



UGANDA MANAGEMENT INSTITUTE

**INSTITUTIONAL FACTORS AFFECTING QUALITY OF ROADS IN UGANDA:
A CASE STUDY OF RUKUNGIRI MUNICIPALITY**

BY

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF MANAGEMENT
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DECLARATION

I, Merynah Kekijjo, declare that this dissertation is my original work and has not been awarded for any other degree to other higher institutions of learning. This dissertation is a result of my own independent research effort and investigations. Where other people's work has been used, it has been acknowledged.

Signature:

Date:

APPROVAL

This is to certify that this dissertation on Institutional factors affecting the quality of roads in Uganda: a case study of Rukungiri municipality has been supervised and is ready to be submitted to the school of Management Science of Uganda Management Institute under My Supervision.

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Date:

Signature:

Dr Sylvester Kugonza

Date:

DEDICATION

To my beloved husband, Eng. Julius Bagira, who contributed wholly and entirely to my education and who has tirelessly supported me in all aspects, May the good Lord abundantly bless him.

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LIST OF ACRONYMS

FY	: Financial Year
PAF	: Poverty Action Fund
PMBOK	: Project Management Book of Knowledge
PMI	: Project Management Institute
PPDA	: Public Procurement and Disposal Assets Authority
RMC	: Rukungiri Municipal Council
UMI	: Uganda Management Institute
UNRA	: Uganda National Roads Authority
URF	: Uganda Road Fund

ABSTRACT

This study examined the institutional factors affecting the quality of roads in Uganda using a case of Rukungiri Municipality. Specifically, the study reviewed planning, procurement control, supervision and monitoring and how they affect the quality of roads. It was hypothesized in the study that, planning, procurement control, supervision and monitoring positively affect the quality of roads. The empirical data was collected using cross sectional survey design and questionnaires and interview guide as research instruments from 61 respondents. The empirical data was analyzed both quantitatively and qualitatively to examine the effect of institutional factors on the quality of roads. The key findings of the study indicated that the three institutional factors selected for the study that is, planning, procurement control and supervision and monitoring positively affected the quality of roads in Rukungiri Municipality. This was because there was a significant relationship (0.007 for planning, 0.013 for procurement control and 0.001 for supervision and monitoring) that was established from the study between these variables and quality of roads. From the study, it was recommended that the existing planning activities be sustained by involving all kind of stakeholders required so as the quality of roads can be consistently enhanced; procurement control needs to follow clearly the stipulated criteria in the PPDA act of 2013; while supervision and monitoring be done in a quality and proper manner. Further research was recommended to cover other institutional factors and quality attributes and indicators and be conducted in a wider population of Rukungiri municipality or other Municipalities in Uganda.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Government of Uganda takes infrastructure development and road construction in particular as a priority in its development goals by allocating huge amount of money to the road sector (National development plan 2012). Over the years a lot of donor and government funds have been put to road sector. In fact road sector takes bigger percentage of Uganda`s budget. Agencies like Uganda Road Fund (URF) and Uganda National Roads Authority (UNRA) have been formed to curb down the problem of road condition, URF Act, 2010.

This study attempted to examine the institutional factors that affect the quality of roads in Uganda using a case study of Rukungiri Municipality. Institutional factors were conceived as the independent variable while quality of roads as the dependent variable. Institutional factors that were examined include procurement controls, planning and supervision and monitoring and quality were measured as conformance to specification, durability, fitness for use and meeting customers` expectations. This chapter presents the background to the study, the general objectives, and specific objectives, scope of the study, the problem statement, justification, significance and operational definitions.

1.2 Back ground to the Study

1.2.1 Historical background

Hanmurabi, the king of Babylon (1792-1750) BCE codified the law, according to which during the Mesopotamia era ,builders were responsible for maintaining the quality of buildings and were given a death penalty if any of their construction collapsed and their occupants` were killed. In Europe, quality was considered as a cultural issue first and

technical issues second. From early 1950`s to late 1960s, quality control evolved into quality assurance with its emphasis on problem avoidance rather than problem detection (www.crcpress.com).

During the twenty second century, many western European countries started experiencing significance highway challenges due to high population densities and heavier load trafficking. In Latin America countries, the issue of quality on highways is the main reason why the road authority is looking for new ways of contracting out road maintenance in countries like Brazil, Colombia (Brushnet, 2005) as cited by Nakafu (2010).

In Hong Kong, the quality movement also started during the 1970`s with the establishment of the Hong Kong productivity Council, the Hong Kong quality assurance Agency and other quality conscious bodies. In Taiwan, the history of quality activities can be traced back to the early 1970`s. the movement matured mainly in 1988 onwards when the government sponsored national quality promotion program played a vital role in converting Taiwan`s enterprise from being production driven to being customer driven. Bushnet (2005) asserts that the road sector reforms in Africa, championed by the road management authority in the early 1980`s were set up to address the pertinent problems of poor quality of road networks and also improve on the efficiency of road fund management as cited by (Nakafu, 2010).

The water and Roads sector in Uganda, like any other sectors, have since the 1990s undergone several reforms characterized by the creation of autonomous institutions and the enactment of policies aimed at improving efficiency (Nsibambi, 1998). In May 2006, Parliament of Uganda passed the Uganda National Roads Authority (UNRA) Act in an effort to improve the quality of roads in Uganda. Also in the same effort Uganda Road

(URF) Fund was formed in August 2008 to oversee the maintenance of all roads in Uganda (Road Fund Act, 2010)

1.2.2 Theoretical background

The study was guided by project management theory. The project management theory was developed by Edward Deming in 1940 in response to the problems in the then existing organizational management theories in place. It conceptualizes the project as a transformation of inputs into outputs. It embraces both the project theory (product oriented theory) and the theory of management (project management theory). Project management theory (Koskela & Howell, 2002) as cited by (Etwop, 2009) divides project management into planning, execution and controlling inform of a closed loop and these processes are managed in order to meet the project objectives of scope, time, cost and quality.

This theory was adopted for this study because road construction is a project that uses inputs like the materials, the human resource which is transformed into output, the physical road and planning and controlling contribute to achievement of quality of roads through setting standards and working towards the set standards. It also held that performance is enhanced by designing product and service to meet or exceed customer expectations. Hackman and Wageman (1995) approached TQM practices from the perspective of behavioral science knowledge such as motivation, learning and social system change.

1.2.3 Conceptual background

The concepts the study focused on were quality, quality control, planning, procurement control, supervision and monitoring. These are defined in the following subsections.

Quality is defined as conformance to specifications, fitness for use or purpose. Bishshalt and Almohamw`s (1994) as cited by Etwop (2009) defined quality as the degree to which the general conditions promote meeting the projects` established requirements of materials and workmanship, also expressed in terms of technical specifications, function and appearance. Functionality is another common indicator of quality and the requirements of technical performance are normally established in specifications and its performance is best measured by the degree of variations from those listed in specifications. Wilkinson et al (1998) define quality as conformance to specifications or requirements, fitness for use, quality as excellence, meeting or exceeding customer expectations. According to Project Management Institute (2000), quality is defined as conformance to specifications, fitness for use and meeting customer`s expectations. Project Management Institute (2000) defines quality management as the process of ensuring that all the project activities necessary to design, plan and implement a project are effective and efficient with respect to the purpose of the objectives of its performance. According to Wilkinson et al 1998, quality will be defined as conformance to specifications, fitness for use or purpose and meeting customers` expectations and this definition was adopted for this study. This definition has been adopted because once the product conforms to set standards as per technical designs/ specifications, it will be fit for use and the will be functionally sound hence meeting customers` expectations.

Quality control deals with monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance. A quality product is one that is fit for its intended purpose, and is produced at an acceptable cost (Barnett, 1996).

Planning is basic management function, which (1) identifies the goals or objectives to be achieved, (2) formulates strategies to achieve them, (3) arranges or creates the means required, and (4) implements, directs, and monitors all steps in their proper sequence. Planning is the guidance of future action. Planning is the deliberate social or organizational activity of developing an optimal strategy of future action to achieve a desired set of goals, for solving novel problems in complex contexts, and attended by the power and intention to commit resources and to act as necessary to implement the chosen strategy (Alexander 1992).

1.2.4 Contextual background

Rukungiri Municipal Council is located in South Western Uganda and is the main town of Rukungiri District located at 380 km from Kampala City. The Municipality borders Buhunga and Ruhinda Sub-Counties in the East, Nyakagyeme Sub-County in the west and North and Buyanja Sub-County in the South. Rukungiri Municipality is comprised of 3 Division Councils, 12 wards and 84 villages with a total area of 64.9 square kms and approximately 90,000 people.

Rukungiri Municipal Council as an administrative Centre is located in Eastern Division along Republic road (Rukungiri Municipal Council 5 year development plan 2010-2016). It is headed administratively by the Town Clerk. It is composed of six (6) major departments: Administration, Finance and Planning, Works and Technical services, Public Health, Education and Council.

Works and Technical services department is responsible for all building and road construction and maintenance. Rukungiri Municipal Council like other government

agencies receives funds for road maintenance works and received road equipment that was donated by the government of Uganda.

Rukungiri Municipality covers the then Rukungiri Town Council, Kagunga Sub-County and parishes of Kitimba and Kigaaga from Nyakagyeme Sub-County. The present Municipal Council was an administrative centre for Rujumbura County in the former Kigezi District in 1962. In 1974; it was elevated to a Town Board for Northern Kigezi District and later to Town Council in 1980 when North Kigezi District was changed to Rukungiri District. Rukungiri Municipality was approved by the parliament of Uganda on 19th May 2010.

1.3 Statement of the Problem

Despite efforts of Rukungiri Municipal Council to improve institutional factors such as planning, procurement control, and supervision and monitoring to enhance the quality of roads, various stakeholders like the local community, opinion leaders, local newspapers, church leaders to mention some continue to express disappointment with the quality of roads. Council in its sitting under minute 15/c5/2011/12 stressed that the condition of roads in Rukungiri Municipality are poor. The condition of the roads particularly Kinyasano road was not well done, it is characterized by washed away and exposed marram on the road shoulders (Uganda Road Fund and Auditor General Report 2012). Also on vision inspection the roads appear not to meet the required standards.

