspects influence performance of KeRRA roads construction projects.

iv. To establish the extent to which socio cultural norms influence performance of KeRRA construction roads projects.

1.5 Research Hypotheses

The study was guided by the following research hypotheses

$H_0$1: Political aspects have no influence on performance of roads projects.

$H_0$2: Economic conditions have no influence on performance of roads projects.

$H_0$3: Legal aspects have no influence on performance of roads projects.

$H_0$4: Socio cultural norms have no influence on performance of roads projects.

1.6 Significance of the study

Study findings benefited policy formulation in the Sub County as it provided more information on the factors that have a great effect on performance of KERRA roads construction projects. Policy makers then used the information to come up with strategies to address them. Reasons that hinder successful completion rates of KERRA projects in Moiben Sub County were determined, which subsequently were used as a guideline for policy formulation. The National government can replicate the study findings to other sub counties and avert the high project completion rated in this other counties across the Country. Policies at the National level were formulated to ensure KERRA projects were completed successfully in Kenya. More information was provided in this study on plans that can be implemented for effective completion of KERRA projects.

The study findings benefited the registered road engineers and contractors as it enabled them plan effectively before initiating projects. They were able to understand the extent to which the environmental factors influence performance of road construction projects. Registered road engineers and contractors then developed strategies that they can use to ensure better performance of projects. The public understood environmental factors that have been influencing how KERRA projects perform within Moiben Sub – County. Research gaps were identified therefore the study helped scholars on the furtherance of research on the study area.

1.7 Limitation of the study

Participants complained of insufficient time to attend to the questions addressed to them through the questionnaires because of busy schedules, the researcher extended the prescribed time for answering the questionnaires. The researcher used probabilistic sampling techniques to ensure the level of biasness is at its lowest level. The study was narrow in scope as it focused on Moiben Sub County alone in Uasin Gishu County and yet the County has many Sub Counties. Inferential statistics were used for generalizability of the study results.

1.8 Assumptions of the study

The participants who meet the eligibility criteria accepted to cooperate in the study. Also, they understood the study variables to the latter. Finally, the independent variable constructs had an effect on the performance of KeRRA roads construction projects.

1.9 Delimitation of the study

Environmental factors that influence the performance of KeRRA roads construction projects which was further delimited to Moiben sub-county, Uasin Gishu County. A total of 364 respondents were targeted in Moiben Sub County. The independent variables used in the study were; political factors, legal factors, economic factors and social -cultural factors while performance of KeRRA roads construction projects was the dependent variable. 191 respondents were sampled out and the study was carried out between July to August 2019.

1.10 Definition of significant terms

Performance	Degree that project goals and objectives are achieved within the stipulated budget and time agreed upon for delivery of a project.
Environmental factors:	External, uncontrollable factors which influence decision making and affects project's performance
Project:	A non-permanent undertaking between a number of individuals who work together to render a certain service or create a product with certain terms
Project plan:	A formal document that guides the control and execution of a project.
Political aspects	The interference from the system of government in place and politicians involved that may affect performance of a project.
Economic aspects	Situations relating to funding and procurement of materials that may affect implementation of a project.
Legal aspects	Current or impending legislations that may affect project's performance
Social cultural aspects	Values and norms adopted by a society that may affect the implementation of a project

1.11 Organization of the study

The study was organized into five chapters whereby chapter one entailed the background of the study, the purpose of the study which was to assess environmental factors influencing performance of KeRRA roads projects in Moiben sub county, Uasin Gishu County, statement of the problem, significance of the study, assumption of the study, limitation of the study, delimitation of the study, definition of significant terms and organization of the study. Chapter two comprises of literature review and objectives of the study which were to determine the extent to which political aspects influence performance of KeRRA roads construction projects, to assess the extent to which economic conditions influence performance of KeRRA roads construction projects, to establish the extent to which legal aspects influence performance of KeRRA roads construction projects and to establish the extent to which socio cultural norms influence performance of KeRRA construction roads projects. It also incorporates the conceptual framework and knowledge gaps.

Chapter three of the report comprised the research methodology that was used in the study. It also covered the research instruments used in data collection, research design, target population, sampling frame, data collection procedures, sampling procedure and data analysis methods. Chapter four covered the data analysis, presentation, interpretation and discussions. Chapter five of the report comprised of summary of the findings, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The theories which have been used to guide the study, review of literature on variables, conceptual framework, knowledge gap and chapter summary are presented in this chapter.

2.2 Empirical Review on performance of KeRRA roads projects

An empirical review is done in attempt to describe accurately the interaction between the instrument and the entity being observed. In this research, the empirical review is on how the environmental factors influence the performance of road construction projects. The constructs include: political, legal, economic and socio cultural environment and how it influences the performance of KERRA roads construction projects.

Performance is described as the degree or extent to which project goals and objectives are attained in the stipulated budget and time that has been agreed upon in which the project will be delivered. In every project, there are targets that are set in order to measure the performance of any project. In regard to KeRRA roads projects, there are those targets set in the construction of roads projects. Time, cost and quality are the most significant indicators that gauge the performance in every infrastructure project. The study sought to find whether the three measures of performance i.e. time, quality and cost were achieved in the construction of KeRRA roads projects.

Time in relation to construction projects is the duration taken from the initiation phase of a project to the closure phase. Many roads construction projects are faced by time challenge whereby the time taken to complete the projects in the agreed time is not observed. This brings about issues of delay. In road sub sector, cost and time overruns are an issue of concern as they are very high. In February 2007, out of 207 projects, 35 showed cost overrun amounting to 107 billion and in regard to time, 184 projects exceeded their time of completion as agreed during the

tendering stage. The time exceeded was two times on average compared to the time agreed (World Bank, 2010).

In Nigeria, road construction not being completed on the stipulated time has become quite alarming .They therefore have embarked on creating awareness on effects of these delays in delivering the roads projects. Delays have been found to have notable impact on cost and time of execution of projects studied (Aibinu & Jagboro, 2012). In Kisumu road projects go beyond the agreed time which causes increase in costs. (Ogutu, 2017) This is experienced in a number of road projects that are never completed within the time frame. More so are those road projects that budgets that are extremely hig are noted by the time the project is finished and completion time in itself has gone beyond the time stipulated on the project schedule.

Every project must have a specified standard on to which it's supposed to meet in order to be considered to have achieved its objectives. In many roads construction projects, there seems to be a challenge of the constructed roads meeting the standards as per the owner's specifications. McNair in 2011 carried a study in Australia which, stated that, there is advancement on insisting the contractors need to deliver the project on the price and date that have been agreed on during the signing of contact The construction should be done to specific level and standard as specified by the owner failure to which it can bring about losses and substandard work.

Many projects have had issues on meeting the set objectives which result in projects not giving the required results or outcomes. In Ghana studies reveal increasing cost overruns, projects not completed on time, end results that are not satisfactory and unachieved project objectives in majority of road construction projects (Gaba, 2013). In Kenya for instance, reports has is that, a number of roads have failed as a result lack of Proper Technical supervision and incompetence of the management. In Kisumu, Nyamasaria-Kisian Road dualling in 2016, showed bleeding defects of bitumen shortly after completion of dressing of surface. From the completed road projects in Kenya, some reveals the quality workmanship to be very poor. (Kenya Engineer Magazine, 2015).

Roads construction projects requires a huge amount of capital whether human or physical capital so as to achieve the set projects objectives. However there must be a budget that is calculated

according to the set standard of the road to be constructed. In many roads construction projects across the world, cost overruns have been rampart in many infrastructure projects.

In the UK by Fapohunda and Stephen carried out a study in 2010 and found out that in construction projects, there are conflicts that exist between objectives that have been stated with regard to of cost appropriateness, time and quality. In Sudan road construction projects performance revealed that even after large number of reported cases, construction projects ranging from the simplest to complex projects, cost overruns have been on the increasing end (Omran, Abdalrahman & Pakir, 2012).

2.3 Political Aspects and KeRRA Roads Projects Performance

Generally, Politicians are normally taken as the only representatives of political interests and values while the bureaucrats whose major concern is efficiency are seen as the subordinate policy executors. (Panday, 2017) According to agency theory, political control is possible on the ground that, bureaucracies are created by the institutions that have been elected to design the structure which facilitates bureaucrat's role which was considered to be the implementation of all policy decisions enacted by the politicians as part of their role as a the makers of policies. In the event that sees this process politicized, civil servants finds themselves taking policy decisions and adopting them and explaining that they are normally the political leadership responsibility. (Rouban 2007)

Politicians always stay alert on the bureaucrats activities so as to make sure that no information is distorted. However, if the activities of bureaucrats fail to achieve the results desired, they are subject to sanctions. Politics have been put in to consideration in participation of the bureaucracy in the policy decision-making process. The impact of politicization process is making political masters influential in the decisions which relates to the appointment, transfer, promotion, and other career decisions of civil servants.

In road constructions, politicians may be involved in mobilizing the community to participate in the road construction activities by providing labor in the project. The politician may also be involved in providing some civic education to resident whom have been affected by roads passing through their land on the need of allowing the construction of road to pass through their land. In such cases, politicians support is important so as to build citizen's trust in government

and change the perception on how government machinery performs. (Vigoda-Gadot and Mizrahi 2008).

Political environment focuses on absence of politically instigated violence and provision of incentives by the government. This ends up providing conducive enabling environment for the constructions of roads meant for public use (Chen et al., 2012). A favorable legal framework that ensures the projects are completed on time lies upon the leadership of a given Country. The most important external factors are; the political context of the project, the relationship it has with the community members, the economic environment, where it is located (Barccarini, 2005). If government organs fail on providing the right legal framework and healthy working political environment then overall, it will affect the completion of development of houses (Pugh, 2001). bureaucracy is the is the holistically defined as the organizational structure, procedures, protocols, and set of regulations in place to manage activity, particularly in government institutions and large organizations whereby it is presented by standardized procedures to be followed in the execution of most or all processes within the body.

Bureaucratic apparatus in a given state determines whether the state will progress or not as much as it's political leadership. This is because, bureaucracy is much involved not only in policy formulation but also the implementation of those policies. For roads performance to improve, Kenyan bureaucrats must learn to learn from their rigid conception of leadership and start taking themselves as responsible leaders who can come up with their own ideas and make them useful for the benefit of all citizens. Sometimes, projects stall due the complicated systems that are in place which hinders the people involved from carrying out their duties independently. Regulatory habitat in Kenya has been hostile to project contractors and impeded it (World Economic Forum, & Boston Consulting Group, 2015). Excessive regulations have hindered entrepreneurial activity, as project companies spend more time and resources complying with rules and regulations (World Bank, 2013).

The researcher further posits that when political parties are different in all cadres of government the end results is that it does not necessarily lead to impediments in the completion rates of projects. Time overrun was lower in projects that were developed in states where the state and Central Government are different. (Pratt et al., 2015) analyzed the effect of the political

environment on the outcomes of roads that are constructed. The target population was 62 national highway projects that were completed. Factors associated with the state government significantly influenced how the projects performed as compared to those of Central Government. Projects prolonged in the event there was a change in the political leadership of a certain government.

Zhang (2005) posited that a political system that is stable, a good economic environment, financial markets that are adequate, currency exchange risk that is predictable, an interest rate that is low, the use of long-term debt financing, support from the government and a legal framework that is good are prerequisites for successful project completion. Li et al. (2005) opined that governance that is described as good, legal framework that favors development, provision of guarantees by the government, availability of the financial market, support from the politicians are significant determinants for successful completion of PPP construction projects.
Politicians usually paly a great role in the implementation of infrastructure projects whereby bad politics may hinder the implementation of projects in time. Bundi, (2011), on the challenges in managing the procurement services at Kenya Rural Roads Authority (KeRRA) revealed that politically instigated interferences and inadequate disbursement of funds derail completion of KeRRA roads.

2.4 Economic Conditions and Roads Projects Performance

Economic conditions refers to the benefits that arise out of good economic conditions that make the projects to be achieved at a low cost. It includes sometimes development plan of the project that is inaccurate. It is caused by economic conditions that are unpredictable. Bhattacharyay (2008) posits that financing of the project, the rate at which foreign currency exchanges as well as investments in foreign assets and joint venture have an influence on the completion of a project. Increase in competition, reduction in rate of consumption, and changes within the regulatory environment have led to variation in the price at which the goods exchanges hands between the seller and buyer, hence reduced profitability margin. According to financial year report 2016/2017 the required funding for KeRRA was Ksh.75 Billion but the amount provided for mainatainance of network for rural roads was Ksh. 63 billion which comprised of Roads Maintenance Levy Funds of Ksh. 15 Billion, Exchequer Funds of Ksh. 47.5 Billion and ksh. 0.5 Billion from partners which resulted in a deficit of Ksh. 12 Billion.

