FACTORS INFLUENCING PERFORMANCE OF REPAIRS AND MAINTENANCE PROJECTS.A CASE OF KENYA POWER COMPANY MERU COUNTY KENYA

BY

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DECLARATION

I declare that this Research project is my original work and has not been submitted for a degree in any other university or college for examination or academic purposes.

Signature: é é é é é é é é é é é é é . Date: é é é é é é é é é é é é é é

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This research project has been submitted for examination with my approval as the University Supervisor.

Signedé é é é é é é é é é é é é é Date é é é é é é é é é é é é é

Amos k. gitonga

DEDICATION

This work is dedicated to my loving parents especially my beloved family for their moral support during the period of study for this Masterôs Degree.

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ABBREVIATIONS AND ACRONYMS

AMREF: African Medical and Research Foundation

GHG: Greenhouse Gases

GOK: Government of Kenya

IDA: International Development Association

KPLC: Kenya Power Company

MW: Megawatt

O&M: Observations and Measurements

PDU: Power Distribution Unit

PMBOK: Project Management Body of Knowledge

PMI: Presidential Delivery Unit

PPP: Public-Private partnerships

RBV: Resource Based View

SOPs: Standard Operating Practices

TMT: Technology, Media and Telecom

UK: United Kingdom

UNAIDS: United Nations Programme on HIV/AIDS

UNDP: United Nations Development Programme

UNEP: United Nations Environment Programme

US: United States

ABSTRACT

Despite the importance and emphasis on projects, the end results for most projects have not been exciting with majority of projects across different countries, industries and sectors registering poor performance. Projects in power utilities such as KPLC suffer from failure to achieve optimum performance due to decisions made by its personnel while undertaking projects attributes the source of the problems to the following-overconfidence, faulty analysis and processes, biases and assumptions. The purpose of the study was to establish the factors influencing performance of repairs and maintenance projects in Kenya Power Company Meru County. The study was guided by the following objectives; to examine how community participation, financial availability, availability of materials and management support. The study was grounded on the empowerment theory, public participation theory, resource base view theory and strategic leadership theory. The study adopted a descriptive research design. The population under consideration which was the unit of analysis comprises of management staff in Kenya Power Company, Contractors and the residents in Meru County. A sample population of 121 was arrived at by calculating the target population of 177 with a 95% confidence level and an error of 0.05 using the below formula taken from Kothari (2004). The study selected the respondents using stratified proportionate random sampling technique. Primary data was obtained using self-administered questionnaires. The questionnaires were self- administered through drop and pick later method. Data was analyzed using Statistical Package for Social Sciences (SPSS Version 24.0). After data cleaning, which entailed checking for errors in entry, descriptive statistics such as frequencies, percentages, mean score and standard deviation was estimated for all the quantitative variables and information presented inform of tables. Inferential data analysis was done using multiple regression analysis. In testing the significance of the model, the coefficient of determination (R^2) was used to measure the extent to which the variation in performance of repair and maintenance projects is explained by the variations of the factors. The study found that community participation, financial availability, availability of materials and management support significantly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. The study concluded that management support had the greatest effect on performance of repair and maintenance projects in in Kenya Power Company Meru County followed by availability of materials, then community participation while financial availability had the least effect on the performance of repair and maintenance projects in Kenya Power Company Meru County.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Globally, there has been a significant increase in the number of project activities Despite projects having different characteristics, all projects are fundamentally similar and hence can be governed and managed in the same way. With the objective of enhancing project performance, the PMI has a Project Management Body of Knowledge (PMBOK) guide which documents processes, knowledge areas and best practices applicable in most projects. In the current PMBOK, five basic process groups and ten knowledge areas are documented with issues related to two of the areas namely time and cost management being the subject of this study (PMI, 2013).

Maintenance is defined as the combination of all technical and associated administrative actions intended to retain an item in, or restore it to, a state in which it can perform its required function by British standard 3811. It includes inspection, testing, servicing, repair and reclamation. Sauer et al., (2009) postulates that, an increase in the proportion of cost over-run with increased repairs and maintenance project size. One of the key issues in project management is on what needs to be done to improve repairs and maintenance and performance of a project (Love, et. al., 2011). However, as noted by several researchers, there is no consensus on project performance criteria that can be used across various projects (Zhang & Fan, 2013; Khan, et al., 2014). This is partly due to the fact that different stakeholders view repairs and maintenance project performance differently and a project that seem successful to the client may be unsuccessful venture for contractors or end users (Toor & Ogunlana,2010).

In addition, Zhang and Fan (2013) developed a model for evaluation of repairs and maintenance project performance with model parameters being meeting projectôs overall performance (time, cost and quality); meeting ownerôs requirements; meeting projectôs multiple goals (health and safety, risk management, claim management and absence of conflict) and stakeholdersô satisfaction (owner, project team, end-user, suppliers and another stakeholder satisfaction).