Rukungiri Municipal Council has put in place mechanisms to address institutional factors like procurement, supervision and monitoring and planning. Stakeholders are involved in planning of every project right from inception to execution. Project management committee for every project is formed comprising of technical staff, political side and

beneficiaries/ end users. A qualified knowledgeable person in a particular field is assigned duties of a project supervisor who ensures that a project is executed according to specifications. Funding for road maintenance to Rukungiri Municipality roads has also significantly been increased according to the Municipal Council Budgets for 2010/2011-2013/2014 financial years and agencies like Uganda Road Fund have been formed to oversee the road maintenance in Uganda. The benefits of having quality roads in Rukungiri Municipality are enormous and include reliable and reduced transport costs (as there is a direct link between road condition and vehicle operating costs), improved business and improved service delivery in general. Poor roads can also represent and increase safety hazard to the users leading to more accidents with their associated human and property costs.

Despite the above efforts put in place, and the known benefits of having good roads, the quality of roads in Rukungiri Municipal Council appear not to meet the required standard as visual inspection shows gullies, potholes, washed road shoulders and bushy roads, what causes this is not known. The condition of roads in Rukungiri Municipal Council and the benefits of having good roads, prompted the researcher to find out the possible institutional factors that contribute to that challenge in Rukungiri Municipality and come up with suggestions and recommendations to save the situation. Without this study, road users in Rukungiri Municipality will continue to access inadequate services.

1.4 General Objective

The objective of the study was to investigate the institutional factors that affect the quality of roads in Uganda using a case study of Rukungiri Municipality.

1.5 Specific Objectives

1. To examine the effect of planning on the quality of roads in Rukungiri Municipal Council
2. To find out the effect of procurement control on the quality of roads in Rukungiri Municipal Council
3. To examine how Supervision and Monitoring affect the quality of roads in Rukungiri Municipal Council.

1.6 Research Questions

1. What is the impact of planning on the quality of roads in Rukungiri Municipal Council?
2. What is the relationship between procurement control and the quality of roads in Rukungiri Municipal Council?
3. How does supervision and monitoring affect the quality of roads in Rukungiri Municipal Council?

1.7 Hypotheses of the study

1. Planning has a positive significant effect on the quality of roads in Rukungiri Municipal Council.
2. Procurement controls has a positive significant effect on the quality of roads in Rukungiri Municipal Council.
3. Supervision and monitoring has a positive significant effect on the quality roads in Rukungiri Municipal Council.

1.8 Conceptual Framework

Independent Variable

Institutional Factors

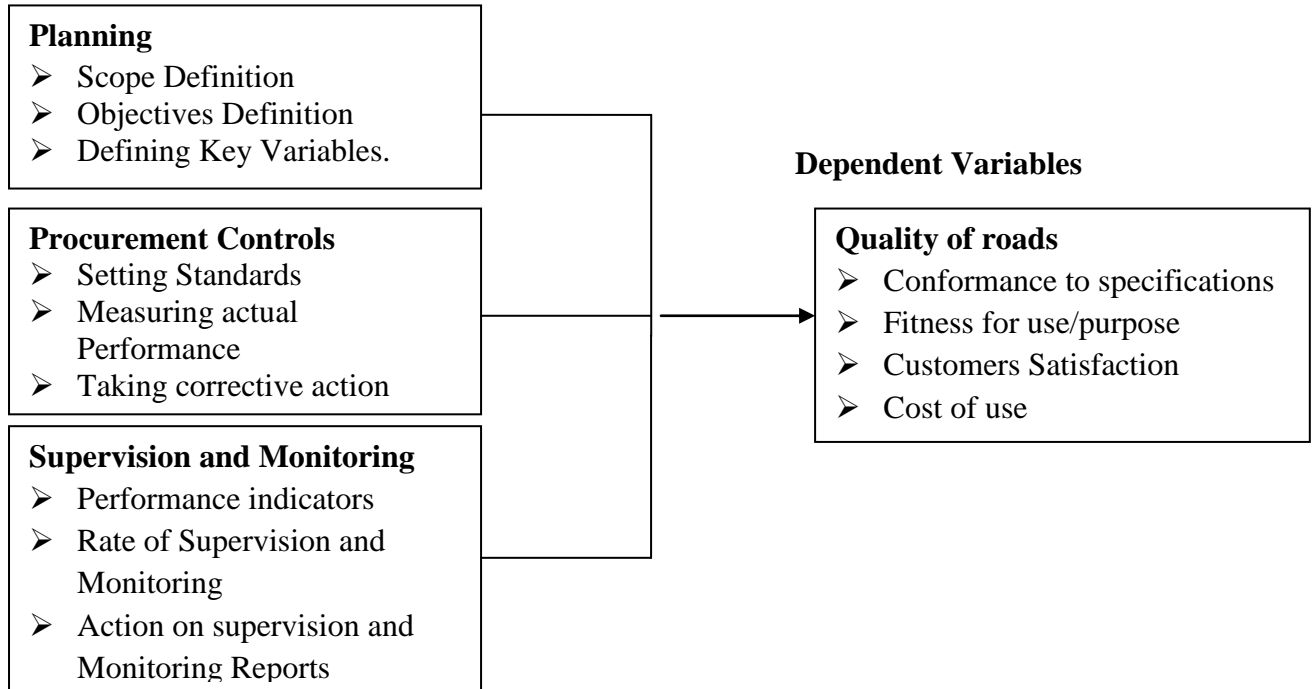


Figure 1: The effect of institutional factors on quality of roads

Source Willis Yuko Oso and David Onen (2008) and modified by the researcher

The conceptual framework illustrates that the state of roads in Rukungiri Municipal Council is possibly because of planning, procurement controls, and supervision and monitoring. Planning is defined as a process that involves defining the scope, objectives and the key variables. It implies looking ahead and deciding in advance, what is to be done, when and where it is to be done, how and by whom. Poor/Inadequate planning is one of the major causes of poor performance of projects. Procurement has a direct influence on the quality of a product. Procurement controls involve setting standards, measurement of actual performance and taking corrective action. With poor procurement controls, poor materials and inexperienced personnel will be engaged in production resulting into failure to conform to specifications hence satisfying customers becomes a challenge. Supervision and monitoring have a direct impact on the quality of roads

constructed as it is meant to ensure that the quality standards as specified during designing or at planning are achieved. Much as procurement and Supervision and Monitoring are conceptualized to affect the quality of roads, it was conceptualized that planning to have much significant effect because planning encompasses all the other two as it looks ahead and decides in advance what is required, when and where it is to be done and by whom and how.

1.9 Significance of the Study

It is hoped that this study will yield data and information that will help the Municipality administration to properly plan and devise means of improving the quality of the roads in Rukungiri Municipality and Uganda in general.

It will also add to the body of knowledge and guide the stakeholders/policy makers in policy formulation and evaluation. The study will act as value for money audit, finding reasons for under performance in the road sector.

The study will also be of benefit to the road end users in that when the conditions of the roads in Rukungiri Municipality improve the cost of use and the accidents will reduce and general improved service delivery.

Finally, the outcome of the study was intended to generate new ideas and set road construction industry thinking and rethinking on new policies. It will be used by Rukungiri Municipal Council Management and policy makers in developing road management strategies in Uganda.

1.10 Justification of the Study

Government of Uganda takes infrastructure development and road construction in particular as a priority in its development goals by allocating huge amount of money to the road sector (National development plan 2012). Over the years a lot of donor and government funds have been put to road sector. In fact road sector takes bigger percentage of Uganda's budget. Agencies like Uganda Road Fund (URF) and Uganda National Roads Authority (UNRA) have been formed to curb down the problem of road condition (URF Act 2010). Qualified personnel have been recruited; means of transport for field staff have been put in place. The above efforts have been put in place by the government of Uganda to improve the conditions of roads in Uganda with no exception of Rukungiri Municipal Council years but on visual inspection, the road network is characterized by deep gullies, potholes, washed shoulders, and deep potholes.

The trend of such conditions of the road network has remained the same as before even after such efforts have been put in place. The researcher has been observing such conditions over a time since 2001 and hence a need for this study to get information that will be used by policy makers and Rukungiri Municipal Council administration to properly plan and curb down this problem of road network condition that has stood for long. The available literature looks mainly at agencies like UNRA and a country as a whole but there is no literature specifically on Urban Councils/Municipalities. The researcher therefore intended to find out which of the mentioned factors are affecting the quality of roads in Rukungiri Municipality.

1.11 Scope of the Study

1.11.1 Content scope

This study specifically sought to examine the institutional factors that lead to underperformance of road sector in Uganda specifically in Rukungiri Municipal Council.

1.11.2 Geographical scope

Rukungiri Municipal Council is located in South Western Uganda and is the main town of Rukungiri District located at 380 km from Kampala City. It is composed of three divisions namely;-Western, Eastern and Southern Divisions and the study was conducted in all the three Divisions.

1.11.3 Time scope

The study covered all the three years of Rukungiri Municipal Council existence from 2010 to 2013. This period was chosen because the researcher wishes to look at the period since the Municipality came into existence and since funding was increased.

1.12 Operational Definitions

Conformance is defined as the degree to which a product characteristic meets preset standards

Control is the process of ensuring that actual activities conform to planned activities.

Procurement is defined as the process of acquiring goods and services outside the performing organization in order to attain project scope.

Project is defined as a temporary endeavor undertaken to create a unique product or service.

Provider means a natural person or an incorporated body including a consultant, contractor or supplier licensed by a competent authority to undertake a business.

Quality is defined as conformance to specifications, fitness for use or purpose and functionality.

Services means any object of procurement or disposal other than works and supplies and includes professional, non-professional and commercial type of services as well as works which incidental are to but not exceeding the value of those services.