Disbursement of funds is the release of funds from one entity, in this case the exchequer or the partners involved may it be for or local, to an appointed beneficiary of the borrower. Normally, the funds are in form of loan, grant or can even be a combination of both. The process of disbursing of funds involves a commitment made by donor to release funds after the loan has been approved. (Kengara, 2014). The expectation of the flow of funds is expected to be process that is straight forward. However, this is not the case because the process is too subjective and complex in nature resulting in delays in receipt of funds (Kanbur, 2000). Another study by Chan et al. (2004) on the elements that affect completion of projects had raised complaints that are the reasons for the slow delivery rate of what the implementers had promised. The stages that seriously affected were the preparation and implementation.

Maina and Gathenya (2014) conducted a study on the effect of economy related factors in the petroleum marketing firms performance in Kenya. A descriptive survey was adopted. 159 employees of all cadres at petroleum marketing firms in Nairobi were considered. The sampling technique adopted in the study was Stratified random sampling. The sample size was 48 employees. Economic factors influenced the performance of the firms.

Jeyakanthan and Jayawardane (2012) sought to identify significant factors influencing performance in Sri Lanka. Qualitative data was needed to ascertain elements that have an influence on the outcome. Quantitative data was used to assess the performance and original predetermined schedule of the undertaking. Lack of enough bitumen was found to affect 50% of the projects researched on. This contributed to 10% of the total poor performance of the projects on average.

The effect of delay in disbursement of funds is that, it elevates the costs of the project and alters budget implementation as it was never factored during the initial cost plan and the effect are ineligible expenditures. Nkamelu (2011) in a study undertaken in Botswana between 1990 and 2007, revealed that when the project was commencing, there was significant delay between the time of loan commitment and when application for first disbursement of funds was made. Donkor (2011) posits that the interests paid by governments due to delays in payments to contractors are too much whereas such funds should be committed in managing projects to ensure that there is enough flow of funds so as to avoid delays in implementation phase of the projects especially counterpart funds provision. Implementation time lost due internal processes

is estimated at 15-24 months which is as a result of bureaucracies in government systems which interfere with the implementation of budget (Dean, 2010).

2.5 Legal Aspects and Roads Projects Performance

Procurement of materials plays a big part when it comes to implementation of road projects. Sometimes projects fails to kick off due to untimely procurement of materials. In Kenya there are policies to be followed government procurement officers in procurement of any materials. This causes serious delays in projects to be implemented. ADB (2009) asserts some procurement delays are due to the procurement procedures that have been put in place by GOK which sometimes don't go in line with donor rules and also delays in feedback to bank inquiries.

Taking care of environment is each and everyone's responsibility so as to make earth a habitable place. However, not everyone cares about the environment thereby constituting every country to set its own guidelines on environmental laws and regulations and thereafter ensures compliance so as to keep environment safe. Policies, rules and regulations to be adhered to are created by the governing bodies which ensure the rules are followed. In every project, the environmental laws must be complied with to for to ensure environmental has been taken care of. Majid (2018) researched on Factors of non-Excusable Delays that Influence Contractor's Performance. Descriptive survey design was used in this study. The total target population was 28 roads under construction in Ghana. The study used primary data which was collected using both questionnaires and interviews. Legal experts, contractors and engineers were interviewed. The questionnaire adopted was 5 point likert scales of the form strongly agree to strongly disagree. Descriptive statistics such as frequencies, percentages, mean and standard deviation was used in presentation of the findings. The study identified legal factors among the factors cause's non-excusable delays in projects performance as it affects contractor's performance. Laws touching on the environment, safety measures put in place works for or against projects completion rate.

Each donor usually requests for reporting systems that are custom designed to suit their needs. The auditing procedures adopted by the donors are different and in tandem to their domestic procedures (Barccarini, 2005). The researcher further posits the time at which funds are provided may be an impediment to successful designing and planning well for the project. The design

work for some projects is not much prior to being given a grant. The reason for this may be lack of enough funds to facilitate all this. Another study by Mazibuko (2009) reveals that projects that are designed when guidelines are fully complied succeed than those without full compliance. The researched recommends that good policy and legal instruments should be adopted in project planning and subsequent creation of a stress free conducive environment.

Also, Jeyakanthan and Jayawardane (2012) researched on Mitigating non-performance in Road construction in Sri Lanka. Case study approach was used adopted. Information was searched for to determine if non-performance had been experienced and what factors influence performance. Non- performance of the projects was as a result of lack of synchrony in the priorities, divergent policies among countries in partnership. Undrafting the paperwork needed to start the undertaking on time caused the projects not to perform, the feasibility reports ended up not complying with the donor policies.

Cooke (2011) researched on the real success factors on roads projects in Hong Kong. The study adopted an explanatory research design to aid in collection of data. A target population was 54 roads in Hong Kong and out of the 54 roads projects 18 were sampled out using simple random sampling. The validity of the study was tested by use of factor analysis and reliability was tested using test retest method. Analyzing of data was done by use of descriptive statistical measures such as percentages, frequencies, mean and standard deviation. Legal factors were among the success factors on roads projects in Hong Kong. The researcher opined that legal systems represent only one of many criteria upon which project performance is contingent. It is also arguably the most significant as it governs the policy framework that governs projects delivery. Complexity or flexibility of the legal systems that governs project implementation determines projects completion rates.

Some KeRRA may be necessitated to pass through private land due to bad terrains in order to benefit the residents and other road users. This may prompt the KeRRA officers to notify the affected land owners of their intention. On the other hand KeRRA should follow the law on how to acquire such land failure to which would result to court battles with the residents. In such scenario there may be delays in implementation of such road projects

In the Kenyan constitution Act no 28 of 2016, (article 14) there is the public rights of way which creates the land passage law which states that, the commission has a prerogative to create a right of way which is basically known as public right of way created for the benefit of the national or county government or corporate authority or any corporate body or to benefit the public in general. The authority applies for way leave in order for it to be granted the right to use the land. A notice is given to all people occupying land in which the proposed way leave is to be created including person occupying land in accordance with customary pastoral. It takes 90 days for the commission to assume the information was received for the work to start. This process may eventually cause delay in the implementation of KeRRA road projects since all the procedures have to be followed to the end. There may also be arise disagreements between the people whose land is affected which sometimes results to lawsuits which may lead to court injunctions until the cases are heard and determined.

2.6 Socio Cultural Aspects and Roads Projects Performance

It consists of lifestyles, customs and traditions of a certain community (William, 2002). The examples of socio – cultural indicators are language, values and differences in academic qualification influences how organizations work in the society (Emeseh, 2009). The community should be involved in projects preparation prior to its commencement, since it can results into disagreement between the contractors and the community's social and cultural values (Oina et al., 2015). If socio-cultural factors are considered in the whole project implementation lifecycle, the success rate is high. A successful project should consider the norms, gender involvement and land customs system of community members.

Pratt and Vadali (2013) researched on the effect of socio – cultural factors on performance of roads construction projects. The study adopted a cross sectional research design. The target population was 51 national highway construction projects. Purposive random sampling was used to sample out the respondents in the study. The data was mainly sourced from primary data. The study assessed both content and constructs validity. Internal consistency reliability was measured using cronbach's alpha. Data collected was analyzed using SPSS version 19.0. The study results were presented using both descriptive and inferential statistics. The study found that socio cultural factors influence the performance of roads construction projects. The socio cultural factors identified by the researchers include lifestyles, traditions and customs have a great effect

on the performance roads construction projects. Other socio cultural factors identified by the authors that influence performance of roads projects included language, value and belief systems and influences how organizations work in the society.

Divakar and Subramanian (2019) assessed the critical factors to be monitored for projects to be completed successfully. The study used a descriptive study design with qualitative and quantitative methodologies used in collection of data and both inferential and descriptive statistics such as Bivariate Pearson Correlation test were used in analyzing quantitative data while qualitative data was analyzed thematically through content analysis. The study found that socio cultural factors are critical when it comes to successful completion of construction projects. Roads construction projects experiences a high success rate when socio cultural factors such as land customs and gender involvement among community members are prioritized by those who oversight or are involved in the construction of the roads.

Enshassi, Mohamed and Abushaban (2009) undertook a study on the factors affecting the performance of construction projects in the Gaza Strip. The target population was 11 roads construction projects in the Gaza Strip. Primary data was collected using both interview schedules and questionnaires. The study results were presented using descriptive statistics. The study found that socio cultural, political factors and economic factors influenced the performance of construction projects in the Gaza Strip. The socio cultural factors identified in the study are language, belief systems of the respondents. Involvement of local leadership and community members in construction project implementation influences its success rate to a great extent. Cultural beliefs are important and should be considered when constructing projects as it influences cooperation and involvement in the projects constructed in any jurisdiction. Kariuki (2018) asserts that gender has also been defined as a social construct that brings out different qualities and rights to women and men without considering competence or desire of an individual.

The transport sector staff are very often mostly focused on project deliverables as a whole without paying any attention to gender-differences in transport use and needs due to lack of gender-sensitive awareness and training. Projects should thus involve experts who are gender - sensitive in design and implementation teams whose major concern is to make sure both women

and men are equally represented. In addition, it is recommended to structure opportunities for capacity building for project stakeholders

It is rare to experience women having equal voice in the infrastructure decision making and planning processes as Men are the ones who participate predominantly in community meetings at which decisions are made on the selection of priorities for, and on the location of, infrastructure investments. Measures need to be taken to increase women's involvement in leadership skills and the management of the infrastructure services, such as road maintenance committees. Such participation is often an opportunity for improving women´s agency. It provides an opportunity for women to exercise their leadership and decision-making capabilities.

When it comes to construction and maintenance of rural infrastructure there is notable demand for labor and therefore providing significant opportunities for employment and income creation for the rural population. However, women face numerous constraints to participate in roads work: cultural norms about women conducting certain work and jobs such as road construction, and community's perceptions that women cannot engage in certain "heavy tasks" or operate equipment such as chain saws and driving machinery even though women often are used to doing heavy work elsewhere, particularly in agriculture.

Women's participation in construction, rehabilitation, maintenance, supervision and monitoring of rural roads can provide income-generating opportunities, and challenge gender norms regarding women's acceptable employment. In order for the number of womwn to increase, suggestions can be made on contractors to to include specific clauses on the percentage required for women employees and more awareness made to women on the opportunities open for them and appropriate training provided.. Furthermore, in some cases, account need to be taken of the organization of work and the specific constraints on women, notably childcare (World Bank, 2012).

2.7 Theoretical Framework

The essence of a theoretical framework is to provide the direction the study should take (Marriam, 2001). Theories are differentiated based on their function, how they are structured,

levels and its specified function (Evenett & Hoekman, 2008). It is a fact agreed upon about the phenomenon that provides objective reasons of what causes and what is the effect of various phenomena that have been observed (Kothari, 2004).

2.7.1 Theory of Performance

Elger founded the theory in 2007, the theorists came up with a framework comprising of six key components. The concepts were used to explain the concept of performance and ways in which it could be improved. Elger revealed the best evidence of improved performance is results of value. In the theory a person is considered to be a performer if after enagaging in any activitity one gets a certain result that is above certain set targets. There are a number of steps involved in developing project performance. These steps are influenced with context, skills level, knowledge level, identity level, fixed factors and personal factors which are factors that influence the performance level. The assumptions of the study are; the mindset of the individual who takes part in the project, deep involvement in the projects and participating in the activity.

Evenett and Hoekman (2008) presuppose that the theory reflects a journey and not the actual destination. The projects performance level is equivalent to journey underaken so far in project development. In the course of project development a high level of performance is achieved when there is an increase in the quality of the project. This is custom designed to mean the results or nature of the projects which satisfies the needs of the persons who affect or are affected by the projects. Other notable parameters of performance are decrease in costs, increase in capabilities that is, handling of technical tasks during project implimentation and realization of improved standards of performance. Increase in the level of production, increase in knowledge level, skills of all project participants signifies improvement in performance. All these aspects are paramount in evaluation of how KeRRA projects are performing in Moiben Sub County.

Enshassi, et al. (2009) opines that the thinking capacity of the person charged with the responsibility of working on the project comprises how the individual administers his or her mandate which results into increase in the level of performance. The prerequistes are goal setting that comprises goals that are not easy to be realized, non phobia for failure and assurance of safety to the employees by those charged with the mandate to supervise project implimentation. The theory also advocates for interactions in all social circles, discipline,

controal of emotions and ability to continue learning as determinant of improved project success. The suitability of the theory is in regards to its ability to advocate for the importance of skills level, knowledge level and identity level as a precursor for exemplary project performance.

2.7.2 Open System Theory

It was founded by Kumar in 1996 and it considers that projects are administered in an open system where there is interaction with the environmental factors. Leedy and Ormrod (2005) posit that the theory creates innovative projects the 21st century which is characterized with ever changing technology. They further opine for project development to be resilient to changes in the environment consideration has to be put on all the environmental factors that affect project performance. A myriad of shortcomings characterize KeRRA projects implimentation that should be addressed almost immidiately for the projects survival rate to increase.