Further, repairs and maintenance project performance can be assessed through time, cost, quality, satisfaction and business value parameters. Although a number of models exist to evaluate project performance, the conventional measures of time and cost, which were used

in this study, dominate performance measurement in the construction industry due to their objectivity. Some of the parameters such as absence of conflict, end-user satisfaction, risk management that have been proposed in other models require passage of time between project completion and evaluation of project performance. Based on time and cost evaluation criteria, repairs and maintenance projects may experience delays and cost overruns. Project delay as the time over-run either beyond completion date specified in the contract or beyond the date that the parties agreed upon for the delivery of a project. On the other hand, Kaliba et al. (2009) define cost overrun/escalation as the increase in the amount of money required to complete a project over and above the original budgeted amount. Thus, within this project, project performance was based on time performance and cost performance.

1.1.1 Global Perspective

In the developed countries, maintenance has been embraced where it encompasses all works carried out on a plant or a facility with the view to rectifying a defect or failure in its functioning or performance; preventing failure in its functioning and/or improving the state of the facility so as to sustain its utilization and value. In a project, maintenance acts as a support for the process, where the production input is converted into specified production output. Industrial maintenance comes as a secondary process, which has to contribute for obtaining the objectives of production. Maintenance must be able to retain or restore the systems for carrying out a perfect production function (Gits, 2010).

A number of surveys conducted in industries throughout the United States have found that 70% of equipment failures are self-induced. Maintenance personnel who are not following what is termed as best maintenance repair practices substantially affect these failures. Between 30% and 50% of the self-induced failures are as a result of maintenance personnel not knowing the basics of maintenance. Maintenance personnel, who, although skilled, choose not to follow best maintenance repair practices, potentially cause another 20% to 30% of those failures (Gulati & Smith, 2009).

The commitment in repair and maintenance is very significant in any successful project performance. There are several examples when lack of necessary and correct maintenance activities has resulted in disasters and accidents with extensive losses, like; Bhopal, Piper Alpha, space shuttle Columbia, power outages in New York, UK and Italy, during 2003. From asset management and changes in legal environment, the asset managers are likely to be charged with ñcorporate killingò due to changes in the legal environment for the future

actions or omissions of the maintenance efforts. BP refinery in US paid a US $21m fine and spent US $1b for repairs for an explosion at Texas City refinery, killing 15 and injured about 500 persons, making it the deadliest refinery accident. Prevention of such an accident could have enhanced BPôs image besides saving a billion US $ (Lees, 2012).

The development approach World Bank (2012) identifies capacity building as a major challenge to economic growth. According to AMREF (2010), there is much attention on Management; procurement processes, disbursement of resources and financial use but little attention on capacity development. Karuoro (2010) presumes that good development depends on much more than good financial management. It is therefore apparent that, there is a need to improve the quality of the people too. Brock and Pettit (2012) adds that training is a key participatory approach that knowledge can be transferred from the facilitators to the beneficiaries hence enhancing beneficiariesô skills and open more avenues for other strategies.

1.1.2 Regional Perspective

In order to improve project performance in African countries it has been argued that six key themes are fundamental to improved program management performance. The six themes are policy, governance, stakeholders, definition, capacity and process (Eggington & Fitz-Gerald, 2012). The way maintenance is performed will influence the availability of production facilities, the rate of production, quality of end product and cost of production, as well as the safety of the operation. These factors in turn will determine the profitability of the enterprise. Furthermore, the themes have a strong interdependency throughout the program and project life cycle. Under the process theme, although risk management is sometimes carried out in the preparatory stages of a project, the analysis often does not encompass the interests of all groups. For example, one project has to be scaled down because the received bids exceeded initial estimates due to the rising political tensions and the impact was not factored in the project risk management plan.

In Tanzania, despite the community participation in projects, participation of local people is very low as the number of people participate in development is limited. A number of factors that limit effective community participation which include poverty, illiteracy and ignorance, political interferences, poor performance of the pupils, mistrust and misuse of money and lack of transparency. There is a need to improve the number of local people to participate in development and insist on the importance of education and awareness of the community on

their importance to participate in development. In South Africa it is a constitutional right for stakeholder involvement in development projects. According to Naidoo (2010), community participation in South Africa focuses on empowering the beneficiaries, bringing on board the popular, enhancing transparency and accountability. The author argues that stakeholder involvement is very vital and important in promoting development and democracy.

1.1.3 Local Perspective

Kenya is currently undertaking major investments in various public projects and programs under the Vision 2030 (NECK, 2007). It is underpinned on the social, economic and political pillars. This is equivalent to infrastructure-roads, airports and rail among others and social infrastructure-political dispensation and public governance structures of the nation. The goals of the pillars are Economic-adding value to the nationôs product and services, Social-investing in the people of Kenya and Political-moving to the future as a nation. The government in its development of the Vision 2030 development plan identified and acknowledged the possible risks that could hinder the successful implementation of the program. The possible project risks include macroeconomic instability, instability in governance structures, increased economic and wealth disparities, poor infrastructure by way of transportation systems, energy supplies and lack of human resource development, lack of land reforms, insecurity and lack of public sector reforms, insufficient public funding and thus need to raise funds using Public-Private partnerships (PPP) (Cornia & Vos, 2014).