Specifications means the description of an object of procurement in accordance with the national and international standards adopted and approved by the authority after consultation with the national bureau of standards or other appropriate trade associations and professional, the use of which shall be mandatory in all bidding documents.

Works means any work associated with the construction, reconstruction, demolition, repair or renovation of a building or structure or underground and includes the preparation, excavation, erection, assembly, installation testing and commissioning of any plant, equipment or material, decoration and finishing.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature about the institutional factors that affect the quality of roads in Uganda with a case study of Rukungiri Municipal Council. It is composed of introduction, theoretical review, and review of the institutional factors and the summary of the literature. In this study, quality was defined as conformance to specifications, fitness for use or purpose, durability, Cost of use and meeting customers' expectations while the institutional factors included;-Planning, Procurement controls and Supervision and Monitoring.

2.2 Theoretical review

The study was guided by the Project Management and Total quality management theory. The project management theory was developed by Edward Deming in 1940 in response to the problems in the then existing organizational management theories in place. It conceptualizes the project as a transformation of inputs into outputs. It embraces both the project theory (product oriented theory) and the theory of management (project management theory). Project management theory (Koskela & Howell, 2002) as cited by (Etwop, 2009) divides project management into planning, execution and controlling inform of a closed loop and these processes are managed in order to meet the project objectives of scope, time, cost and quality.

This theory was adopted for this study because road construction is a project that uses inputs like the materials, the human resource which is transformed into output, the physical road and planning and controlling contribute to achievement of quality of roads

through setting standards and working towards the set standards. It also held that performance is enhanced by designing product and service to meet or exceed customer expectations.

2.4 Project Planning and Quality

Planning is a process that involves selecting missions, objectives and the course of action to achieve them. It implies looking ahead and deciding in advance, what is to be done, when and where it is to be done, how and by whom. Planning is quite simply answering the questions;-what must be done, how should it be done, who will do it, by whom it must be done, how much will it cost, how good does it have to be (Lewis, 1941).

Mochal (2003 as cited in Kaliba, 2012) asserts that lack of or inadequate planning is one of the major causes of poor performance of projects. He further put it that if the major characteristics of the project are not properly defined and agreed upfront, it is likely to have differences in expectations among stakeholders as the project progresses and thereby unjustly assesses the project as failure by those whose expectations are not met but its applicability to Rukungiri Municipal Council is not known. A project is acknowledged as successful when it is completed on time, within the budget and in accordance to stakeholders' satisfaction (Tikim & Akintoye, 2002) as cited by Basheka and Tumutegyeze (2011). The level of success in carrying out construction project depends on the quality of management, financial, technical and organization performance of the respective parties. A good construction plan is the basis for developing the budget and the schedule for work; this is actually true because it enables the establishment of activities, roles and responsibilities. Project planning involves scope definition. Gray & Larson 2008, described project scope as the end result of the project. It includes the project

objectives, deliverables, milestones, technical requirements and specifications, limits and exclusions as well as review of customers.

The PMI (2008) recognizes two types of scope in the project context: product scope and project scope. Product scope indicates the features and functions that characterize product, service or result delivered by the project while project scope is the work that needs to be accomplished to deliver a product, service or result with the specified features and functions. Effective scope definition involves rational process detailing of the project component and work required in order to complete the project successfully to achieve the specific project outcomes or deliverables of a project. Accordingly, I concur with the researchers that poor planning/ inadequate planning causes poor quality of road because when the parties to the contract have different understanding to the contract, conflicts come in and as a result, the end product leaves a question to some stakeholders.

2.3 Procurement Control and Quality

PPDA Act defines procurement as acquisition by purchase, rental, and lease; hire tenancy, franc hire or any other contractual means of any type of works, services or supplies or any combination. According to PMI (2001), procurement is defined as the process of acquiring goods and services outside the performing organization in order to attain project scope.

Procurement of goods and services, essential to the operation of a company or an organization, often involves substantial expenditure. Past corruption cases shows that it is an area most vulnerable to corrupt manipulation and multi-practice (<http://www.foreignreport.com/2012/12/23>).

Control is the process of ensuring that actual activities conform to planned activities. Control helps managers monitor the effectiveness of their planning, their organizing and their leading activities (Stonner, Freeman & Gilbert, 2002). Procurement control is a procurement function aimed at achieving goals within an established timetable and usually understood to have three components;-setting standards, measuring actual performance and taking corrective action.

Procurement control helps managers monitor the effectiveness of their planning, their organizing and their leading activities (Stonner, 2002). Procurement control ensures that the project performance is on course. Yes, I agree to this because without control planning means nothing on the success of a project. Procurement control like other controls is a key area of risk minimization for all the institutions. Despite the organization having policies and procedures for their operation, they also need to put in place controls to mitigate any risks. Procurement is inherently risky given the fact that it involves movement of company resources; temptation to apply resources for personal interest may be high (Nantege, 2011).

Procurement controls should be emphasized to improve the road sector performance in Uganda. Procurement control involves selection criteria, specifications and design, bidding and contract documents, contract administration. Contracting and bidding requires the effective evaluation and supervision of contractors and their bids because without this ability to tender marginal or un acceptable bidders distort the bidding process by excessive underbidding for contractors or future in ability to complete. Poor quality of roads is linked with poor selection criteria where incompetent, corrupt contractors are selected to handle projects resulting into delays and poor quality of roads. Poor quality of

roads is also linked to poor contract administration and monitoring in which poor client-contractor relationship, lack of site meetings, delays in decision making and payments result in delays and poor quality of roads/projects.

In Uganda, many road construction projects have underperformed in terms of quality, cost and time. A provisional acceptance report by BCEOM Engineering consults on rehabilitation of Bugiri-Jinja road (November 2009) indicates that the project delayed by 10 calendar months and the cost exceeded the budget by 25%. The same report highlighted that major defects like ruts, and cracks have developed on 5 km out of 72 km. Whereas the report also highlights that the increase in time, cost and the poor quality could probably be because of poor procurement management and the inefficiency of the contracting firms. The cause of the Rukungiri Municipal Council case is not known. Inspectorate of government report to parliament, January-June 2004 on PAF inspections revealed that tendering process in districts and urban government remains a big problem not only in PAF programs but in all local government activities that involve procurement. This is largely because of political interferences. Rwelamila et al (as cited in Basheka 2010) informs us that African construction practices adopt procurement approaches which do not consider local factors, leading to inconsistent and unpredictable outcomes.

2.5 Supervision and Monitoring and Quality

The level of success in carrying out construction projects depends on the quality of management, financial, technical and organizational performance of the respective parties. Construction supervision activities are intended to ensure that the design standards as specified in the contract documents are followed by the contractor. The challenge facing Timor-leste in rehabilitation and maintenance of the road network are

similar to the obstacles faced by many other fragile states and include lack of donor coordination and failure by the government institutions to adequately supervise as well as monitor and evaluate the execution of public works..

Another challenge is the density of the road network relative to the limited funds available for maintenance and all the above inhibit and reduce the quality of the works (Badiru, 2012). Reports from Local governments (districts) show that the frequency of monitoring of works is very important for quality of roads. To a larger extent, I agree with the writer because from experience the more the supervision the more the quality of a product but is it true that unsatisfactorily quality of roads in Rukungiri Municipal Council is due to lack/ inadequate supervision and monitoring?

Martin and Miller (2006) argued that contracts needed to be checked through formal measures such as regular inspections and observations. Progress reporting as another aspect of control, Martin and Miller (2006) contend that reports provide a full account of challenges encountered on projects and progress. By reporting progress, the client is able to determine whether activities are on track or not. To some extent, I agree with the researchers that lack/inadequate supervision and monitoring causes poor quality of roads but on the other hand I don't because with well-planned contract and well qualified motivated high reputable companies supervision and monitoring may not add to the quality of a product.

2.4 Summary of the Literature Review

Different researchers have argued that causes of poor quality of roads includes among others:-unqualified personnel, people taking short cuts in implementation, political

interference, failure to understand customer needs/requirements inadequate planning, short term planning, poor procurement controls, lack of supervision and monitoring, lack of decision making and communication skills, lack of procedure or procedure not followed and lack of fact based decision making (<http://www.qualitygurus.com>).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was used in the study. The study is about the institutional factors affecting quality of roads in Uganda. It presents the research design, study population, sampling methods, sample size, data collection methods and data collection instruments.

3.2 Research Design

Case study was used in this study to obtain a greater understanding of the factors responsible for under performance of road sector/poor quality of roads in Rukungiri Municipality. Case study design is a useful mode of investigation into the causal relationship of complex social phenomena. It probes deeply and analyses interaction between the factors that explain the present status or that influence change or growth (Amin, 2005). According to Amin (2005), case studies are useful in obtaining in-depth knowledge of an area of study and therefore qualitative and quantitative data was collected using case study design. Triangulation of both qualitative and quantitative methods was employed. Quantitative methods are an objective approach to data collection used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics while qualitative methods are a subjective approach, data collected is expressed in text or symbols (Amin, 2005). In this study, the quantitative approach was used because it allowed the researcher to solicit more information that was quantified while the qualitative approach was used because it allowed the researcher to solicit in-depth information that was expressed in textual format (Mugenda & Mugenda,

1999). Combining numerical and textual information helped the researcher enrich the interpretation of findings of the study (Mugenda & Mugenda, 1999).

3.3 Study Population

The study population composed of all people deemed to be in position to provide information about institutional factors that affect quality of roads in Rukingiri Municipal Council. In this study, the study population was 67 people and was composed of 52 politicians, 5 technical people and 10 contractors.

3.4 Sample Size and Selection

A sample is defined as a part of the population that is deliberately selected to investigate properties of the parent population (Mubazi, 2008). A sample is a portion of the population whose results can be generalized to the entire population (Amin 2005). Amin (2005) highlighted that determining a sample size depends on informed judgment or rooted in the objective or the nature/type of the investigation, degree of accuracy or precision desired of required and constraints on sample selection or nature of the population. In this study, the sample size was 61 generated using Krejcie and Morgan table as cited by Amin (2005).