When projects needs are extinguished it alters roads prrojects survival (Emery & Trist, 1960). Road construction projects are undertaken in an open environment where there is interaction with many factors as the projects are being implimented. The environment forms the source of the raw materials that are needed for development of the projects. Upon completion of the KeRRA projects the resultant interms of ouput are for the benefit of the external environment (Luo, 1999). This theory considers all aspects external to a project that affects how the project is administed. KeRRA projects in Moiben Sub County interacts with all manner of environmental factors that have been explained by this theory and therefore this theory is relevant for this study as it is used to explain the environmental factors that influences the performance of KeRRA projects in the Sub County.

2.8 Conceptual Framework

A conceptual framework describes the association environmental factors have on roads projects performance. Political, economic, legal and socio cultural environment are independent variables. The indicators of political aspects are bureaucracy levels, nature of political aspects and contributions by politicians. Economic conditions include disbursement of funds, availability of materials and access to funds. Legal aspects sub constructs are procurement laws, environmental laws and land or passage law. The sub constructs for socio cultural aspects are nature of gender involvement, type of land customs and value systems. Performance of KeRRA

projects is the outcome construct. Its sub construct are time overrun and customer/client satisfaction. The intervening variable was weather.

Majid (2018) researched on Factors of non-Excusable Delays that Influence Contractor's Performance. Descriptive survey design was used in this study. The total target population was 28 roads under construction in Ghana. The study used primary data which was collected using both questionnaires and interviews. Legal experts, contractors and engineers were interviewed. The questionnare adopted was 5 point likert scales of the form strongly agree to strongly disagree. Descriptive statistics such as frequencies, percentages, mean and standard deviation was used in presentation of the findings. The study identified legal factors among the factors cause's non-excusable delays in projects performance as it affects contractor's performance. Laws touching on the environment, safety measures put in place works for or against projects completion rate.

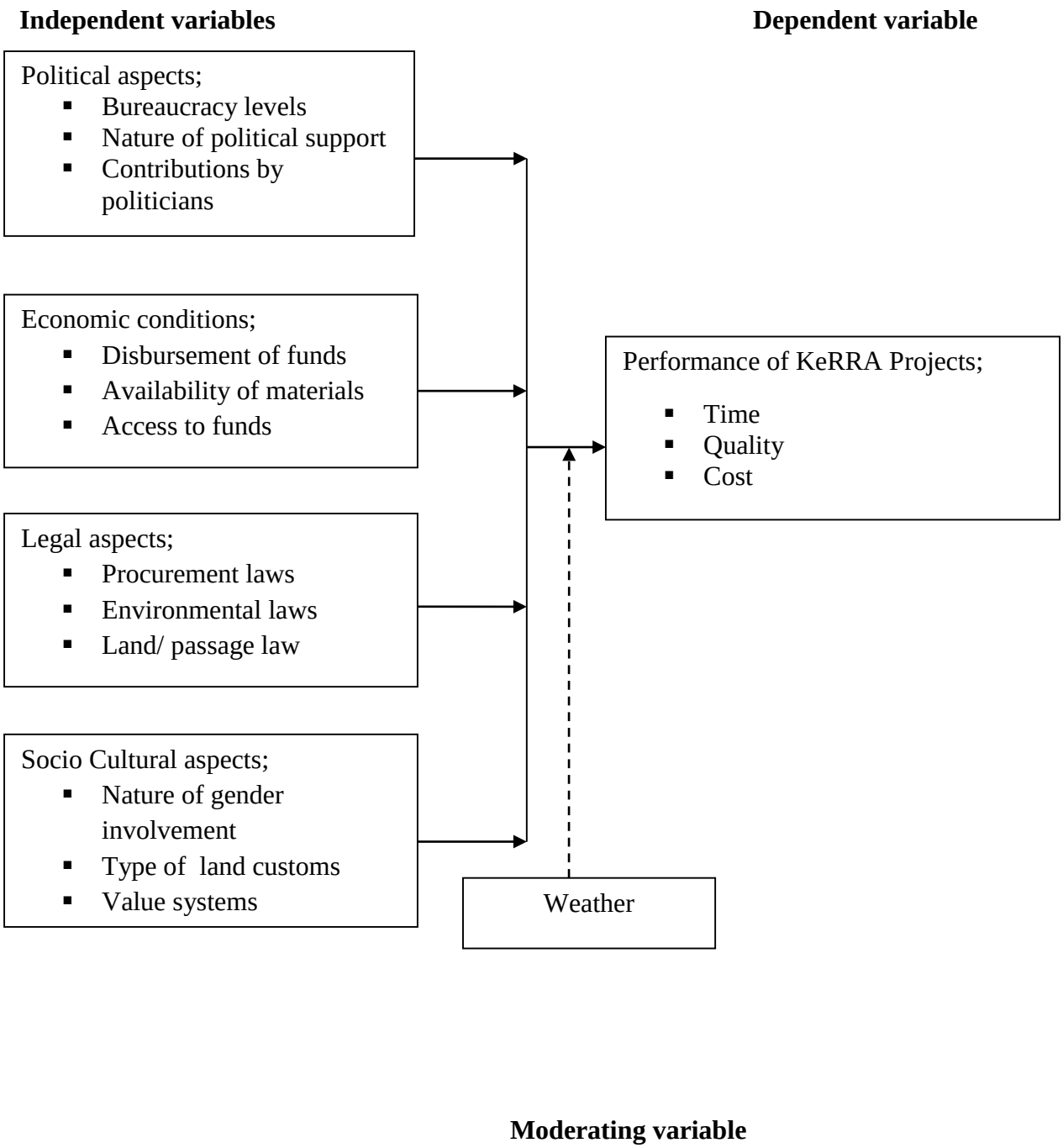

Figure 2.1: Conceptual Framework

Table: 1

2.9 Knowledge Gap

Author(s)	Research focus	Major findings	Knowledge gaps
Jeyakanthan & Jayawardane (2012)	To determine if non-performance had been experienced and what factors influence performance	Nonperformance of the projects was as a result of lack of synchrony in the priorities, divergent policies among countries in partnership.	The study did not incorporate socio cultural factors influencing performance of road projects.
Maina & Gathenya (2014)	Effect of factors related on economy on how projects in the petroleum marketing firms perform in Kenya	Economic factors influenced the performance of the firms	Legal factors influencing performance of roads projects were not incorporated.
Chan et al. (2004)	The elements that affect completion of projects	Donors were quick to accept to fund a project but immediately the project is about to commence, the donors fail to release the funds on time	The study did not focus on political factors, socio cultural factors and legal factors.
Shanmugapriya & cubramanian (2013)	Challenges of time overrun facing projects in India	Factors causing time overruns are vague specification of materials, market price of materials and low quality performance.	The study was done in India and did not incorporate third world countries which may have a different ways of implementing things.

2.11 Summary of the Chapter

Empirical studies on environmental factors and performance of KERRA road projects is presented. It reviews various scholarly articles based on the thematic areas that is, the study variables. In most of reviewed literatures, scholars have emphasized on performance of road projects across the world. The studies reviewed have shown that political aspects, economic conditions, legal aspects and socio – cultural aspects influences the performance of road prrojects. However, inadequacy of empirical literature on environmental factors and performance of road projects in sub counties locally; this study seeks to address it.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Information on the research design is provided. It indicates population that was studied justifying whilst clearly showing its source before identifying an ideal sampling technique for the study. The chapter also includes the instruments and procedures of sourcing for data, information on the validity and reliability of the rese;arch instru.ments is also provided, data analysis and ethical values considered in the st,udy.

3.2 Research Design

A rese.arch des'ign is research process that aids the researcher in understanding the significance of the research and all the steps that are involved in the research (Morgan, 2007). The rese.arch des,ign us.ed in the stu.dy was desc'riptive and inferential rese,arch designs. It was adopted as the design concerns the collection of data from respondents for purposes of determining how they are at the moment. There was need to describe attitudes and people's opinions in regards to the study at hand and hence the suitability of this research design to this study (Mugenda & Mugenda, 2003).

3.3 Target Population

A study is basically contingent on a target population from which the dependable and trustworthy response for a particular study is received. It is people with certain characteristics which the researcher seeks to research on and inference the results (Borg & Grill, 2009). The study targeted 30 prequalified roads construction limited companies working under KeRRA in the financial year 2016/2017, KeRRA regional manager, procurement officer, and constituency roads officer. Each construction company had 12 senior employees hence a total number of 360 senior employees.

Table 2: Target Population

S/No	Stratum	No. of employees	Sampling Technique
1.	30 Pre-qualified Roads construction companies	360	Simple random sampling
2.	KeRRA management officers	1	Purposive
3.	Procurement officers	1	Purposive
4	Constituency Roads Officers	1	Purposive

Source: Uasin Gishu County Records, 2019

3.4 Sample size and Sampling Procedure

Yamane's (1967) sample determination formula is adopted is this study.

$n = {N}/{(1 + N\ (e)^2}$ = 360/ $(1+360(0.05)^2$ = 189 respondents.

The samples per stratum are allocated based on the formula below:

$nh = n{Nh}/{N}$

The Sa,mpling fra,me is sh,own in Table 3:

Table 3: Sampling Frame

S/No	Stratum	No. of employees
1.	30 Prequalified road construction limited companies	189
Total		**189**

Simple rando,m sam.pling was used in t.he st,udy for the senior employees in the prequalified roads construction limited companies. KeRRA regional manager, CRO and procurement officer were chosen purposively.

3.5 Data Collection Instruments

Data collection entails gathering of information to be analyzed in a study (Cooper etal., 2008). The research design used dictates the data collection approach to be used in a study. Primary data was used in this study. The da,ta collec,tion tools us.ed in the study were que.stionnaires and interview schedule to co.llect da.ta.

3.5.1 Questionnaire

The questionnaire will be us.ed on the senior management employees of the roads construction companies. Kombo,(2007) points that questionnaire simplifies the access to data from a large number of participa.nts wit'hin the shortest time possible . It allows for diversity, confidentiality, timeliness and the level of biasness is low. The questionnaire has a demographic section A that seeks to ask on ge.nder, age, lev.el of educ.ation among others. Sectio;n B consists of questions based on thematic areas.

The study used research assistants to help in data collection. Ethical considerations that should be upheld in the study was made known to them and participated in pilot testing. The respondents answering questions in the questionnaire were given not more than 20 minutes to fill the questionnaire. After a participant is done filling the questionnaire the research assistant counter checked to confirm whether all the section have been filled. If not, the participant was requested to fill the remaining parts of the questionnaire. This turn reduced on the number of incomplete questi.onnaires.

3.5.2 Interview Schedule

The interview schedule was used on the CRO, KeRRA regional manager and procurement officer. Punch, (2010) Cites that, the interview schedule helps in providing more information on the study variables as the researcher has enough time to ask questions directly from the study participants and take note of the feedback which might be more detailed than just using a questionnaire.

3.6 Validity and Reliability

3.6.1 Validity

A pilot test was done on 19 of the respondents at Soy Sub County. Connelly (2008) notes that a good sample size for pilot testing should be 10% of the sample size used in a study. In this case 10% of 189 respondents within Soy Sub County. The final analysis did not incorporate the

results. It was only used to amend the questionnaire. This study adopted content validity. Content validity addresses whether questions asked answers or captures the correction information that will make it possible to address the issues at hand (Mbwesa, 2006). My supervisors will assess it. Construct Validity provides information on whether the research instrument measures what is intended (Mbwesa, 2006). Instrument is good to be used in the study if the values obtained are above (Hair et al., 2007).

3.6.2 Reliability

It is concerned with getting same results over time (Mugenda & Mugenda, 2003). Internal consistency is used more often to assess reliability. It is used in this study. Only one sample of data is required for it to be estimated (Kothari, 2004). Cronbach's alpha was adopted. Sreevidya and Sunitha (2011) recommends that a Cronbach' alpha co-efficient suitable for a study should be more than or equal to 0.70. This facilitated the removal of ambiguities, confusion and improve wording at the early stage.

Table 4: Reliability analysis of each variable

Item	No. of items	Cronbach's alpha
Performance	7	.759
Political aspects	10	.854
Economic conditions	10	. 748
Legal aspects	10	.874
Socio-cultural aspects	10	.627
Composite values	47	.772

3.7 Data Analysis Procedures

Both inferential and descriptive statistical metrics was used. Percentages, frequencies, means and standard deviations were used and Pearson correlation and Regression inferential statistical metrics was also used. SPSS software 24.0 aided in data analysis. Correlation statistics was used to assess wheth.er there is a significant association bet.ween the study vari.ables. Multiple regressions were used to identify significant predictors of performance. A 5% level of significance is considered. The model is as follows:

$y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$

Where:

y = Performance of KeRRA roads construction projects

α = Y Intercept

$\beta_1 \ldots \beta_4$ = the changes caused by the various independent variable constructs

e= error

X_1= Political aspects

X_2 = Economic conditions

X_3 = Legal aspects

X_4 = Socio cultural aspects

The regression model is based on five key assumptions; Linearity of residuals, normality, multicollinearity, Autocorrelation of residuals and homoscedasticity. Linearity of residuals is tested with scatter plots so as to visualize the relationships. Residuals for the observation appears on the y-axis while fitted value on the x - axis. The residual points should be spread without an obvious pattern, and then the linear concept is upheld (Lind, Marchal & Wathen, 2012). Multicollinearity implies absence of perfect linear relationship between explanatory variables. Variance inflation factor is used to measure it in this study. If it is greater than 10 then it implies that there are serious multi collinearity problems (Field, 2009; Williams, 2015).

Autocorrelation of residuals means that no correlation of the observations that are successive of the dependent variable. Durbin Watson test was used to measure it and its value should be between 1.5 and 2.5. Homoscedasticity implies similar variance among residual values of different sizes of the predict.ted value of the dep.endent variable. A scatter plot was drawn to test it. The residuals will appear on the y axis while x axis will comprise the fitted values. Normality means that the residuals follow a normal distribution. Kolmogorov – Smirnov and Shapiro - wilk test was conducted to test it (Lind, Marchal & Wathen, 2012).

3.8 Ethical Considerations

Approval was sought from NACOSTI. A letter was also sought from University of Nairobi to collect data for analysis. Voluntary participation and informed consent was prioritized. Confiden.tiality and anony.mity of the respondents was guaranteed. The respondents were assured of confidentiality before data is gathered from them. The identities of the respondents was protected using numbers. Creswell (2002) states that in research, individuals participating need to know the purpose and aims of the study. The research assistants, in response to this, information was disseminated in regards to how the study the worthiness of participating in the study as a way of building trust.

Table 5:

3.9 Operationalization of variables

Research objectives	Type of variable	Indicators	Measuring scale	Method of analysis	Tool of analysis
To determine the extent to which political aspects influence performance of KeRRA roads construction projects	Independent variable: Political Aspects	• Bureaucracy • Nature of political support • Contribution of politicians	Interval	• Descriptive statistics • Pearson correlation analysis	Mean and standard deviation
To assess the extent to which economic conditions influence performance of KeRRA roads construction projects	Independent variable: Economic Aspects	• Disbursement of funds • Availability of materials • Access to funds	Interval	• Descriptive statistics • Pearson correlation analysis	Mean and standard deviation
To establish the extent to which legal aspects influence performance of KeRRA roads construction projects.	Independent variable Legal Aspects	• Procurement laws • Environmental laws • Land/passage laws	Interval	• Descriptive statistics • Pearson correlation analysis	Mean and standard deviation
To establish the extent to which socio cultural norms influence performance of KeRRA construction roads projects.	Independent variable Social-Cultural Aspects	• Nature of gender involvement • Type of land customs	Interval	• Descriptive statistics • Pearson correlation analysis	Mean and standard deviation
	Dependent Variable: Performance of KeRRA roadsprojects	• Time • Cost • Quality	Interval Ratio Interval	• Descriptive statistics • Pearson correlation analysis	Mean and standard deviation

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents analysis and findings from the data collected through the use of questionnaires and interview schedule. It focused on the rate that the questionnaires were returned, demogra.phic informa.tion of the respondents, presentation and interpretation of the findings and discussions. The presentation of findings was done based on the research objectives and the hypothesis of the study.

4.2 Questionnaire Return Rate

One hundred and eighty nine questionnaires were dispersed to the study participants, only 157 of them were returned, twenty three of them were not fully filled. The number of questionnaires which were fully filled was 134 which was equivalent to 70.9%. The response rate was adequate for analysis and reporting.

Table 6: Response rate

Questionnaire issued	Questionnaire returned	Incomplete Questionnaires	Complete Questionnaires	Response rate
189	157	23	134	70.9%

4.3 Demographic information

The demographic information of the respondents is as presented in table 7. The demographic information focused mainly on the respondents' age, gender, level of education, duration spent working for construction companies, time spent working on the roads construction projects and designation in the company. All respondents were willing to disclose their ages without problems. One's age is always related to experience and understanding of a given issues of interest. Individuals of different age groups usually have different opinions of a given topic of

study and this provides comprehensive data on the topic from all dimensions. From the findings, 11(8.2%) of the respondents were aged below 25 years, 27 (20.1%) aged between 26 to 30 years, 13 (9.7%) were aged between 31 to 35 years, 21 (15.7%) between 41 to 45, 11 (8.2%) between 46 to 50 years and 26(19.4%) above 50 years. This implies that majority of the respondents age bracket was between 26 to 30 years.

Table 7: Demographic information

n = 134		**Frequency**	**Percent**
Age	< 25	11	8.2
	26 – 30	27	20.1
	31 – 35	13	9.7
	36 – 40	25	18.7
	41 – 45	21	15.7
	46 – 50	11	8.2
	> 50	26	19.4
Gender	Male	83	61.9
	Female	51	38.1
Highest Education Qualification	Primary	11	8.2
	Secondary	52	38.8
	Diploma	23	17.2
	Bachelor	26	19.4
	Masters	21	15.7
	PhD	1	0.7
Time spent working for the construction company	< 5	66	49.3
	6 – 10	25	18.7
	11 – 15	11	8.2
	16 – 20	21	15.7
	> 21	11	8.2
Designation in the company	Contractor	52	38.8
	Project team manager	21	15.7
	Procurement officer	37	27.6
	Road engineer	13	9.7
	Any other	11	8.2

In regards to gender, 83 (61.9%) of the respondents considered in this study were of male, 53 (38.1%) were female. This implies that majority of the respondents in this study were male. Level of education was operationally defined using six intermediate variables mainly primary, secondary, diploma, degree, master and PhD level. There was no problem in the statement of one's level of education therefore all respondents disclosed this vital information. Ones level of education provides a good picture of how one understands the topic of study. Furthermore education level can provide a clue on how individuals are willing to contribute to the development of research knowledge on a given area. In a bid to establish the highest education qualification, 11(8.2%) had a primary level of education, 52 (38.8%) had a secondary level of education, 23(17.2%) had diploma, 26 (19.4%) had a bachelors degree while 1 (0.7%) had a doctorate degree. This implies that majority of the respondents considered in this study had a secondary level of education.

Another variable of interest sought to examine time the employees for all pre-qualified roads construction companies had spent working for the construction company (s). Period spent in the organization is important as it helps explain the respondent's knowledge on important issues of the organization; in this case it helps explain employee's awareness on the KeRRA projects performance and environmental factors. Out of the total respondents, 66 (49.3%) had spent less than 5 years, 25 (18.7%) between 6 to 10 years, 11 (8.2%) between 11 to 15 years, 21 (15.7%) between 16 to 20 years and 11 (8.2%) above 21 years.

Respondent were also asked to indicate the designation of the employee in the company. The position is important as it helps depict the level of awareness of the respondents on environmental factors influencing performance of KeRRA projects in Moiben Sub County. Out of the total respondents, 52 (38.8%) of them were contractors, 37 (27.6%) were procurement officers, 21 (15.7%) were project team managers, 13 (9.7%) were road engineers while 11 (8.2%) held other portfolios such as accountants and human resource manager.

4.4: Descriptive analysis for the study variables

To establish the responses opinion on independent and dependent factors, the responses were tabulated descriptively using descriptive measures such as frequencies, percentages; mean and standard deviations.

4.4.1 Performance of KeRRA projects

The study sought first to assess the performance of KeRRA projects in Moiben Sub County. The respondents were asked to rate their perceptions on performance of KeRRA projects in Moiben Sub County on a scale of 1 – 5 as shown in Table 4.3: The study examined whether KeRRA projects in Moiben Sub County are completed within the stipulated time frame, 13 (9.7%) strongly disagreed, 59 (44.0%) disagreed, 11 (8.2%) were undecided, 25 (18.7%) agreed while 26 (19.4%) strongly agreed that KeRRA projects in Moiben Sub County are completed within the stipulated time frame. The item realized a mean of 2.9403 and a standard deviation of 1.34198 implying that majority of the KeRRA projects are not completed within the stipulated time frame.

The results from the study revealed that, of the total respondents, 11 (8.2%) strongly disagreed that the rate of KeRRA projects non completion rate was high in Moiben Sub County in the 2016/2017 financial year, 24 (17.9%) of the disagreed, 21 (15.7%) were undecided, 52 (38.8%) of them agreed and 26 (19.4%) strongly agreed. The results summed up to a mean of 3.4328 and a standard deviation of 1.22289. It can therefore be inferred that the rate of KeRRA projects non completion rate was high in Moiben Sub County in the 2016/2017 financial year.

Table 8: Performance of KeRRA projects

n=134		SD	D	N	A	SA	Mean	Std. Dev
Within the stipulated time frame	Freq	13	59	11	25	26	2.9403	1.34198
	%	9.7	44.0	8.2	18.7	19.4		
Non completion rate was high	Freq	11	24	21	52	26	3.4328	1.22289
	%	8.2	17.9	15.7	38.8	19.4		
Time overun	Freq	24	11	21	51	27	3.3433	1.37159
	%	17.9	8.2	15.7	38.1	20.1		
Cost overun	Freq	15	26	19	33	41	3.2761	1.57705
	%	11.2	19.4	14.2	24.6	30.6		
Recarpeting of KeRRA projects	Freq	36	38	26	13	21	2.5896	1.38853
	%	26.9	28.4	19.4	9.7	15.7		
Delivered within budget	Freq	38	37	25	21	13	2.5075	1.31359
	%	28.4	27.6	18.7	15.7	9.7		
There is low cost of maintanance	Freq	24	11	21	52	26	3.3358	1.36522
	%	17.9	8.2	15.7	38.8	19.4		
Expected standards	Freq	11	51	26	25	21	2.9552	1.23766
	%	8.2	38.1	19.4	18.7	15.7		
Composite values							3.0476	1.35231

In determining whether time overrun is common in KeRRA construction projects in Moiben Sub County, the study revealed that; 24(17.9%) of the respondents strongly disagreed, 11(8.2%) of them agreed, 21(15.7%) were undecided, 51 (38.1%) agreed while 27 (20.1%). The mean of the item was 3.3433 and the standard deviation was 1.37159. This implies that time overrun is common in KeRRA construction projects in Moiben Sub County. The study further enquired from the respondents whether KeRRA roads construction projects experienced cost overrun in the Sub County in the 2016/2017 financial year, results from the study revealed that, the question had a mean of 3.2761 and standard deviation of 1.57705. This was as a result of 15(11.2%) of the respondents strongly disagreed, 26(19.4%) disagreed, 19(14.2%) were undecided, 33 (24.6%) agreed and 41 (30.6%) strongly agreed. This implied that KeRRA roads construction projects experienced cost overrun in the Sub County in the 2016/2017 financial year.

In relation to whether recarpeting of KeRRA projects constructed in 2016/2017 financial year is low, 36 (26.9%) of the respondents in strong disagreement, 38 (28.4%) in disagreement, 26(19.4%) undecided, 13 (9.7%) agreement while 21 (15.7%) of them were in strong agreement. The item realized a mean of 2.5896 and standard deviation of 1.38853. Further, respondents were also asked whether KeRRA roads construction projects were delivered within budget in the 2016/2017 financial year. The results showed that 38 (28.4%) of the respondents strongly disagreed, 37 (27.6%) of the respondents disagreed, 25 (18.7%) of them were undecided, 21 (15.7%) agreed while 13(9.7%) of the respondents strongly agreed. The results indicate that KeRRA roads construction projects were not delivered within budget in the 2016/2017 financial year.

The respondents were also asked whether there is low cost of maintenance of KeRRA projects in Moiben Sub County, the results indicated that, 24 (17.9%) of them strongly disagreed, 11 (8.2%) of them disagreed, 21 (15.7%) neutral, 52 (38.8%) of them agreed while 26 (19.4%) of the respondents strongly agreed. The item realized a mean of 3.3358 and a standard deviation of 1.36522. In a bid to establish whether KeRRA projects are delivered to the expected standards and expectations of all the stakeholders in the sub county, 11 (8.2%) of the total respondents strongly disagreed, 51 (38.1%) disagreed, 26 (19.4%) neutral, 25 (18.6%) agreed while 21 (15.7%) strongly agreed. The item realized a mean of 2.9552 and a standard deviation of 1.23766 implying that KeRRA projects are delivered to the expected standards and expectations of all the stakeholders in the sub county. In general, results on performance of KeRRA projects summed up to a mean of 3.0476 and standard deviation of 1.35231.