Table 1: Sample Size

Category	Target Population	Sample size	Sampling technique
Councilors	52	46	Simple random
Contractors	10	10	Purposive
Project supervisors/Engineers	3	3	Purposive
Chairperson contracts committee	1	1	Purposive
Procurement officers	1	1	Purposive
Total	67	61	

Source: Rukingiri Municipal Council Report (2013) for the population and Krejcie and Morgan table as cited by Amin (2005) for sample size

3.5 Sampling Techniques and Procedures

Sampling is the process of selecting elements from a population in such a way that the sample elements represent the population (Amin, 2005). In this study, two sampling methods were employed;- purposive and simple random sampling. Purposive was used to collect focused information from Engineers, procurement officer, contracts committee chairperson and contractors. This was because these people held responsibility that one expected them to have more knowledge about institutional factors affecting quality of roads in Rukingiri Municipal Council. Simple random sampling was used for Municipal Council Councilors. To achieve this, a random sample table was used to randomly select numbers which were then used to select names of the councilors from rota provided by human resources personnel at Rukingiri Municipal Council. Simple random sampling was used to produce a random sample that is free from bias and ensured that each member of the target population gets an equal and independent chance of being included in the sample.

3.6 Data Collection Methods

This study employed both quantitative (which involved the use of a questionnaire see Appendix I) and qualitative methods (which involved the use of a interview guide see Appendix 2) for data collection were used. The researcher critically took a close look at the roads in Rukungiri Municipality and sought to find out causes of poor quality of the roads with in the area.

3.6.1 Questionnaire Survey

Questionnaire survey was used as the study population is literate and information required can be easily described in writing and a lot of information can be got within a short time.

3.6.2 Interview

Key informants were interviewed to find out what they do or think about the study. Interviewing enables the researcher to capture the information through probing and capture meaning beyond words (Oso & Onen, 2005).

3.6.3 Document review

Document review enables the researcher to obtain un-obstructive information at pleasure and without interrupting the researcher. Also with document review, the language and words of the informants can be obtained.

3.7 Data Collection Instruments

The study used a questionnaire, Interview guide and document review as the main tool for collecting data. The selection of these tools was guided by the nature of the data to be collected, the time available as well as the objectives of the study. The main objective of the study was to investigate the institutional factors that affect the quality of roads in Uganda using a case study of Rukungiri Municipality. The researcher was mainly concerned with opinions, views and attitudes and such information can be collected using questionnaires, interview techniques.

3.7.1 Questionnaire

Three sets of self-administered questionnaires were used to collect data from Rukungiri Municipal Council technical and political staff and service providers. Self-administered questionnaire were used because it is more valid than ordinary questionnaire and can be used to collect data over assort period of time and since the expected respondents are literate and are unlikely to have difficulties responding to questionnaire items.

3.7.2 Interview guide

In depth interview was conducted to seek the opinion of the subject matter specialists like procurement officer, Engineers, the chairperson contracts committee.

3.7.3 Document Review check list

The researcher reviewed budgets, bidding documents, Evaluation committee reports to find out if procurement controls are adhered to in the procurement process, also will check the project supervisors reports to find out if the recommendations are taken serious and if the supervision is as per the specifications.

3.8 Data Quality Control

Controlling quality entails ensuring acceptable levels of validity and reliability of instruments. To control quality, the researcher will endeavor to attain validity and reliability coefficients of at least 70%. This considered the validity and reliability of the instruments that were used in the study.

3.8.1 Validity

The validity of the questionnaires was established using the content validity test. Using the ratings the content validity indices were computed. The Cronbach Alpha method of internal consistency was used to compute the reliability of the measures of the variables of the study using various questionnaire items administered to respondents (Kothari, 1990).

Table 2: Content validity indices for the questionnaire

Variable	Description	No. of Items	Content validity index
Independent	Planning	6	.798
	Procurement controls	11	.771
	Supervision and monitoring	10	0.78
Dependent	Quality	6	.088

Source: Primary data

According to Content validity Index, the questionnaire was considered valid since all the coefficients in Table 2 were above 0.7 which is the least recommended CVI in survey studies (Amin, 2004; Gay, 1996).

3.8.2 Reliability

Gay (1996) defined reliability as the degree of consistency that the instrument demonstrates. After pilot testing in the field, reliability of the instrument, on multi-item variables (that is procurement management and quality) was tested via the Cronbach Alpha Method provided by Statistical Package for the Social Scientists (Foster 1998). The researcher used this method because it was expected that some items or questions would have several possible answers. The researcher established reliability of the questionnaires by computing the alpha coefficient of the items (questions) that constituted the dependent

variable and that of the items that constituted the independent variable. The results are as on Table 3:

Table 3: Reliability indices for the respective sections of the questionnaire

Variable	Description	No. of Items	Cronbach alpha
Independent	Planning	6	.831
	Procurement controls	11	.767
	Supervision and monitoring	10	.761
Dependent	Quality	6	.767

Source: Primary data

According to Cronbach Alpha Coefficient Test (Cronbach 1971), the questionnaire was considered reliable since all the coefficients in Table 4 were above 0.7 which is the least recommended CVI in survey studies (Amin, 2004; Gay, 1996). After the approval of the proposal, the researcher designed the questionnaire, validated it then tested its reliability using the Cronbach Alpha method. After modifying the instrument, the researcher secured a letter of introduction to assist the researcher proceed with the study. Two research assistants were selected from Rukungiri Municipal Council staff to help in distribution and collection of questionnaires to and from respondents.

3.9 Procedure for Data Collection

Both qualitative and quantitative data was collected from 61 respondents from a target population of 67 people during the month of June 2014 using the following instruments;- questionnaire survey, interview guide and documentary review checklist. The data was collected by the researcher herself with the assistance of 2 research assistants.

3.10 Data Analysis

3.10.1 Quantitative data analysis

Quantitative data analysis involved use of both descriptive and inferential statistics in the Statistical Package for Social Scientists (SPSS). Descriptive statistics entailed determination of means and measures of dispersion such as frequencies, percentages and standard deviations. Data was processed by editing, coding, entering, and then presented in comprehensive tables showing the responses of each category of variables. Inferential statistics included correlation analysis using a correlation coefficient and regression analysis using a regression coefficient in order to answer the research questions. According to Sekaran (2003), a correlation study is most appropriate to conduct the study in the natural environment of an organization with minimum interference by the researcher and no manipulation. A correlation coefficient was computed because the study entailed determining correlations or describing the association between two variables (Oso & Onen, 2008).

3.10.2 Qualitative data analysis

Qualitative data analysis involved both thematic and content analysis, and, was based on how the findings related to the research questions. Content analysis was used to edit qualitative data and reorganize it into meaningful shorter sentences. Thematic analysis was used to organize data into themes and codes were identified (Sekaran, 2003). After data collection, information of same category was assembled together and their similarity with the quantitative data created, after which a report was written. Qualitative data was interpreted by composing explanations or descriptions from the information. The qualitative data was illustrated and substantiated by quotation or descriptions.

3.11 Measurement of Variables

The variables in the questionnaire were measured using a Likert scale. The scale of 1-5 was used to help measure the extent to which research objectives are achieved in the study, according to respondents perception where 1 will represent Strongly disagree, 2 will represent Disagree, 3 will represent Undecided or Not sure, 4 to represent Agree and 5 to represent Strongly agree. The choice of this measurement is that each point on the scale carries a score.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter presents findings of the study which was conducted about institutional factors that affect the quality of roads in Uganda using a case study of Rukungiri Municipality. In the first section, the social background of the respondents is given. In the second section, the empirical analysis of the study findings are analyzed (that is findings on planning, procurement control, supervision and monitoring and quality of roads in Rukungiri municipality) and the last section handles the testing of hypothesis that were set for this study to prove. The response rate in the whole study is explained in table 4.

4.2 Response Rate

This theme handles the response rate of the respondents.

Table 4: Response rate

Respondents	Targeted Sample size	Actual sample size	Percentage
Councilors	46	43	93.4%
Contractors	10	9	90%
Project supervisors/Engineers	3	3	100%
Chairperson contracts committee	1	1	100%
Procurement officer	1	1	100%
Total	61	57	93.4%

Source: Primary data

Table 4 above indicates that out of the 61 respondents that were set for the study for investigation, 57 were able to respond to the study. The remaining 4 of the respondents could not be reached because some of them were away from the study area by the time the study was undertaken and others couldn't attend to the researcher in the specified

time. However, according to Sekaran (2003), 70% of the respondents are enough to represent the sample size set for the study. This means that 93.4% is enough for this study.

4.3 Background of the Respondents

This section handles the background information on the respondents that were used in the study. These characteristics included, gender, age and level of education by the respondents in Rukungiri Municipality.

4.3.1 Gender of the Respondents

To understand the gender of the respondents, the researcher recorded their gender. Below are the results that were recorded in Table 5.

Table 5: Gender of the respondents

Gender	No of respondents.	Percentages
Male	39	68.5
Female	18	31.5
Total	57	100

Source: Primary data

From Table 5, it is indicated that the study was conducted mainly from the male respondents who constituted 68.5%. Females on the other hand, were represented by 31.5% of the respondents. On the other hand, from the interviews conducted, the male respondents taken a highest toll, they constituted 78.5% of the respondents and female took the smaller portion of 21.5%. This directly tells us that no matter the percentage of males and females who attended the study, given the fact that males and females attended to the study, the study was gender sensitive.

4.3.2 Age of the Respondents

To establish the age of the respondents, respondents were asked to state their ages and the results were recorded in Table 6.

Table 6: Age of the respondents

Age (years)	No of respondents	Percentages
20-30	9	15.7
30-40	18	31.5
40-50	26	45.6
50 & above	4	7
Total	57	100

Source: Primary data

From table 6, it was found out that most of the respondents had 40-50 years and these took the highest toll of 45.6%. Those who were in the category of 30-40 years constituted 31.5%, 20-30 years were represented by 15.7% and the last category of 50& above years was represented 7%. On the other hand, from the interviews conducted, most of the respondents were between 40-50 years and these took a percentage of 80%, those who were 50 years and above took 20% of the respondents. The above statistics tell us that the study was conducted mostly in the people who were 30 years and above. These categories of years are associated and susceptible to have enough experience of what is exactly happening as far as the study is concerned.