4.4.2 Political aspects and Performance of KeRRA projects

This section focused on political aspects. The results are as presented in Table 4.4. The respondents were asked whether political bickering acts as stabling blocks against construction of KeRRA projects, 25 (18.7%) of the total respondents strongly disagreed, 21 (15.7%) disagreed, 11(8.2%) neutral, 39 (29.1%) agreed while 38 (28.4%) strongly agreed. The mean value of 3.3284 was confirmation that political bickering acts as stabling blocks against

construction of KeRRA projects while the standard deviation of 1.49574 further revealed the degree of variation in the responses.

From the findings, 17 (12.7%) of the respondents strongly disagreed that national and county government provides incentives and enabling political environment for successful implementation of KeRRA projects, 28 (20.9%) of them disagreed, 23 (70) of them neutral, 47 (35.1%) agreed while 19 (14.2%) of the respondents strongly agreed. The mean value of 3.3134 was confirmation that national and county government does not provide incentives and enabling political environment for successful implementation of KeRRA projects while the standard deviation of 1.49394 further revealed the degree of variation in the responses as shown in Table 9:

Table 9: Political aspects

n=134		**SD**	**D**	**N**	**A**	**SA**	**Mean**	**Std. Dev**
Political bickering	Freq	25	21	11	39	38	3.3284	1.49574
	%	18.7	15.7	8.2	29.1	28.4		
Provides incentives and enabling political environment	Freq	17	28	23	47	19	3.3134	1.49394
	%	12.7	20.9	17.2	35.1	14.2		
Political differences	Freq	27	25	13	47	22	3.0896	1.41667
	%	20.1	18.7	9.7	35.1	16.4		
Different political parties	Freq	26	25	13	49	21	3.1045	1.39962
	%	19.4	18.7	9.7	36.6	15.7		
Local political leaders	Freq	26	13	11	46	38	3.4254	1.47855
	%	19.4	9.7	8.2	34.3	28.4		
Projects receive political support	Freq	21	30	25	26	32	3.1119	1.44919
	%	15.7	22.4	18.7	19.4	23.9		
Improved due to good governance	Freq	49	26	13	21	25	2.6418	1.45820
	%	36.6	19.4	9.7	19.4	18.7		
Funds made for KeRRA projects are released.	Freq	38	39	11	25	21	3.3731	1.26652
	%	28.4	29.1	8.2	18.7	15.7		
Receive political support	Freq	11	32	13	52	26	3.4030	1.53221
	%	8.2	23.9	9.7	38.8	19.4		
Composite values							3.1990	1.44340

In a bid to establish if the respondents analyze and evaluate whether political differences slow the construction phase of KeRRA projects, the respondents were asked to respond accordingly, 27 (20.1%) of the respondents strongly disagreed, 25 (18.7%) of them disagreed, 13 (9.7%) neutral, 47 (35.1%) agreed and 22 (16.4%) of the respondents strongly agreed. The item realized a mean of 3.0896 and standard deviation of 1.41667. To establish whether different political parties in the sub county slow the rate at which KeRRA projects are implemented, respondents were requested for their opinion and the results were such that, 26 (19.4%) of the respondents strongly disagreed, 25 (18.7%) of them disagreed, 13(9.7%) of them neutral, 49 (36.6%) agreed while 21 (15.7%) of the respondents strongly agreed. The results summed up to a mean of 3.1045 and standard deviation of 1.39962. This meant that different political parties in the sub county slow the rate at which KeRRA projects that are implemented.

In order to ascertain whether local political leaders engage their counterparts in the national government to provide guarantees for KeRRA projects, results revealed that, 26 (19.4%) of them strongly disagreed, 13 (9.7%) of them disagreed, 11 (8.2%) of them neutral, 46 (34.3%) of them agreed and 38 (28.4%) of the respondents strongly agreed. This summed up to a mean of 3.4254 and standard deviation of 1.47855. In order to find out whether stakeholders involved in construction of KeRRA projects receive political support, the respondents were asked for their views on this and the results showed that 21 (15.7%) of the respondents strongly disagreed, 30 (22.4%) of them disagreed, 25 (18.7%) neutral, 26(19.4%) of them agreed while 32 (23.9%) of the respondents strongly agreed. The item realized a mean of 3.1119 and a standard deviation of 1.44919. This implies that stakeholders involved in construction of KeRRA projects receive political support.

The results from the study indicated that 49 (36.6%) of the respondents strongly disagreed that KeRRAprojects implementation has improved due to good governance exercised by policymakers come political leaders in the sub county, 26 (19.4%) disagreed, 13 (9.7%) neutral, 21 (19.4%) agreed and 25 (18.7%) of the respondents strongly agreed. The item reported a mean of 2.6418 meaning the respondents were in disagreement though the standard deviation was 1.45820, an indication of variation in the responses. In regards to whether politicians are at the

forefront in ensuring funds made for KeRRA projects are released, 38 (28.4%) of the respondents strongly disagreed, 39 (29.1%) of them disagreed, 11 (8.2%) neutral, 25 (18.7%) agreed and 21 (15.7%) of the respondents strongly agreed. This position was further confirmed by the 3.3731 mean and standard deviation of 1.26652.

When the respondents were asked whether all the stakeholders involved in construction of KeRRA projects receive political support from political leaders in the sub county, 11 (8.2%) of the respondents strongly disagreed, 32 (23.9%) disagreed, 13 (9.7%) neutral, 52(38.8%) agreed and 26 (19.4%) strongly agreed. This summed up to a mean of 3.4030 and standard deviation of 1.53221. This implies that all the stakeholders involved in construction of KeRRA projects receive political support from political leaders in the sub county. The results on the political aspects summed up to a mean of 3.1990 and standard deviation of 1.44340.

The study results are in agreement with the findings of Pratt et al. (2015) that projects get prolonged in the event there is a change in the political leadership of a certain government. When political parties are different in all cadres of government the end results is that it does not necessarily lead to impediments in the completion rates of projects. Time overrun was lower in projects that were developed in states where the state and Central Government are different.

4.4.3 Economic conditions and Performance of KeRRA projects

This section sought to establish the economic conditions. The results are as presented in Table 4.5.The study sought to establish whether KeRRA projects construction price of materials escalated in Moiben Sub County, 38 (28.4%) of the total respondents strongly disagreed, 37 (27.6%) disagreed, 21 (15.7%) neutral, 13 (9.7%) agreed and 25 (18.7%) strongly agreed. The item realized a mean of 2.6269 implying that KeRRA projects construction price of materials did not escalate in Moiben Sub County although the variation in responses was 1.45959 as shown in Table 10:

Table 10: Economic conditions

n=134		SD	D	N	A	SA	Mean	Std. Dev
Projects construction price	Freq	38	37	21	13	25	2.6269	1.45959
	%	28.4	27.6	15.7	9.7	18.7		
Procurement process	Freq	52	47	13	11	11	2.1194	1.24481
	%	38.8	35.1	9.7	8.2	8.2		
There is shortage of bitumen	Freq	22	13	21	26	52	3.5448	1.48989
	%	16.4	9.7	15.7	19.4	38.8		
Not disbursed on time	Freq	27	26	25	45	11	2.9030	1.29120
	%	20.1	19.4	18.7	33.6	8.2		
Funds meant for construction of KeRRA projects in phases	Freq	13	22	17	42	40	3.1567	1.55527
	%	9.7	16.4	12.7	31.3	29.9		
There is easy acess to road construction materials.	Freq	26	25	11	11	61	3.4179	1.64659
	%	19.4	18.7	8.2	8.2	45.5		
Bad climatic changes hinder construction of KeRRA projects.	Freq	25	26	21	11	51	3.2761	1.57705
	%	18.7	19.4	15.7	8.2	38.1		
Funding has changed due to renegotiation concessions	Freq	33	27	15	24	35	3.0821	1.48703
	%	24.6	20.1	11.2	17.9	26.1		
Fluctuations in the gross domestic product	Freq	22	19	7	39	47	3.1642	1.55207
	%	16.4	14.2	5.2	29.1	35.1		
Composite values							3.0323	1.47817

The results from the study indicated that 52 (38.8%) of the respondents strongly disagreed that procurement process of KeRRA projects construction materials is affected by unpredictable economic conditions, 47 (35.1%) disagreed, 13 (9.7%) neutral, 11 (8.2%) agreed and 11 (8.2%) of the respondents strongly agreed. The item reported a mean of 2.1194 meaning the respondents were in disagreement though the standard deviation was 1.24481, an indication of variation in the responses. In regards to whether there is shortage of bitumen in moiben sub county, 22 (16.4%) of the respondents strongly disagreed, 13 (9.7%) of them disagreed, 21 (15.7%) neutral, 26 (19.4%) agreed and 52 (38.8%) of the respondents strongly agreed. This position was further confirmed by the 3.5448 mean and standard deviation of 1.48989.

In relation to whether the funds meant for construction of KeRRA projects in Moiben Sub County are not disbursed on time, the results indicated that 27 (20.1%) of the respondents strongly disagreed, 26 (19.4%) of the respondents disagreed, 25 (18.7%) of them were undecided, 45 (33.6%) agreed while 11 (8.2%) of the respondents strongly agreed. The results summed up to a mean of 2.9030 and standard deviation of 1.29120. This implies that funds meant for construction of KeRRA projects in Moiben Sub County are not disbursed on time.

Further, the study sought to find out whether there is release of funds meant for construction of KeRRA projects in phases in Moiben Sub County, results indicated that 13 (9.7%) of the respondents strongly disagreed, 22 (16.4%) of them disagreed, 17 (12.7%) neutral, 42 (31.3%) agreed while 40 (29.9%) of the respondents strongly agreed. The results summed up to a mean of 3.1567 and standard deviation of 1.55527 indicating that there is release of funds meant for construction of KeRRA projects in phases in Moiben Sub County. In order to ascertain whether there is easy acess to road construction materials, results revealed that, 26 (19.4%) of them strongly disagreed, 25 (18.7%) of them disagreed, 11 (8.2%) of them neutral, 11 (8.2%) of them agreed and 61 (45.5%) of the respondents strongly agreed. This summed up to a mean of 3.4179 and standard deviation of 1.64659.

In order to find out whether bad climatic changes hinder construction of KeRRA projects, the respondents were asked for their views on this and the results showed that 25 (18.7%) of the respondents strongly disagreed, 26 (19.4%) of them disagreed, 21 (15.7%) neutral, 11 (8.2%) of them agreed while 51 (38.1%) of the respondents strongly agreed. The item realized a mean of

3.2761 and a standard deviation of 1.57705. This implies that bad climatic changes hinder construction of KeRRA projects. The results from the study indicated that 33 (24.6%) of the respondents strongly disagreed that KeRRA projects funding has changed due to renegotiation concessions awarded to the projects, 27 (20.1%) disagreed, 15 (11.2%) neutral, 24 (17.9%) agreed and 35 (26.1%) of the respondents strongly agreed. The item reported a mean of 3.0821 meaning the respondents were in disagreement though the standard deviation was 1.48703, an indication of variation in the responses.

In regards to whether there were fluctuations in the gross domestic product in the country in the 2016/2017 financial year which affected construction of KeRRA projects, 22 (16.4%) of the respondents strongly disagreed, 19(14.2%) of them disagreed, 7 (5.2%) neutral, 39 (29.1%) agreed and 47 (35.1%) of the respondents strongly agreed. This position was further confirmed by the 3.1642 mean and standard deviation of 1.55207. This meant that there were fluctuations in the gross domestic product in the country in the 2016/2017 financial year. In summary, economic conditions had a mean of 3.0323 and a standard deviation of 1.47817. The study results are in tandem with the findings of Jeyakanthan and Jayawardane (2012) that lack of enough bitumen has a significant effect of 50% of the projects researched on. This contributed to 10% of the total poor performance of the projects on average. The study results also were similar to the findings of Bhattacharyay (2008) that late disbursement of funds meant for construction of road projects influences the performance of the projects.

4.4.4 Legal aspects and Performance of KeRRA projects

This section sought to establish the legal aspects. The results are as presented in Table 4.6. The study sought to establish whether the Sub County has stringent procurement laws, 21 (15.7%) of the total respondents strongly disagreed, 17 (12.7%) disagreed, 5 (3.7%) neutral, 13 (9.7%) agreed and 78(58.2%) strongly agreed. The item realized a mean of 2.9701 implying that the Sub County has stringent procurement laws but there was a variation in responses to a magnitude of 1.29743.

On the same note, 24 (17.9%) of the respondents stated that the procurement laws have hindered effective execution of KeRRA projects in Moiben Sub County, 24 (17.9%) of them strongly

disagreed, 36 (26.9%) disagreed, 21 (15.7%) neutral, 26 (19.4%) agreed and 27 (20.1%) strongly agreed. This summed up to a mean of 3.4254 and standard deviation of 1.47855. With respect to the procurement laws have hindered effective execution of KeRRA projects in Moiben Sub County, 24 (17.9%) of the respondents strongly disagreed, 36 (26.9%) disagreed, 21 (15.7%) neutral, 26 (19.4%) agreed and 27 (20.1%) strongly agreed that the procurement laws have hindered effective execution of KeRRA projects in Moiben Sub County. The results summed up to a mean of 3.4254 and standard deviation of 1.47

Table 11: Legal aspects

n = 134		**SD**	**D**	**N**	**A**	**SA**	**Mean**	**Std. Dev**
The Sub County has stringent procurement laws	Freq	21	17	5	13	78	2.9701	1.29743
	%	15.7	12.7	3.7	9.7	58.2		
Hindered effective execution of KeRRA projects	Freq	24	36	21	26	27	3.4254	1.47855
	%	17.9	26.9	15.7	19.4	20.1		
Adherence to the environmental laws that have been put in place	Freq	16	22	2	33	61	2.9030	1.29120
	%	11.9	16.4	1.5	24.6	45.5		
KeRRA projects are negatively affected by the environmental laws	Freq	52	47	11	16	10	2.1194	1.24481
	%	38.8	35.1	9.7	11.9	7.5		
Breach of the environmental laws	Freq	36	17	7	45	29	3.0000	1.28613
	%	26.9	12.7	5.2	33.6	21.6		
Land or passage law	Freq	31	28	6	21	48	3.0672	1.40460
	%	23.1	20.9	4.5	15.7	35.8		
Land or passage law has affected KeRRA construction projects.	Freq	43	9	22	24	36	3.1567	1.55527
	%	32.1	6.7	16.4	17.9	26.9		
Disagreements	Freq	27	21	13	35	38	2.9776	1.37904
	%	20.1	15.7	9.7	26.1	28.4		
Legal suits against breach	Freq	16	22	6	49	41	3.1716	1.50451
	%	11.9	16.4	4.5	36.6	30.6		
Composite values							2.97768	1.38239

Besides, 16 (11.9%) of the respondents noted that any construction projects in Moiben sub county must adhere to the environmental laws that have been put in place, 22 (16.4%) of them disagreed and 2 (1.5%) neutral. On the other hand, 33 (24.6%) of the respondents agreed and 61 (45.5%) strongly agreed. The item realized a mean of 2.9030 and standard deviation of 1.29120.

The study results are in tandem with the findings of El Razek, Basssioni and Mobarak (2018) who researched on Delay causes in Roads Construction Projects in Egypt. A descriptive survey design was adopted in the study. The target population was 85 roads in Egypt. The study sample size was 17 roads. Descriptive analytical techniques such frequency, percentage and factor analysis were applied to analyze and interpret the data. The study found that legal system influence performance of roads construction projects. Environmental laws put in place by a certain country can influence the completion rate of construction projects. In relation to whether KeRRA projects are negatively affected by the environmental laws, 52(38.1%) of the respondents strongly disagreed, 47(35.1%) disagreed, and 11 (9.7%) neutral, 16 (11.9%) agreed and 10 (7.5%) strongly agreed. The item realized a mean of 2.1194 and standard deviation of 1.24481.

When the respondents were asked whether KeRRA projects employees have been arrested for breach of the environmental laws, 36 (26.9%) of the respondents strongly disagreed, 17 (12.7%), 7 (5.2%) neutral, 45 (33.6%) agreed and 29 (21.6%) strongly agreed. This summed up to a mean of 3.0000 and standard deviation of 1.28613. Moreover, 31 (23.1%) of the respondents strongly disagreed that land or passage law is enforced in Moiben subcounty, 28 (20.9%) of them disagreed, 6 (4.5%) neutral, 21 (15.7%) agreed and 48 (35.8%) strongly agreed. This summed up to a mean of 3.0672 and standard deviation of 1.40460.

Additionally, 43 (32.1%) of the respondents strongly disagreed that the land or passage law adopted in Moiben Sub County has affected KeRRA construction projects, 9 (6.7%) disagreed, 22 (16.4%) neutral, 24 (17.9%) agreed and 36 (26.9%) strongly agreed. The item realized a mean of 3.1567 and standard deviation of 1.55527. Also, 27(20.1%) of the respondents strongly disagreed that disagreements exist between land owners and enforcement of passage law of KeRRA construction projects in Moiben Sub County, 21 (15.7%) disagreed, 13 (9.7%) neutral, 35 (26.1%) agreed and 38 (28.4%) strongly agreed. This summed up to a mean of 2.9776 and standard deviation of 1.37904.

In terms of whether legal suits against breach of procurement laws affect the rate at which KeRRA projects are completed in Moiben Sub County, 16(11.9%) of the respondents strongly disagreed, 22 (16.4%) disagreed, 6 (4.5%) neutral,49 (36.6%) agreed and 41 (30.6%) strongly agreed. This summed up to a mean of 3.1716 and standard deviation of 1.50451. In summary the legal aspects construct had a mean of 2.97768 and standard deviation of 1.38239. In the same line, Cooke (2011) researched on the real success factors on roads projects in Hong Kong. The researcher found that legal factors were among the success factors on roads projects in Hong Kong. The researcher opined that legal systems represent only one of many criteria upon which project performance is contingent. It is also arguably the most significant as it governs the policy framework that governs projects delivery. Complexity or flexibility of the legal systems that governs project implementation determines projects completion rates. Majid (2018) researched on factors of non-excusable delays that influence contractor's performance. The study identified legal factors among the factors cause's non-excusable delays in projects performance as it affects contractor's performance. Laws touching on the environment, safety measures put in place works for or against projects completion rate.

4.4.5 Socio – cultural aspects and Performance of KeRRA projects

This section sought to establish the socio cultural aspects. The results are as presented in Table 4.7. The study sought to establish whether gender is a determinant of completion rate of KeRRA construction projects in Moiben Sub County, 24 (17.9%) of the total respondents strongly disagreed, 38 (28.4%) disagreed, 21 (15.7%) neutral, 25 (18.7%) agreed and 26 (19.4%) strongly agreed. The mean of the item was 1.9328 implying that gender is not a determinant of completion rate of KeRRA construction projects in Moiben Sub County although there was a variation in responses to a magnitude of 1.40460.

In regards to whether the stakeholders involved in the construction of KeRRA projects are both male and female, 25 (18.7%) of the respondents strongly disagreed, 11 (8.2%) of them disagreed, 21 (15.7%) neutral, 11 (8.2%) agreed and 66 (49.3%) of the respondents strongly agreed. This position was further confirmed by the 3.6119 mean and standard deviation of 1.58902. In relation to whether the KeRRA projects in Moiben Sub County have been affected by the values that characterize a society, the results indicated that 11(8.2%) of the respondents strongly disagreed, 11 (8.2%) of the respondents disagreed, 13 (9.7%) neutral, 73 (54.5%)

agreed while 26 (19.4%) of the respondents strongly agreed. The results summed up to a mean of 3.6866 and standard deviation of 1.12670.

Further, the study sought to find out whether Moiben Sub County has land customs that have acted as an impediment against KeRRA projects success rate, results indicated that 11 (8.2%) of the respondents strongly disagreed, 38 (28.4%) of them agreed, 13 (9.7%) neutral, 51 (38.1%) agreed while 21 (15.7%) of the respondents strongly agreed. The results summed up to a mean of 3.2463 and standard deviation of 1.25319 indicating that Moiben Sub County has land customs that have acted as an impediment against KeRRA projects success rate.

Table 12: Socio cultural aspects

n=134		SD	D	N	A	SA	Mean	Std. Dev
Gender	Freq	24	38	21	25	26	1.9328	1.40460
	%	17.9	28.4	15.7	18.7	19.4		
Stakeholders	Freq	25	11	21	11	66	3.6119	1.58902
	%	18.7	8.2	15.7	8.2	49.3		
Values that characterize a society.	Freq	11	11	13	73	26	3.6866	1.12670
	%	8.2	8.2	9.7	54.5	19.4		
Land customs	Freq	11	38	13	51	21	3.2463	1.25319
	%	8.2	28.4	9.7	38.1	15.7		
Stalling of KeRRA projects	Freq	21	35	25	26	27	3.0224	1.37904
	%	15.7	26.1	18.7	19.4	20.1		
Community	Freq	13	43	25	26	27	3.0821	1.30959
	%	9.7	32.1	18.7	19.4	20.1		
Resistance	Freq	11	50	27	21	25	2.9925	1.27141
	%	8.2	37.3	20.1	15.7	18.7		
Sensitive to the socio - cultural factors	Freq	45	11	25	26	27	2.8433	1.55527
	%	33.6	8.2	18.7	19.4	20.1		
KeRRA projects success rate	Freq	47	52	13	11	11	2.9328	1.22539
	%	35.1	38.8	9.7	8.2	8.2		
Composite values							3.0390	1.34602

In order to ascertain whether stalling of KeRRA projects is due to the demographics of entire population in Moiben Sub County, 21 (15.7%) of them strongly disagreed, 35 (26.1%) of them

disagreed, 25 (18.7%) of them neutral, 26 (19.4%) of them agreed and 27 (20.1%) of the respondents strongly agreed. This summed up to a mean of 3.0224 and standard deviation of 1.37904. To establish whether the community is involved adequately before the start of the construction of KeRRA projects that are likely to brush shoulders with a community's socio cultural system, 13 (9.7%) of the respondents strongly disagreed, 43 (32.1%) of them disagreed, 25 (18.7%) of them neutral, 26 (19.4%) agreed while 27 (20.1%) of the respondents strongly agreed. The itemized mean of the item was 3.0821 and standard deviation of 1.30959.

In a bid to establish whether KeRRA projects have met a lot of resistance in the sub county as it has undermined the community's socio - cultural orientation, 11 (8.2%) of the respondents strongly disagreed, 50 (37.3%) of them disagreed, 27 (20.1%) neutral, 21 (15.7%) agreed and 25(18.7%) of the respondents strongly agreed. The item realized a mean of 2.9925 and a variation in responses of 1.27141. From the findings, 45 (33.6%) of the respondents strongly disagreed that KeRRA projects implementers have been sensitive to the socio - cultural factors, 11 (8.2%) of them disagreed, 25 (18.7%) neutral, 26 (19.4%) agreed while 27 (20.1%) of the respondents strongly agreed. The mean value of 2.8433 was confirmation that KeRRA projects implementers have been sensitive to the socio - cultural factors while the standard deviation of 1.55527.

The respondents were also asked whether KeRRA projects success rate depends on the attitudes towards social responsibilities the results indicated that, 47 (35.1%) of them strongly disagreed, 52 (38.8%) of them disagreed, 13 (9.7%) neutral, 11(8.2%) of them agreed while 11 (8.2%) of the respondents strongly agreed. The mean of the item was 2.9328 and the standard deviation was 1.22539. In general, results on socio – cultural aspects summed up to a mean of 3.0390 and standard deviation of 1.34602.

Pratt and Vadali (2013) researched on the effect of socio – cultural factors on performance of roads construction projects. The study found that socio cultural factors influence the performance of roads construction projects. The socio cultural factors identified by the researchers include lifestyles, traditions and customs have a great effect on the performance roads construction projects. Other socio cultural factors identified by the authors that influence performance of roads projects included language, value and belief systems and influences how organizations

work in the society. Cognate to the results, Pratt and Vadali (2013) researched on the effect of socio – cultural factors on performance of roads construction projects. The study found that socio cultural factors influence the performance of roads construction projects. The socio cultural factors identified by the researchers include lifestyles, traditions and customs have a great effect on the performance roads construction projects. Other socio cultural factors identified by the authors that influence performance of roads projects included language, value and belief systems and influences how organizations work in the society.

The study results also were in agreement with the findings of Divakar and Subramanian (2019) who assessed the critical factors to be monitored for successful completion of construction projects. The study found that socio cultural factors are critical when it comes to successful completion of construction projects. Roads construction projects experiences a high succcess rate when socio cultural factors such as norms, religion and belief system of community members are prioritized by those who oversight or are involved in the construction of the roads.

4.5 Correlation analysis

The Pearson product moment correlation analysis was used in the study for assessing the nature of the relationship between the independent variables and the dependent variable and also the relationships between the independent variables (Wong & Hiew, 2005). The result of the analysis is tabulated in Table 13:

Table 13: Correlation results

n = 134		Correlations				
		Performance	Political	Economic	Legal	Sociocultural
Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
Political	Pearson Correlation	.460*	1			
	Sig. (2-tailed)	.000				
Economic	Pearson Correlation	.561**	.236**	1		
	Sig. (2-tailed)	.000	.006			
Legal	Pearson Correlation	.768*	.674*	.815*	1	
	Sig. (2-tailed)	.000	.000	.000		
Socio-cultural	Pearson Correlation	.751*	.311*	.952*	-.867*	1
	Sig. (2-tailed)	.000	.000	.000	.000	

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

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

It tries to establish whether there is positive or negative relationship between variable and using statistical correlation coefficient determine the strength of this relationship (Jahangir & Begum, 2008). This was then tested for significance at 5%. There was a medium relationship between political aspects and KeRRA projects performance (r = 0.460, p-value < .05). The study further exhibited a strong relationship between economic conditions and KeRRA projects performance

(r = 0 .561, p-value < .01). Also, there was a strong relationship between legal aspects and KeRRA projects performance (r = 0.768, p-value < .05) as well as social cultural aspects and KeRRA projects performance (r = 0.751, p-value < .05).