4.3.3 Level of Education of the Respondents

Respondents were also asked to state their level of education and most of them indicated that they had a bachelor's degree as shown in Table 7.

Table 7: The level of education of the respondents

Age (years)	No of respondents.	Percentages
Masters degree	4	7
Post grad. Diploma	10	17.5
Bachelor's degree	22	38.5
Diploma	17	29.8
Certificate	4	7
Total	57	100

Source: Primary data

Table 7 indicates that most of the respondents had attained a bachelor's degree of education and these constituted 38.5%. Those who had attained a diploma came second with 29.8% of the respondents. 17.5% of the respondents were of post grad. diploma. Those that had a master's degree and a certificate was represented by 7% each. On the other hand, from the interviews conducted, most of the respondents had a university's degree of education and these constituted 63% of the respondents. The remaining portion of 37% had a tertiary level of education. Basing on the above findings, most of the respondents were above a diploma level of education; this means that the findings of the study were based on the people who had enough intellectual ability to tell what is required to the study.

4.4 Institutional factors that affect the quality of roads in Rukungiri Municipality

In this section, the research findings are presented according to the study objectives set for the study. These findings were thus obtained on planning, procurement control and supervision and monitoring and quality of roads in Rukungiri Municipality. In this case therefore, to understand the institutional factors that affect the quality of roads in Rukungiri Municipality, respondents were introduced to different pre-conceived

statements as per each variable to listen to their views and below are the findings that were found on each dimension.

4.4.1 Planning and quality of roads in Rukungiri Municipality

4.4.1.1 Planning

To understand whether planning in Rukungiri Municipality is being practiced, the respondents were introduced different items to have their say. Their responses were computed by making an aggregate of responses given by respondents to the 6-items and 5point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Not sure, 4 = Agree and 5 = Strongly Agree), which sought to measure the prevalence of planning in Rukungiri Municipality which were categorized according to their percentages and means as follows:

Table 8: Descriptive Statistics on planning in Rukungiri Municipality

Items	1	2	3	4	5	Mean
1. The project objectives are explained to all stakeholders before a road is identified.	13%	7.8%	38%	13%	27.6%	3.15
2. All stakeholders are involved in identification of a road to be worked on.	7.8%	22.3%	42%	2.6%	25%	3.65
3. Project supervisors are appointed according to expertise required with adequate skills and knowledge.	15.7%	10.5%	51.3%	10%	12.3%	3.73
4. The Municipal Engineer defines the key activities to be done	5.2%	21%	3.9%	35.5%	26.3%	3.91
5. The Municipal Engineer prepares bills of quantities and specifications	14.4%	6.5%	11.8%	34.2%	30.2%	4.01
6. Cost estimates for a road are prepared before construction starts.	3.9%	5.2%	0%	40.7%	50%	4.18

Source: Primary data

To analyze the findings, for each item, strongly disagreed and disagreed were added together into one category called “*Respondents who opposed the items*” and strongly agreed and agreed were also added into another category called “*Respondents who concurred to the items*”. Thus, three categories of respondents were compared, which

included “*respondents who opposed the items*”, “*Respondents who were not sure about the items*” and “*Respondents who concurred to the items*”. Interpretation was then drawn from the comparisons of the three categories as shown in the following paragraph.

Findings show fewer respondents opposed four items about planning (that is items 1, 4, 5 and 6) compared respondents who concurred with these items or who were not sure about these items. A comparison on these items shows that the percentages of respondents that opposed ranged from 9% to 26.2% while the percentages of respondents that were not sure ranged from 0% to 11.8% and the percentages of respondents that concurred ranged from 40.6% to 90.7%. From these comparisons, it can be seen that the percentages that opposed the items were lower compared to the percentages that concurred while the percentages that were not sure were the smallest. Thus, from this analysis, the following is the interpretation. Findings show that most respondents were of the view that the project objectives were explained to all stakeholders before a road was identified, the Municipal Engineer defined the key activities to be done, the Municipal Engineer prepared bills of quantities and specifications and cost estimates for a road were prepared before construction starts.

On the other hand, it is shown that most respondents were not sure about two items about planning (that is items 2 and 3) compared respondents who opposed and respondents who concurred these items. A comparison on these items shows that the percentages of respondents that opposed ranged from 26.2% to 30.1% while the percentages of respondents that were not sure ranged from 42% to 51.3% and the percentages of respondents that concurred ranged from 22.3% to 27.6%. From these comparisons, it can be seen that the percentages that were not sure were higher compared to the percentages

that opposed and the percentages that concurred. Thus, from this analysis, the following is the interpretation. Findings show that most respondents were not sure whether all stakeholders were involved in identification of a road to be worked on and whether project supervisors were appointed according to expertise required with adequate skills and knowledge.

From the results, the study revealed that the means for most of the items were above 3.5. It was found out that out of the 6-items that were introduced to respondents, 5-item had data mean above 3.5 and only 1-item had a data mean below 3.5. Based on the scale of 1-strongly disagree to 5-strongly agree, any data mean of above 3.5 means that planning was being practiced in Rukungiri Municipality. This thus, statistically means that planning was being done and followed by Rukungiri Municipality.

It was also reported by most of the key informants that the Municipality has endeavored to see that stakeholders are consulted during planning. One of the key informants quoted “*Our policies and agendas rely on continuous consultations with our stake holders at all levels and we endeavor to see that observations are incorporated in our plans and implementation strategies.*”

Quality of roads in Rukungiri Municipality

To establish the quality of roads in Rukungiri Municipality, respondents were introduced different items to have their say. Their responses were computed by making an aggregate of responses given by respondents to the 6-items and 5 point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Not sure, 4 = Agree and 5 = Strongly Agree), which sought to measure the improvement in the quality of roads constructed in Rukungiri Municipality which were categorized according to their percentages and means as follows:

Table 9: Descriptive Statistics on quality of roads in Rukungiri municipality

Items	1	2	3	4	5	Mean
1. Roads are constructed according to specifications.	3.9%	1.3%	61.8%	31.5%	1.3%	3.25
2. Quality assurance strategies are in place and adhered to.	0%	7.8%	10.2%	50%	32.2%	4.34
3. The roads constructed conform to standards	3.9%	3.9%	7.8%	44.7%	39.8%	4.37
4. The roads constructed meet your expectations.	0%	0%	0%	63.1%	36.8%	4.46
5. The roads constructed are reliable	0%	0%	0%	53.1%	46.8%	4.47
6. Other factors like weather, terrain affect the quality of roads constructed in Rukungiri Municipal Council.	1.3%	2.6%	9.2%	43.4%	44.7%	4.63

Source: Primary data

Findings show fewer respondents opposed five items about quality of roads (that is items 2, 3, 4, 5 and 6) compared respondents who concurred with these items or who were not sure about these items. A comparison on these items shows that the percentages of respondents that opposed ranged from 0% to 7.8% while the percentages of respondents that were not sure ranged from 0% to 10.2% and the percentages of respondents that concurred ranged from 82.2% to 99.9%. From these comparisons, it can be seen that the percentages that opposed the items were lower compared to the percentages that concurred while the percentages that were not sure were the smallest. Thus, from this analysis, the following is the interpretation. Findings show that most respondents were of the view that quality assurance strategies were in place and adhered to, the roads constructed conformed to standards, the roads constructed met their expectations, the roads constructed were reliable and other factors like weather, and terrain affected the quality of roads constructed in Rukungiri Municipal Council.

On the other hand, it is shown that most respondents were not sure about one item about quality of roads (that is item 1) compared respondents who opposed and respondents who concurred these items. A comparison on these items shows that the percentages of

respondents that opposed was 5.2% while the percentages of respondents that were not sure was 61.8% and the percentages of respondents that concurred was 32.8%. From these comparisons, it can be seen that the percentages that were not sure were higher compared to the percentages that opposed and the percentages that concurred. Thus, from this analysis, the following is the interpretation. Findings show that most respondents were not sure whether Roads were constructed according to specifications.

From the results, the study revealed that the means for most of the items were above 3.5 this thus, statistically means that the quality of roads constructed in Rukungiri municipality is good. The above findings generally have one voiced message that quality of roads to a higher extent is in place as per the questionnaire responses and this was applauded by key informants in the interviews conducted.

Hypothesis 1: Planning has a positive significant effect on the quality of roads in Rukungiri Municipal Council

In the virtue to understand whether planning affects the quality of roads in Rukungiri Municipal council, a bi-variate analysis was computed between planning and quality of roads as they were reported by the respondents to find out whether there is a correlation between the two. Spearman Correlation Coefficient was used. Below are the results in Table 10.

Table 10: Correlation between planning and quality of roads in Rukungiri Municipality

			Planning	quality of roads
Spearman's rho	Planning	Correlation Coefficient	1.000	.655**
		Sig. (1-tailed)		.007
		N	73	73
	Quality of roads	Correlation Coefficient	.655**	1.000
		Sig. (1-tailed)	.007	.
		N	73	73

Source: Primary data

Table 10 shows that a spearman rho value is ($r = .655$). According to Critical Values of Correlation Coefficient, when using the critical value table, the absolute value of .655 indicates a positive relationship, strong relationship and significant relationship ($.007 < .05$) between planning and quality of roads in Rukungiri Municipality. This implies that planning has positively affected the quality of roads in Rukungiri Municipality. Hence the null hypothesis was accepted and alternative hypothesis was rejected.

Regression analysis was employed to assess the degree to which the planning predicted the quality of roads.

Table 11: Regression analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.073	1.134		-.064	.949
	Planning	.672	.255	.259	2.638	.010
Dependent variable: quality of road						
	R square	.0128a			F-statistics	6.788
	Adjusted R Square	.012			Sig.	0.01

Source: Primary data

Results showed that planning, predicted 12% of the variance in quality of roads in Rukungiri Municipality (Adjusted R Square = .012). The remaining 78% was predicted by other factors outside the study. The regression model was also valid (sig. <.01).