4.6 Regression analysis

Multiple regression analysis was used to predict the unknown value of a variable from the known value of two or more variables. In this case, multiple regression analysis helped predict performance of KeRRA projects from political aspects, economic conditions, legal aspects and socio - cultural aspects.

4.6.1 Model summary

The model summary was used to find out the adjusted R square value which was used to explain the extent to which the regression model explained change in the performance of KeRRA projects from political aspects, economic conditions, legal aspects and socio - cultural aspects. The results of the model summary are as displayed below;

Table 14: Model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.926[a]	.857	.853	1.70812

a. Predictors: (Constant), socioculcon, politicalcon, economiccon, legalcon

From table 14, the value of adjusted R-square is 0.853 which indicates that the model explains 85.3% of performance of KeRRA projects from political aspects, economic conditions, legal aspects and socio-cultural aspects.

4.6.2 Analysis of variance

Analysis of variance was employed to measure the differences in means between performance of KeRRA projects and its predictor variables. The results are shown in the Table 4.10:

Table 15: ANOVA

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2255.211	4	563.803	193.238	.000[b]
	Residual	376.378	129	2.918		
	Total	2631.590	133			

a. Dependent Variable: performancecon

b. Predictors: (Constant), socioculcon, politicalcon, economiccon, legalcon

The F-ratio was 193.238 at 4 degree of freedom which is the variable factor. This represented the effect size of the regression model and the model is significant at 95% confidence level (p=0.000) indicating that performance of KeRRA projects can be predicted from the aforementioned independent variables (i.e. political, economic, legal and socio-cultural aspects).

4.6.3 Coefficient analysis

Coefficient analysis from multiple regression analysis is as shown below;

Table 16: Coefficient analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	36.893	4.960		7.438	.000
	Political	.123	.060	.143	2.035	.044
	Economic	1.088	.075	1.643	14.493	.000
	Legal	.389	.080	.637	4.831	.000
	Socio-cultural	1.389	.103	1.807	13.444	.000

a. Dependent Variable: performancecon

As aforementioned, the model was found to be statistically significant. Further, the regression model can be outlined as follows;

Performance = (36.893) $+X_1$(.123) $+X_2$(1.088) $+X_3$(.389) $+X_4$(1.389) + 4.960

4.7 Hypotheses Testing

The study was guided by four hypotheses which are discussed systematically below. The results are summarized in the Table 17:

Table 17: Summary of variables significance

Hypotheses	Coefficient Result	P – value	Interpretation
HO_1: Political aspects have no significant influence on performance of KeRRA projects.	.123	.044	Significant effect
HO_2: Economic conditions have no significant influence on performance of KeRRA projects.	1.088	.000	Significant effect
HO_3: Legal aspects have no significant influence on performance of KeRRA projects.	.389	.000	Significant effect
HO_4: Socio- cultural aspects has no significant influence on performance of KeRRA projects.	1.389	.000	Significant effect

Hypothesis 1 ($H0_1$) predicted that political aspects have no significant influence on performance of KeRRA projects. The results in Table 17 indicate that political aspects have a significant influence on performance of KeRRA projects $p < 0.05$. Thus we fail to accept the null hypothesis and conclude that political aspects have a significant influence on performance of KeRRA projects. This study is in agreement with the findings of Pratt et al. (2015); Zhang (2005), Li et al. (2005) that political aspects have a significant effect on performance of KeRRA projects. Interviews were conducted on the same and its results are as presented below:

The KeRRA regional manager was interviewed and he opined that politicians have a great impact in the completion of KeRRA projects. He further said that, they can either hinder or fasten the rate at which the projects are completed by provision of a conducive working environment. According to him on several occasions the politicians have been advised not to politicize construction of KeRRA projects as there construction is in the best interest of all the citizens of the republic of Kenya and the entire globe at large.

The constituency roads officer revealed that heightened political temperatures scare away contractors who may run away due to safety issues. He gave an example of the heightened political temperatures in 2007/2008, 2013 among others that were characterized by tribal animosity hence it scared non residents contractors. He further noted the politics of the data have a significant effect on completion of KeRRA projects.

Hypothesis 2 ($H0_2$) predicted that economic conditions have no significant influence on performance of KeRRA projects. The results in Table 17 indicate that economic conditions have a significant influence on performance of KeRRA projects ($p<0.05$) implying that we fail to accept the null hypothesis that economic environment has no significant influence on performance of KeRRA projects. This study findings are in tandem with the findings of (Bhattacharyay, 2008; Chan et al., 2004; Maina & Gathenya, 2014, Jeyakanthan & Jayawardane, 2012) that the economic conditions have a significant effect on performance of KeRRA projects. Shortage of bitumen, bad climatic changes, changes in price of construction materials, accessibility to road construction materials influences the performance of KeRRA projects. The KeRRA regional manager shared the same sentiments:

The KeRRA regional manager opined that construction materials are key determinants of KeRRA projects completion rate. They can lead to cost overrun or time overrun. He acknowledged shortage of bitumen in the Sub County, not once but several times. He further revealed that disbursement of funds meant for construction of KeRRA projects had been delayed on several occasions hence stalling projects for a while in the Sub County.

The construction roads officer postulated that construction materials availability is a prerequisite for completion of KeRRA projects on time. He further noted that there has been

shortage of such materials in the Sub County prompting the sourcing of the materials from nearby Sub Counties in Uasin Gishu County. He also noted that bad climatic conditions can result into cost overrun, time overrun and client dissatisfaction.

Hypothesis 3 ($H0_3$) predicted that legal aspects have no significant influence on performance KeRRA projects. The results in Table 17 indicate that legal aspects have a significant influence on performance of KeRRA projects $p < 0.05$. Thus we fail to accept the null hypothesis and conclude that legal aspects have a significant influence on performance of KeRRA projects. This study agrees with the findings of (Barccarini, 2005; Jeyakanthan & Jayawardane, 2012) that the legal aspects have a significant effect on performance of KeRRA projects. This is further supported with the KeRRA regional manager sentiments which were as follows:

The KeRRA regional manager opined that procurement laws, environmental laws and land or passage laws are determinants of KeRRA projects completion rate. He further opined that several legal suits have been logged against KeRRA officials hence deterring faster completion of KeRRA projects on time.

The constituency roads officer reveals that non adherence to environmental laws attracts legal suits and it derails KeRRA roads projects. He further revealed that the national environmental management authority is very strict when it comes to violation of environmental laws. He said he is aware of situation where the construction phase had been halted for a while as investigations were underway to assess the impact the construction of KeRRA projects had on the environment.

Hypothesis 4 ($H0_4$) predicted that socio – cultural aspects has no significant influence on performance of KeRRA projects $p < 0.05$. The results in Table 17 indicate that socio – cultural factors has a significant influence on performance of KeRRA projects ($p< 0.05$) implying that the we fail to accept the null hypothesis that socio – cultural aspects had no significant influence on performance of KeRRA projects. The study findings agree with the findings of (William, 2002; Emeseh, 2009; Oina et al., 2015) that socio – cultural aspects has a significant effect on performance of KeRRA projects. Customs and traditions of a certain community, language, religion and belief systems of community members influence the performance of KeRRA projects. The KeRRA regional manager shared the same sentiments that:

"Values that characterize a society, land customs, demographics of entire population in Moiben Sub County, adequate involvement of the community before the start of the construction of KeRRA projects are determinants of KeRRA projects completion rate. He further opined that socio cultural aspects should not be neglected when construction phase of KeRRA projects is underway"

The constituency roads officer emphasized the need for members of the community to be involved in the design phase of KeRRA roads projects. He said failure to do that can result into disagreements among some of stakeholders which attract court injunction hence derailing the implementation of the projects on time. He recommended the need to bring on board all the stakeholders in policy formulation so as the project can be embraced by all. If the project is accepted by all then team spirit will result into client satisfaction among other key benefits.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter the findings of the study are summarized, conclusion, suggested recommendations and also recommendations for further researches that are considered important for continuation of the research.

5.2 Summary of Findings

According to the respondents' demographics, majority of the respondents were male and had a secondary level of education. Majority of them had spent less than 5 years and were contractors. In regards to political aspects, political bickering was found to act as stabling blocks against construction of KeRRA projects. The national and county government did not provide incentives and enabling political environment for successful implementation of KeRRA projects. Political differences slow the construction phase of KeRRA projects. Existence of different political parties in the sub county slows the rate at which KeRRA projects are implemented. Local political leaders engage their counterparts in the national government to provide guarantees for KeRRA projects. The stakeholders involved in construction of KeRRA projects received political support. KeRRAprojects implementation had improved due to good governance exercised by policymakers come political leaders in the sub county. The stakeholders involved in construction of KeRRA projects received political support from political leaders in the sub county. The regression results revealed that political aspects had a significant effect on performance of KeRRA projects. The KeRRA regional manager held the same opinion that politicians have a great impact in the completion of KeRRA projects. He further said that, they can either hinder or fasten the rate at which the projects are completed by provision of a conducive working environment. The constituency roads officer revealed that heightened political temperatures scare away contractors who may run away due to safety issues. He gave an example of the heightened political temperatures in 2007/2008, 2013 among others that were characterized by tribal animosity hence it scared non residents contractors. He further noted the politics of the day have a significant effect on completion of KeRRA projects.

Also, majority of the respondent revealed that procurement process of KeRRA projects construction materials was affected by unpredictable economic conditions. There was shortage of bitumen in moiben Sub County. Majority of the respondents acknowledged that funds meant for construction of KeRRA projects in Moiben Sub County were not disbursed on time. It was noted that there was release of funds meant for construction of KeRRA projects in phases in Moiben Sub County. There was easy access to road construction materials. Bad climatic changes hindered construction of KeRRA projects and there were fluctuations in the gross domestic product in the country in the 2016/2017 financial year. The regression results revealed that economic conditions had a significant effect on performance of KeRRA projects. The KeRRA regional manager opined that construction materials are key determinants of KeRRA projects completion rate. They can lead to cost overrun or time overrun. The construction roads officer postulated that construction materials availability is a prerequisite for completion of KeRRA projects on time. He also noted that bad climatic conditions can result into cost overrun, time overrun and client dissatisfaction.

Additionally, in regards to legal aspects, the Sub County had stringent procurement laws and this procurement laws had hindered effective execution of KeRRA projects in the Sub County. It was noted that any construction projects in Moiben Sub County must adhere to the environmental laws that have been put in place. KeRRA projects employees have been arrested for breach of the environmental laws. The land or passage law adopted in Moiben Sub County had affected KeRRA construction projects. Finally, majority of the respondents noted that legal suits against breach of procurement laws affected the rate at which KeRRA projects were completed in Moiben Sub County. The regression results revealed that legal aspects had a significant effect on performance of KeRRA projects. The findings were further supported with the KeRRA regional manager and constituency roads officer comments. KeRRA regional manager opined that procurement laws, environmental laws and land or passage laws are determinants of KeRRA projects completion rate while the constituency roads officer postulated that non adherence to environmental laws attracts legal suits and it derails KeRRA roads projects.

Further, in relation to socio – cultural aspects, gender was not a determinant of completion rate of KeRRA construction projects in Moiben Sub County. The stakeholders involved in the construction of KeRRA projects were both male and female. KeRRA projects in Moiben Sub County had been affected by the values that characterize a society. Moiben Sub County had land customs that were impediments against KeRRA projects success rate. There was stalling of KeRRA projects due to the demographics of entire population in Moiben Sub County. The community was involved adequately before the start of the construction of KeRRA projects that were likely to bring about some conflicts in the community's socio cultural system. KeRRA projects had met a lot of resistance in the sub county as it had undermined the community's socio - cultural orientation. Finally, KeRRA projects success rate depended on the attitudes towards social responsibilities. The regression results revealed that socio - cultural aspects had a significant effect on performance of KeRRA projects.

5.3 Conclusion

The study findings are indicative of a significant effect between political aspects and performance of KeRRA projects. This was due to political bickering which acts as stabling blocks against construction of KeRRA projects. The national and county government did not provide incentives and enabling political environment for successful implementation of KeRRA projects. Political differences slowed the construction phase of KeRRA projects. Existence of different political parties in the sub county slowed the rate at which KeRRA projects are implemented. Local political leaders engaged their counterparts in the national government to provide guarantees for KeRRA projects. The stakeholders involved in construction of KeRRA projects received political support from political leaders in the sub county.

In regards to economic conditions, they significantly affected performance of KeRRA projects in Moiben Sub County. This was attributed to the shortage of bitumen in moiben Sub County. Disbursement of funds meant for construction of KeRRA projects in Moiben Sub County were not disbursed on time. Bad climatic changes hindered construction of KeRRA projects. Legal aspects had a significant effect on the performance of KeRRA projects in Moiben Sub County. This was because the Sub County had stringent procurement laws. KeRRA projects in Moiben Sub County adhered to the environmental laws that have been put in place. The land or passage

law adopted in Moiben Sub County had affected KeRRA construction projects. Finally, legal suits against breach of procurement laws affected the rate at which KeRRA projects were completed in Moiben Sub County.

The socio – cultural aspects have a significant effect on performance of KeRRA projects in the Sub County. KeRRA projects in Moiben Sub County had been affected by the values that characterize a society. Moiben Sub County had land customs that were impediments against KeRRA projects success rate. There was stalling of KeRRA projects due to the demographics of entire population in Moiben Sub County. The community was involved adequately before the start of the construction of KeRRA projects that were likely to bring about some conflicts in the community's socio cultural system. KeRRA projects had met a lot of resistance in the sub county as it had undermined the community's socio - cultural orientation. Finally, KeRRA projects success rate depended on the attitudes towards social responsibilities. The KeRRA regional manager opined that values that characterize a society, land customs, demographics of entire population in Moiben Sub County, adequate involvement of the community before the start of the construction of KeRRA projects are determinants of KeRRA projects completion rate. The constituency roads officer emphasized the need for the community members to be involved in the design phase of KeRRA roads projects. He said failure to do that can result into disagreements among some of stakeholders which attract court injunction hence derailing the implementation of the projects on time.

5.4 Recommendations

In light of the findings and conclusion of the study, the recommendations that were made were as follows:

5.4.1 Policy Recommendations

Political environment exhibited a significant effect on the performance of KeRRA roads construction projects. The study recommends that the national and county government should provide incentives and enabling political environment for successful implementation of KeRRA projects. Political differences should be avoided as it slows the construction phase of KeRRA projects. Local political leaders should engage their counterparts in the national government to

provide guarantees for KeRRA projects. The stakeholders involved in construction of KeRRA projects should receive the political support from political leaders in the sub county.

In regards to economic conditions, providers of bitumen should ensure that there is no shortage of it in moiben Sub County. Disbursement of funds meant for construction of KeRRA projects in Moiben Sub County should be disbursed on time. In regards to legal aspects, the Sub County should put in place stringent procurement laws. KeRRA projects in Moiben Sub County should adhere to the environmental laws that have been put in place. The Sub County should adopt land or passage law that does not act as an impediment against construction of KeRRA projects. In regards socio – cultural aspects, Moiben Sub County should adhere to land customs that are not an impediment against KeRRA projects success rate. The community should be involved adequately before the start of the construction of KeRRA projects that were likely to be in violation of socio cultural system of the community. The community's socio - cultural orientation should not be undermined during the implementation of KeRRA projects.

5.4.2 Recommendations for further research

This study focused on the environmental factors influencing performance of KeRRA projects in Moiben Sub County. This study recommends that a further study should be replicated with a larger, more representative sample. Other government funded road projects should be considered. A similar study can also be carried out in other Sub Counties in Uasin Gishu County, as it would be interesting to know whether the observed findings hold for other sub counties as well. Major contextual and settings to be considered in future researches should consider insights from this study influencing the performance of KeRRA projects including political aspects, economic conditions, legal aspects and socio – cultural aspects as playing an important role in enhancing performance of KeRRA projects.

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APPENDICES

APPENDIX I: LETTER OF TRANSMITTAL OF DATA

Dear Respondent,

RE: REQUEST FOR YOUR PARTICIPATION

I am a post graduate student at University of Nairobi and I am conducting a research entitled **"Environmental factors influencing performance of KERRA roads construction projects in Uasin Gishu County, Moiben Sub County, Kenya."** The research is a partial fulfillment for the requirement of award of degree in master of project planning and management in university of Nairobi.

Kindly note that, any information collected from the questionnaire is solely for academic purpose and will be handled with ultimate confidentiality and none of your personal details will appear. Participation in this exercise is entirely voluntary. In you need any clarification during the exercise, please feel free to ask me.

Thank you for your assistance.

Yours faithfully,

Stella W. Muriuki

APPENDIX II: QUESTIONNAIRE

Questionnaires for employees for all pre-qualified roads construction companies

SECTION A: Demographic Information

Please indicate the following by ticking appropriately.

1. Age bracket?

Below 25 [ ] 26-30 years [ ] 31-35 years [ ] 36-40 years [ ] 41-45 years [ ]

46-50 years [ ] Over 50 [ ]

2. Gender? Male [ ] Female [ ]

3. Highest educational qualification attained?

Primary [ ] Secondary [ ] Diploma [ ] Bachelor [ ] Masters [ ] PhD [ ]

4. For how long have you worked for construction companies?

Less than 5 years [ ] 6-10 years [ ] 11-15 years [ ] 16-20 years [ ] Over 21 years [ ]

5 . How long have you worked on the roads construction projects in Moiben sub-county?

< 2 years [ ] 2 – 4 years [ ] 4 – 6 years [ ] >6years [ ]

6. What is your designation in the company?

Contractor [ ] Project team manager [ ] Procurement officer [ ] Road engineer [ ]

Any other please specify?

_____

_____

_____

SECTION B: Political aspects influence on Performance of KeRRA projects

Indicate the extent to which you agree or disagree with the following political aspects in Moiben Sub County? Please rate your perceptions by indicating your position on the 5-point scale. **1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = strongly agree.**

✓ **Tick as appropriate**

B	**Political aspects**	1	2	3	4	5
B_1	Political bickering among leaders acts as stambling blocks against construction of KeRRA projectsin the subcounty.					
B_2	The national and county government provides incentives and enabling political environment for successful implementation of KeRRA projects.					
B_3	Political differences among local leaders in the sub county slow the construction phase of KeRRA projects.					
B_4	Different political parties in the sub county slows the rate at which KeRRA projects are implemented.					
B_5	Local political leaders engage their counterparts in the national government to provide guarantees for the construction of KeRRA projects.					
B_6	Stakeholders involved in construction of KeRRA projects receive political support in Moiben sub county.					
B_7	KeRRA projects implementation has improved due to good governance exercised by policy makers come political leaders in the sub county.					
B_8	Politicians are at the forefront in ensuring funds made for construction of KeRRA projects are released based on budget estimates.					
B_9	All the stakeholders involved in construction of KeRRA projects receive political support from political leaders in the sub county.					

SECTION C: Economic conditions influence on Performance of KeRRA projects

Indicate the extent to which you either agree or disagree with the following economic conditions statements? Please rate your perceptions by indicating your position on the 5-point scale, where **1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = strongly agree.**

✓ **Tick as appropriate**

C	**Economic Conditions**	1	2	3	4	5
C_1	KeRRA projects construction price of materials escalated in Moiben sub county in 2016/2017 financial year.					
C_2	Procurement process of KeRRA projects construction materials is affected by unpredictable economic conditions.					
C_3	There is shortage of bitumen in Moiben sub county.					
C_4	Funds meant for construction of KeRRA projects in Moiben sub county are not disbursed on time.					
C_5	There is release of funds meant for construction of KeRRA projects in phases in Moiben sub county.					
C_6	There is easy access to road construction materials in Moiben sub county.					
C_7	Bad climatic changes hinder construction of KeRRA projects in the subcounty.					
C_8	KeRRA Projects funding has changed due to renegotiation concessions awarded to the projects.					
C_9	There were fluctuations in the gross domestic product in the country in the 2016/2017 financial year which affected construction of KeRRA projects in Moiben subcounty.					

SECTION D: Legal aspects influence on Performance of KeRRA projects

Indicate the extent to which you either agree or disagree with the following statements on legal aspects? Please rate your perceptions by indicating your position on the 5-point scale, where **1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = strongly agree.**

✓ **Tick as appropriate**

D	**Legal Aspects**	1	2	3	4	5
D_1	The subcounty has stringent procurement laws.					
D_2	The procurement laws have hindered effective execution of KeRRA projects in Moiben subcounty.					
D_3	Any construction projects in Moiben subcounty must adhere to the environmental laws that have been put in place.					
D_4	KeRRA projects are negatively affected by the environmental laws in place.					
D_5	KeRRA projects employees have been arrested for breach of the environmental laws by the national environmental management authority officials in Moiben subcounty.					
D_6	Land or passage law is enforced in Moiben subcounty.					
D_7	The land or passage law adopted in Moiben subcounty has affected KeRRA construction projects.					
D_8	Disagreements exist between land owners and enforcement of passage law of KeRRA construction projects in Moiben sub county.					
D_9	Legal suits against breach of procurement laws affect the rate at which KeRRA projects are completed in Moiben subcounty.					

SECTION E: Socio cultural aspects influence on Performance of KeRRA projects

Indicate the extent to which you either agree or disagree with the following statements on socio cultural aspects in Moiben Sub County? Please rate your perceptions by indicating your position on the 5-point scale, where **1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = strongly agree.**

✓ **Tick as appropriate**

E	**Socio cultural Aspects**	1	2	3	4	5
E_1	Gender is a determinant of completion rate of KeRRA construction projects in Moiben subcounty.					
E_2	The stakeholders involved in construction of KeRRA projects are both male and female in Moiben subcounty.					
E_3	KeRRA projects in Moiben subcounty have been affetced by the values that characterize a society.					
E_4	Moiben subcounty has land customs that have acted as an impediment against KeRRA projects success rate.					
E_5	Stalling of KeRRA projects is due to the demographics of entire population in Moiben subcounty.					
E_6	The community is involved adequately before the start of the construction of KeRRA projects that are likely to brush shoulders with a community's socio-cultural system.					
E_7	KeRRA projects have met a lot of resistance in the subcounty as it has undermined the community's socio-cultural orientation.					
E_8	KeRRA project implementers have been sensitive to the socio-cultural factors in Moiben subcounty.					
E_9	KeRRA projects uccess rate depends on the attitudes toward social responsibilities in Moiben subcounty.					

SECTION G: Performance of KeRRA roads construction Projects

Please rate your perceptions on performance of KeRRA roads construction projects in Moiben Sub County on a scale of 1 – 5, where **1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = strongly agree.**

G	Performance	1	2	3	4	5
G_1	KeRRA projects in Moiben sub county are completed within the stipulated time frame.					
G_2	The rate of KeRRA projects non completion rate was high in Moiben sub county in the 2016/2017 financial year.					
G_3	Time overrun is common in KeRRA construction projects in Moiben sub county.					
G_4	KeRRA roads construction projects experienced cost overun in the sub county in the 2016/2017 financial year.					
G_5	Recarpeting of KeRRA projects constructed in 2016/2017 financial year is low.					
G_6	KeRRA roads construction projects were delivered within budget in the 2016/2017 financial year.					
G_7	There is low cost of maintenance of KeRRA projects in Moiben sub county.					
G_8	KeRRA projects are delivered to the expected standards and expectations of all the stakeholders in the sub county.					

APPENDIX III: INTERVIEW SCHEDULE FOR KeRRA REGIONAL MANAGER AND CONSTITUENCY ROADS OFFICER

1. What is your name?
2. What is your designation?
3. For how long have you been in the current profession?
4. How many KeRRA roads do we have in Moiben Sub County?
5. In your view, has political differences among local leaders ever slowed the construction of KeRRA projects?
6. Has there been any shortage of bitumen in Moiben Sub County?
7. Have you ever experienced a situation where KeRRA Projects funding has changed due to renegotiation concessions awarded to the projects?
8. Within the purview of your job, has the implementation of KeRRA projects been affected by environmental and land or passage laws in place?
9. In regards to land customs, how has land customs affected the implementation of KeRRA projects in Moiben Sub County?
10. What are your general comments in regards to how both the political aspects, economic conditions, legal aspects and socio cultural aspects influence performance of KeRRA projects?

APPENDIX IV

INTERVIEW SCHEDULE FOR PROCUREMENT OFFICER

1. What is your name?
2. For how long have you been in this position?
3. Are there any procurement laws that govern the purchase of construction materials?
4. In what ways does the procurement law affect the execution of KeRRA projects in Moiben sub-county?
5. How is the cost of maintenance of KeRRA projects in Moiben Sub County?
6. Are funds meant for construction of KeRRA projects in Moiben sub-county disbursed on time?
7. Has KeRRA projects construction price of materials ever escalated in Moiben sub-county?
8. Are road construction materials expensive or cheap in Moiben Subcounty in comparison to other sub counties in Kenya?