4.4.2 Procurement Control in Rukungiri Municipality

To understand whether procurement control was being done in Rukungiri Municipality, the respondents were introduced to different items to have their say. Their responses were computed by making an aggregate of responses given by respondents to the 11-items and 5point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Not sure, 4 = Agree and 5 = Strongly Agree), which sought to measure the prevalence of procurement control in Rukungiri Municipality which were categorized according to their percentages and means as follows:

Table 12: Descriptive Statistics on procurement control in Rukungiri Municipality

Items	1	2	3	4	5	Mean
1. Bidding documents provide to the bidders with all the information required in order to prepare their bids.	10.5%	13%	31.5%	22.3%	22.3%	3.02
2. Evaluation committee follows the evaluation criteria set in the solicitation documents.	25%	26.3%	22.3%	23.6%	6.5%	3.09
3. Periodic performance appraisal of contractors is conducted to ensure any contract award is based on good performance records.	11.8%	13%	47.3%	5.2%	22.3%	3.14
4. Policies that guide procurement are in place	13%	15.7%	3.9%	39.4%	19.7%	3.54
5. The selection of service providers/ contractors is based on technical capacity	9.2%	10.5%	11.8%	43.4%	25%	3.57
6. Selection criteria and specifications are included in all bidding documents	21%	21%	6.5%	38%	13%	3.70
7. Specifications are made according to the nature of the requirements	6.5%	6.5%	7.8%	50%	28.9%	4.01
8. Criteria for selection of contractors/ service providers are determined prior to solicitation	7.8%	14.4%	9.2%	28.9%	36.8%	4.08
9. Rukungiri Municipal council uses standard documents issued by PPDA	3.9%	3.9%	7.8%	52.6%	31.5%	4.12
10. The increased construction costs are due to design variations and under estimated quantities of work.	2.6%	2.6%	6.5%	53.9%	34.2%	4.14

Source: Primary data

Findings show fewer respondents opposed eight items about procurement control (that is items 1, 4, 5, 6, 7, 8, 9 and 10) compared respondents who concurred with these items or who were not sure about these items. A comparison on these items shows that the percentages of respondents that opposed ranged from 5.2% to 42% while the percentages of respondents that were not sure ranged from 3.9% to 31.5% and the percentages of respondents that concurred ranged from 44.6% to 88.1%. From these comparisons, it can be seen that the percentages that opposed the items were lower compared to the percentages that concurred while the percentages that were not sure were the smallest. Thus, from this analysis, the following is the interpretation. Findings show that most respondents were of the view that bidding documents provided to the bidders with all the information required in order to prepare their bids, selection criteria and specifications were included in all bidding documents, policies that guide procurement were in place, criteria for selection of contractors/ service providers were determined prior to solicitation, the selection of service providers/ contractors was based on technical capacity, specifications were made according to the nature of the requirements, Rukungiri Municipal council used standard documents issued by PPDA and the increased construction costs were due to design variations and under estimated quantities of work.

On the other hand, it is shown that most respondents were not sure about one item about procurement control (that is item 3) compared respondents who opposed and respondents who concurred these items. A comparison on these items shows that the percentages of respondents that opposed was 24.8% while the percentages of respondents that were not sure was 47.3% and the percentages of respondents that concurred was 27.5%. From these comparisons, it can be seen that the percentages that were not sure were higher compared to the percentages that opposed and the percentages that concurred. Thus, from

this analysis, the following is the interpretation. Findings show that most respondents were not sure whether periodic performance appraisal of contractors was conducted to ensure any contract award is based on good performance records.

This thus generally, statistically means that procurement control was being practiced in Rukungiri Municipality. It can thus be reached that since most of the respondents believed that the Municipality engaged in procurement control, this means that it is often practiced. This agreed with the results from most respondents from the interview that was conducted. One of the people interviewed said *“We work under the new PPDA Act 2013 which clearly guides our works in the Municipality, Our policies and guidelines are rooted in that act and we have endeavored to follow it.”*

Hypothesis 2: Procurement controls have a positive significant effect on the quality of roads in Rukungiri Municipal Council.

In the virtue to understand whether procurement control affects the quality of roads in Rukungiri Municipal council, a bi-variate analysis was computed between procurement control and quality of roads as they were reported by the respondents to find out whether there is a correlation between the two. The results are in Table 13.

Table 13: Correlation between procurement control and quality of roads in Rukungiri Municipality

			Procurement control	Quality of roads
Spearman's rho	Procurement control	Correlation Coefficient	1.000	.423**
		Sig. (1-tailed)		.013
		N	73	73
	Quality of roads	Correlation Coefficient	.423**	1.000
		Sig. (1-tailed)	.013	
		N	73	73

Source: Primary data

Table 13 shows that a spearman rho value is ($r = .423$). According to Critical Values of Correlation Coefficient, when using the critical value table, the absolute value of .423 indicates a positive relationship, strong relationship and significant relationship ($.013 < .05$) between procurement control and quality of roads in Rukungiri Municipality. This implies that procurement control has positively affected quality of roads in Rukungiri Municipality. Hence, the null hypothesis was accepted and alternative hypothesis was rejected.

Regression analysis was employed to assess the degree to which the procurement control predicted the quality of roads.

Table 14: Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.181	.347		3.401	.001
	Procurement control	.279	.086	.315	3.263	.002
Dependent variable: quality of roads						
	R square	.017a			F-statistics	10.650
	Adjusted R Square	.016			Sig.	0.01

Source: Primary data

Results showed that procurement control predicted 16% of the variance in quality of roads (Adjusted R Square = .016). The remaining 84% was predicted by other factors outside the study. The regression model was also valid (sig. <.01)

4.4.3 Supervision and monitoring in Rukungiri Municipality

To understand whether supervision and monitoring is being practiced in Rukungiri municipality, the respondents were introduced different items to have their say. Their responses were computed by making an aggregate of responses given by respondents to the 10-items and 5 point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Not sure, 4 = Agree and 5 = Strongly Agree), which sought to measure the prevalence of supervision and monitoring which were categorized according to their percentages and means as follows.

Table 15: Descriptive Statistics on practicing of supervision and monitoring in Rukungiri Municipality

Items	1	2	3	4	5	Mean
1. All road works are finished on time and within estimated cost.	0%	3.9%	61.8%	9.2%	25%	3.09
2. There are established disciplinary procedures that deal with non-conformance or unsatisfactory performance of contractor/ supervisor.	3.9%	2.6%	6.5%	53.9%	34.2%	4.11
3. Materials used are checked for conformity to standards.	2.6%	3.9%	7.8%	59%	26.3%	4.21
4. Supervision and monitoring of road works contributes to quality performance.	1.3%	1.3%	3.9%	61.8%	31.5%	4.25
5. There are regular progress site meetings.	0%	0%	7.8%	50%	42.2%	4.34
6. Progress reports are regularly produced.	3.9%	3.9%	7.8%	39.4%	44.7%	4.37
7. Issues raised in progress reports are followed by management.	0%	0%	0%	63.1%	36.8%	4.47
8. Monitoring and supervision involves all stakeholders.	1.3%	2.6%	9.2%	43.4%	44.7%	4.63
9. The unsatisfactory quality of roads is due to laxity in supervision and monitoring.	0%	3.9%	2.0%	57.1%	36.8%	4.69
10. There is adequate supervision of the roads constructed.	1.3%	2.6%	9.2%	33.4%	54.7%	4.73

Source: Primary data

Findings show fewer respondents opposed nine items about supervision and monitoring (that is items 2, 3, 4, 5, 6, 7, 8, 9 and 10) compared respondents who concurred with these items or who were not sure about these items. A comparison on these items shows that the percentages of respondents that opposed ranged from 0% to 7.8% while the percentages of respondents that were not sure ranged from 0% to 9.2% and the percentages of respondents that concurred ranged from 84.1% to 99.9%. From these comparisons, it can be seen that the percentages that opposed the items were lower compared to the percentages that concurred while the percentages that were not sure were the smallest. Thus, from this analysis, the following is the interpretation. Findings show that most respondents were of the view that there were established disciplinary procedures that dealt with non-conformance or unsatisfactory performance of contractor/ supervisor, materials used were checked for conformity to standards, supervision and monitoring of road works contributed to quality performance, there were regular progress

site meetings, progress reports were regularly produced, issues raised in progress reports were followed by management, monitoring and supervision involved all stakeholders, the unsatisfactory quality of roads was due to laxity in supervision and monitoring and there was adequate supervision of the roads constructed.

On the other hand, it is shown that most respondents were not sure about one item about supervision and monitoring (that is item 1) compared respondents who opposed and respondents who concurred these items. A comparison on these items shows that the percentages of respondents that opposed was 3.9% while the percentages of respondents that were not sure was 61.8% and the percentages of respondents that concurred was 34.2%. From these comparisons, it can be seen that the percentages that were not sure were higher compared to the percentages that opposed and the percentages that concurred. Thus, from this analysis, the following is the interpretation. Findings show that most respondents were not sure whether all road works were finished on time and within estimated cost.

This thus, statistically means that supervision and monitoring is done on the roads constructed in Rukungiri municipality. Therefore, it can be concluded that supervision and monitoring of road construction is often done in Rukungiri Municipality and this is because most of the responses that were given by the respondents agreed on that. This was also evidenced by the monitoring reports from project supervisors that were on file during document review. One of the key informants reported that *‘we undertake through effort to see that supervision that monitoring of road projects are done by qualified and appointed staff members and ensure that supervision/monitoring reports are produced. Regular meetings are conducted to discuss the progress of roads constructed’*

Hypothesis 3: Supervision and monitoring have a positive significant effect on the quality roads in Rukungiri Municipal Council

Lastly, to understand the impact of supervision and monitoring on quality of roads, a bi-variate analysis was computed between supervision and monitoring and quality of roads in Rukungiri Municipal Council as they were reported by the respondents to find out whether there is a correlation between the two. The results are in Table 16.

Table 16: Correlation between supervision and monitoring and quality of roads in Rukungiri municipality

			supervision and monitoring	quality of roads
Spearman's rho	supervision and monitoring	Correlation Coefficient	1.000	.657**
		Sig. (1-tailed)		.001
		N	73	73
	quality of roads	Correlation Coefficient	.657**	1
		Sig. (1-tailed)	.001	
		N	73	73

** . Correlation is significant at the 0.05 level (1-tailed).

Source: Primary data

Table 16 above shows that a spearman rho value is ($r = .657$). According to Critical Values of Correlation Coefficient, when using the critical value table, the absolute value of .657 indicates a positive relationship, strong relationship and significant relationship ($.001 < .05$) between supervision and monitoring and quality of roads in Rukungiri Municipality. This implies that supervision and monitoring positively affected quality of roads in Rukungiri Municipality. Hence, the null hypothesis was accepted and alternative hypothesis was rejected.

Regression analysis was employed to assess the degree to which the procurement control predicted the quality of roads.

Table 17: Regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.102	.170		6.467	.000
Supervision and monitoring	.306	.054	.500	5.693	.000
Dependent variable: quality of roads					
R square	.250a			F-statistics	33.415
Adjusted R Square	.241			Sig.	0.01

Source: Primary data

Results showed that supervision and monitoring, predicted 24.1% of the variance in quality of roads (Adjusted R Square = .241). The remaining 73.9% was predicted by other factors outside the study. The regression model was valid (sig. <.01)

4.4.4 Summary of findings

Results showed that planning, procurement control and supervision and monitoring predicted 52.1% of the variance in quality of roads in Rukungiri Municipality. The remaining 47.9% was predicted by other factors outside the study. It was also noted that supervision and monitoring (Beta = .500, sig. < .01) is a better predictor of quality of roads more than planning (Beta = .259, sig. <.01) and procurement control (Beta = .315, sig. <.01). This implies that Rukungiri Municipality should ensure that supervision and monitoring is strengthened if they are to realize quality roads in Municipality. The regression model was also valid (sig. <.01).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summaries of the findings, discussions of objectives set for the study, conclusions derived from the findings, and the recommendations that will help in improving the quality of roads in Uganda and particularly in Rukungiri Municipality performance based on the findings of the study. Limitations, contributions of the study and areas of further study are also suggested.

5.2 Summary

The general purpose of the study was to investigate the institutional factors that affect the quality of roads in Uganda using a case study of Rukungiri Municipality and the specific objectives were;- to examine the impact of planning on the quality of roads in Rukungiri Municipal Council, to find out the relationship between procurement control and quality of roads in Rukungiri Municipal Council and to examine how Supervision and Monitoring affect the quality of roads in Rukungiri Municipal Council. The study established a number of findings, the summary of the findings are outlined here under;

5.2.1 Planning and quality of roads in Rukungiri Municipal Council

The hypothesis that planning has a positive significant effect on the quality of roads in Rukungiri Municipal Council was tested and accepted. This was because of the favorable results from Pearson correlations which indicated that the Pearson Correlation Coefficient value is 0.655, in respect to the hypothesis and statistically significant at .007 which is less than 0.05 (level of significance). This implied that, there is a statistically significant relationship among the means.

5.2.2 Procurement control and quality of roads in Rukungiri Municipal Council

Secondly, the hypothesis that procurement controls has a positive significant effect on the quality of roads in Rukungiri Municipal Council was tested and accepted. This was because of the favorable results from Pearson correlations which indicated that the Pearson Correlation Coefficient value is 0.423, in respect to the hypothesis and statistically significant at .013 which is less than 0.05 (level of significance). This implied that, there is a statistically significant relationship among the means.

5.2.3 Supervision and Monitoring and quality of roads in Rukungiri Municipal Council

Lastly, the hypothesis that supervision and monitoring have a positive significant effect on the quality roads in Rukungiri Municipal Council was also tested and the null hypothesis was rejected. This was too based on favorable results from Pearson correlations which indicated that the Pearson Correlation Coefficient value is 0.657, in respect to the hypothesis and statistically significant at .001 which is less than 0.05 (level of significance). This implied that, there is a statistically significant relationship among the means.

5.3 Discussion of the Study Findings

The discussion of the study findings has been made as per the study objectives below.

5.3.1 Planning and quality of roads in Rukungiri Municipal Council

On the impact of planning on the quality of roads in Rukungiri Municipal Council, it was established that planning positively affects quality of roads in Rukungiri Municipality.

This was because of the favorable results from Pearson correlations which indicated that the Pearson Correlation Coefficient value is 0.655, irrespective of the hypothesis and statistically significant at .007 which is less than 0.05 (level of significance). This position was clearly supported by key informants who indicated that planning is among their priority activities that must be done at every financial year and part of its strategic objectives in the Municipality and this had contributed to the quality of roads. This was also congruent with what documents like the Rukungiri Municipality Strategic plan 2010-2015, Rukungiri Municipality Budget 2013/2014 indicated. This is congruent with earlier literature review which had confirmed that quality of roads constructed depends so much on early institutional planning that involves the views of all stakeholders. Mochal (2003 as cited in Kaliba, 2012) asserts that lack of or inadequate planning is one of the major causes of poor performance of projects.

It was further established that involving stakeholders in identification of a road to be worked on positively affects the quality of roads constructed in Rukungiri Municipality. This was in congruence with Mochal (2003 as cited in Kaliba, 2012) who put it that if the major characteristics of the project are not properly defined and agreed upfront, it is likely to have differences in expectations among stakeholders as the project progresses and thereby unjustly assess the project as failure by those whose expectations are not met. A project is acknowledged as successful when it is completed on time, within the budget and in accordance to stakeholders' satisfaction (Tikim & Akintoye, 2002) as cited by Basheka and Tumutegyeze (2011).

It was further established that the expertise and skills of project supervisors also positively affect the quality of roads in Rukungiri Municipal Council. This agrees with

the earlier literature which had confirmed that the level of success in carrying out construction project depends on the quality of management, financial, technical and organization performance of the respective parties.

From the findings, it was noted that defining the key project activities affects the quality of roads. This was in agreement with the literature that had urged that a good construction plan is the basis for developing the budget and the schedule for work; this is actually true because it enables the establishment of activities, roles and responsibilities. However, on the other hand, Gray and Larson (2008) do not agree with the above position because their views are many plans have been drafted in bigger projects and they end up unsuccessful and of poor quality. This is because plans are not implemented as they are drafted.

5.3.2 Procurement control and quality of roads in Rukungiri Municipal Council

On the second objective, it was established that procurement control had a positive effect on the quality of roads in Rukungiri municipality. This was because of the favorable results from Pearson correlations which indicated that the Pearson Correlation Coefficient value is 0.423, irrespective of the hypothesis and statistically significant at .013 which is less than 0.05 (level of significance). This position was clearly supported by key informants who indicated that procurement controls are in place since many times, procurement officials are supposed to pass through an established format of selecting contractors and bidding is part of the whole activity before awarding a contract as prescribed in PPDA act 2013. This was also confirmed by the documents reviewed like the PPDA act 2013 used by the Municipality, procurement policies in the Municipality and Rukungiri Municipality Evaluation Report (2013). This was however contrary to

what earlier researchers had indicated where they pointed out that procurement controls in local government organizations are indulged in a number of corruptions activities which dilute the process (Basheka, 2008).

It was established also that periodic performance appraisal of contractors to ensure any contract is awarded basing on good performance records positively affects the quality of roads. This was supported by Nantege (2011) who ascertained that poor quality of roads is also linked to poor contract administration and monitoring in which poor client-contractor relationship, lack of site meetings, delays in decision making and payments result in delays and poor quality of roads/projects.

According to Stonner (2002), Procurement control ensures that the project performance is on course. Yes, I agree to this because without control planning means nothing on the success of a project. Procurement control like other controls is a key area of risk minimization for all the institutions. Despite the organization having policies and procedures for their operation, they also need to put in place controls to mitigate any risks. Procurement is inherently risky given the fact that it involves movement of company resources; temptation to apply resources for personal interest may be high (Nantege, 2011).

5.3.3 Supervision and monitoring and quality of roads in Rukungiri Municipal Council

On the effect of supervision and monitoring on the quality of roads in Rukungiri Municipal Council, it was established that supervision and monitoring positively affects the quality of roads in Rukungiri Municipality. This was because of the favorable results

from Pearson correlations which indicated that the Pearson Correlation Coefficient value is 0.657, irrespective of the hypothesis and statistically significant at .001 which is less than 0.05 (level of significance).

Involving all stakeholders in supervision and monitoring of roads has an effect on the quality of roads constructed. This position was clearly supported by key informants who indicated that supervision and monitoring of roads constructed in the area was part of the administrative team and political activities they had to undertake plus the technical reports that must be done and passed to the council. This position is also supported by the Rukungiri Municipality Evaluation Report (2013) and Budget reports. This was in congruence with what earlier literature review had indicated earlier. For instance, Reports from Local governments (districts) shows that the frequency of monitoring of works is very important for quality of roads. Martin and Miller (2006) argued that contracts needed to be checked through formal measures such as regular inspections and observations.

It was established that regular progress reporting as another aspect of control positively affects the quality of roads in Rukungiri Municipality. This was in congruent with the literature where Martin and Miller (2006) contend that reports provide a full account of challenges encountered on projects and progress. By reporting progress, the client is able to determine whether activities are on track or not. However, Basheka (2008) takes a notch to the monitoring saying that sometimes the progress and evaluation reports passed are not field based but rather influenced on hearsay.

5.4 Conclusions

5.4.1 Planning and quality of roads in Rukungiri Municipal Council

It was found out that planning positively affect the quality of roads in Rukungiri Municipality. This thus means that planning has positively affected the quality of roads in Rukungiri Municipality as it was hypothesized. Therefore, this implies that there is a need for Rukungiri Municipality to uphold all its planning activities required in beginning the process of a road construction because they have been indicated to improve the quality of roads in Rukungiri Municipality.

5.4.2 Procurement control and quality of roads in Rukungiri Municipal Council

It was found out that procurement control positively affect the quality of roads in Rukungiri Municipality. It was hypothesized that procurement controls positively affect the quality of roads constructed in Rukungiri Municipality and this was found true from the study, therefore, this implies that there is a need for Rukungiri Municipality to undertake procurement control as part of their immediate priorities if roads constructed in the area are to be of higher quality.

5.4.3 Supervision and monitoring and quality of roads in Rukungiri Municipal Council

It was found out that supervision and monitoring of road projects positively affect the quality of roads in Rukungiri Municipality as it was originally hypothesized. This thus means that supervision and monitoring have positively affected the quality of roads in Rukungiri Municipality. Therefore, this implies that there is a need for Rukungiri Municipality to continuously sustain and uphold its supervision and monitoring activities

as they are very important in improving the quality of roads constructed in the Municipality.

From the summary findings above, it can be concluded that, institutional factors that is planning, procurement control and supervision and monitoring positively affect the quality of roads in Rukungiri Municipality since all dimensions put forward to respondents were accepted.

5.5 Recommendations

In light of the above conclusions, below are the suggested recommendations as each study objective.

5.5.1 Planning and quality of roads in Rukungiri Municipal Council

There is a need for the Rukungiri Municipality to involve all kind of stakeholders in the planning process of road construction because despite the fact that most of the respondents believed that planning was being done and stakeholder involved, but it appeared that some of the respondents were in disagreement with such assertion. Therefore, it is important to see that stakeholders are involved from stage one of needs identification to decision making and budgeting and project execution.

There is a need for government of Uganda to critically assess whether Municipalities undertake planning of activities as prescribed by the local government Act, 2005. This is because, despite the fact that planning is done but it was reported to have some loopholes which are likely to affect the implementation of road projects and hence the quality.

Policy makers can also utilize the above findings to see that they make a follow up on the policies in place as regards municipality strategic planning and management and if there is any outstanding loophole, it can be fixed by revising some of the policies and regulations that govern municipality work.

5.5.2 Procurement control and quality of roads in Rukungiri Municipal Council

There is a need for Rukungiri Municipality to closely watch the process of supplier selection and contractors to see that they have a good profile. This will automatically lead to the quality of roads being constructed in the Municipality

There is a need for the government of Uganda to make a close follow up on procurement done by Municipalities to clearly understand whether they are following the PPDA act 2013. This is because, it was evident in the study that some procurement officers were corrupt and this directly affects the quality of roads constructed.

5.5.3 Supervision and monitoring and quality of roads in Rukungiri Municipal Council

There is a need for Rukungiri Municipality to clearly look into the project progress reports because these reports were reported not to be field based as administrators and councilors usually have enough time to make a close follow up but rather just sit back and wait for technical reports. This affects the quality of roads constructed in the Municipality.

There is a need still for policy makers to look into technical, evaluation and audit reports supplied to the government. These reports sometimes point out important issues that can

be used to build on to clean the administration and implementation teams of road projects at the Municipality level.

5.6 Limitations of the Study

The study registered a number of limitations and these majorly included;

Some respondents deliberately failed to answer the questionnaire. This gave the researcher hard time but she had to resource and replaced such people with other people in the target population.

Some respondents were biased since the researcher was a staff directly involved in road construction so they felt that their response may affect the staff on her job. This was overcome by presenting the introduction letter from UMI so they later understood the purpose of the research.

The research was done in the season when the roads had been worked on and were in good condition, their responses were based on that particular time and condition of the roads. The respondents were advised to give a general view but to concentrate on a specific time.

In spite of all these challenges however, the researcher did everything she could to undertake it successfully.

5.7 Contributions of the Study

The study uncovered some interesting facts. Much as planning was conceptualized as having much significant effect on the quality of roads in Rukungiri Municipality, the

study found that supervision and monitoring have more significant contribution on the quality of roads in Rukungiri Municipal Council . It was found out that supervision and monitoring ensures that what was planned is actually achieved; it also helps to ensure that the set standards are met.

5.8 Areas Recommended for Further Study

Wholesomely the study tried to meet and achieve the set objectives as shown in the write-up, however, in the process the researcher has observed certain areas that require further research. These include:

The study was limited to two variables; institutional factors and quality of roads. There is therefore a need for further study to take into consideration other variables that may be affecting quality of roads in Rukungiri Municipality because it may not only be institutional factors but also other variables like management styles, availability of funds.

The study was also limited to few factors and indicators at institutional level. There is a need for future research to replicate the study topic while considering other dimensions of institutional factors and other indicators of quality of roads because it is likely that respondents in Rukungiri Municipality fair differently against such dimensions.

This study was limited to Rukungiri Municipality. This makes the study findings limited to Rukungiri Municipality and not relevant to other Municipalities in Uganda. Therefore, there is a need for a further study to be replicated in other government Municipalities, departments and ministries to ascertain the similarity and differences in the findings.

5.9 Ethical Considerations

The ethical problem in this study is the informed consent of the respondents. To ensure this, the researcher provided the respondents with the information on the purpose of the research, the benefits of the research to the participants and the extent of privacy and confidentiality.

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APPENDICES

Appendix I: Questionnaire for All Respondents

Dear respondents I called Kekijjo Merynah, a student at Uganda Management Institute carrying out research on the Institutional factors that affect the quality of Roads in Uganda, a case study of Rukungiri Municipality. I request you to fill my questionnaire using guidelines given; your responses will be used for study purposes only and will be treated with utmost confidentiality.

BACKGROUND INFORMATION

(1) Gender (please tick)

(i) Male

(ii) Female

(2) Age bracket

(i) 20-30 years

(ii) 30-40 years

(iii) 40-50 years

(iv) 50 and above years

(3) What is your level of education?

(i) PHD

(ii) Masters degree

(iii) Bachelors Degree

(iv) Diploma

(v) Others

(B) 1 will be represent strongly disagree; 2 Disagree; 3 Not sure; 4 Agree; 5 strongly agree

No	Question	SD	DA	NS	A	SA
	Planning					
1	The project objectives are explained to all stakeholders before a road is identified.					
2	All stakeholders are involved in identification of a road to be worked on.					

3	Cost estimates for a road are prepared before construction starts.					
4	The Municipal Engineer defines the key activities to be done					
5	The Municipal Engineer prepares bills of quantities and specifications					
6	Project supervisors are appointed according to expertise required with adequate skills and knowledge.					
	Procurement Controls					
7	Criteria for selection of contractors/ service providers are determined prior to solicitation.					
8	Policies that guide procurement are in place					
9	The selection of service providers/ contractors is based on technical capacity.					
10	Selection criteria and specifications are included in all bidding documents.					
11	Specifications are made according to the nature of the requirements.					
13	Rukungiri Municipal council uses standard documents issued by PPDA					
14	Bidding documents provide to the bidders with all the information required in order to prepare their bids.					
15	The increased construction costs are due to design variations and under estimated quantities of work.					
16	Evaluation committee follows the evaluation criteria set in the solicitation documents.					
17	Periodic performance appraisal of contractors is conducted to ensure any contract award is based on good performance records.					
	Supervision and Monitoring.					
18	There is adequate supervision of the roads constructed.					
19	Materials used are checked for conformity to standards.					
20	All road works are finished on time and within estimated cost.					
21	Supervision and monitoring of road works contributes to quality performance.					
22	There are regular progress site meetings.					
23	Progress reports are regularly produced.					
24	Issues raised in progress reports are followed by management.					
25	Monitoring and supervision involves all stakeholders.					
26	The unsatisfactory quality of roads is due to laxity in supervision and monitoring.					
27	There are established disciplinary procedures that deal with non-conformance or unsatisfactory performance of contractor/ supervisor.					

	Quality of roads					
28	The roads constructed are reliable					
29	The roads constructed conform to standards					
30	The roads constructed meet your expectations.					
31	Roads are constructed according to specifications.					
32	Other factors like weather, terrain affect the quality of roads constructed in Rukungiri Municipal Council.					
33	Quality assurance strategies are in place and adhered to.					

Appendix II: Interview Guide for Key Informants

Dear respondents, I am a student at Uganda Management Institute undertaking research on institutional factors that affect the quality of Roads in Rukungiri Municipality.

I kindly request you to give me your time and answer the following questions according to your own perception.

(a) Planning

1. Who prepares the selection criteria of suppliers/contractors/ service providers and when is it prepared?
2. Who prepares the specifications and bidding documents?
3. Who are involved in the identification of projects to be implemented?
4. What quality mechanism is in place for road construction projects?

(b) Procurement Control.

1. Are detailed specifications of the required goods/services/works and required level of performance drawn up based on the project objectives?
2. What happens when the bidding documents lack some critical information for bidders to prepare their bids?
3. What are the methods used to evaluate works, supplies and services?
4. Are there cases when the best evaluated bidder is not awarded the contract?

(b) Supervision and Monitoring

1. Who are involved in contract administration and monitoring?
2. Are road projects always completed within planned time and cost? And if no what causes that variation?
3. How are materials tested?

4. Do you know of any other factors that affect the quality of roads constructed in Rukungiri Municipal Council?
5. Identify any other factor you think can affect the quality of roads in Rukungiri Municipality.

THANK YOU FOR YOUR PARTICIPATION

Appendix III: Document Review Checklist

The following documents will be reviewed to support the literature obtained from the respondents;-

- Bidding documents; To check the specifications, instructions to bidders if they give all the required information to enable the bidders prepare their bids, the date and place of submission and if it includes the evaluation criteria.
- Evaluation Reports;-To check if the evaluation was according to the evaluation criteria put in the bidding document, to check if the best evaluation bidder was considered for the tender, to check cases when the best evaluated bidder is not considered for the job.
- Project supervisor`s activity reports; to check the quality of the report, check if the recommendations of the project supervisor are taken into account ,check the conformity of the progress with the specifications/terms of reference.