The level of project management maturity is still low with similar constraints of qualified project managers, witnessed in Nigeria, been experienced in Kenya. President Uhuru Kenyatta created the Presidential Delivery Unit (PDU) in April 2015 to oversee the delivery of the big-ticket projects. This was a clear effort by the President to stamp his imprint on the government and ensure major public projects espoused in the Vision 2030 are implemented. The unit would have the mandate of tracking and reporting on the progress of the implementation of key government projects.

According to Kariuki (2009), KenGen has in place good maintenance practices. When they were benchmarked with world best practice, it was apparent that breakdown maintenances works were extremely high but surprisingly the plants availability recording very good results. There was a weak relationship between O&M cost, number of breakdowns and the plant availabilities. KenGen has good maintenance practices, however, high breakdown

maintenances work recorded is as a result of poor maintenance works and contributes to a great extent the 13% revenue loss incurred by KenGen.

1.1.4 Kenya Power Company

The Kenya Power is a national electric utility company in Kenya. Kenya Power transmits, distributes and retails electricity throughout Kenya. Kenya Power is a public company and is listed at the Nairobi Stock Exchange (NSE). The Kenya Government is a majority shareholder of the Company and it is therefore considered a state-owned corporation since the government has a say in its decision-making processes where shareholding voting counts. Kenya Power is responsible for ensuring that there is adequate line capacity to maintain supply and quality of electricity across the country. The interconnected network of transmission and distribution lines covers about 41,486 kilometers. As at 30th June 2011, KPLC had 8,543 staff serving 1,753,348 customers (KPLC, 2011).

Kenya Power Company has a major role in development of the energy sector infrastructure in the Vision 2030 plan. The key mandate of Kenya Power Company is to plan for sufficient electricity generation and transmission capacity to meet demand; building and maintaining the power distribution and transmission network and retailing of electricity to its customers. Kenya Power Company own and operate the entire electricity distribution system in the country and sell electricity to over 2.6 million customers as at April 2014. In performing its role of transmitting, distributing and retailing electricity throughout Kenya, the Kenya Power Company is guided by its strategic and business plans which are closely aligned with the Governmentôs 5,000+MW plan, under Vision 2030, as well as its other target of making electricity accessible and affordable to more than 70% of the population by 2020, compared to 35 per cent currently (KPLC, 2014).

According to the financial report for the year ended 2014-15, the Kenya Power Company spent Kshs.11Bn to refurbish the distribution network and expand it. Funding for the projects will be sourced from internally generated funds and aid flows from multilateral financing institutions such as the World Bank and IDA. In order to achieve its strategic goals and attain the infrastructure investment laid out in the Vision 2030 national plan, Kenya Power Company needs to expand on its portfolio of distribution projects countrywide and more specifically in Nairobi County to meet the growing electricity demand. Sources of uncertainty and risk in distribution projects been undertaken by large power utilities, such as KPLC, can be stated as: multiplicity of projects been undertaken in a given period, large-scale projects

that require great amount of funding, variable environmental situations and variable project delivery systems (Njoroge, 2011).

The Electric Power Act 1997 and the Energy Act in 2006, accelerated the reform by creating an autonomous regulatory body, unbundling electricity utilities to promote more private investment in generation and reviewing tariffs to improve the financial performance of power companies. As a result of these, KPLC was able to connect 1 million customers after several years of offering the much-needed energy to a fraction of the population (Kenya Power Company, report Q3 2010). The company had a customer base of 850,000 in 2007, 980,000 in 2008 and celebrated the connection of 1,000,000th customer in mid-2009, this was not a mean feat and was viewed unachievable when the government promulgated an ambitious target to connect 1 million householdôs years in 2010 (KPLC, 2012).

1.2 Statement of the Problem

Government parastatals has over the years been associated with poor project delivery as a result of practices such as corruption, nepotism and tribalism. Further, the employees at KPLC have been accused of rudeness, practice inherent absenteeism and are incompetent therefore unable to deliver high quality services to the citizens. Kenya Power in Meru County has been poorly performing in repairs and maintenance project. Indeed, a review of extant literature shows that time and cost over-runs have become the norm rather than an exception (Kibuchi, 2012). Consequently, there has been increased number of litigations, wastage of resources, negative reputation of clients and professionals involved in unsuccessful projects as well as lack of envisioned product, service or change.

Kenya Power suffer from failure to achieve optimum repairs and maintenance project performance due to decisions made by its personnel while undertaking projects attributes the source of the problems to the following-overconfidence, faulty analysis and processes, biases and assumptions. Between 30% and 50% of the self-induced failures are as a result of maintenance personnel not knowing the basics of maintenance. Maintenance personnel, who, although skilled, choose not to follow best maintenance repair practices, potentially cause another 20% to 30% of those failures. There have been several reports of poor management of repairs and maintenance projects, unnecessary rush in project implementation, inadequate planning and budgetary provisions and costly project execution (Usman, Kamau & Mireri, 2014). The overwhelming majority of problems in projects are due to the unforeseen consequences of intentional or unintentional human actions. People make poor estimates,

forget something, communicate poorly, or make other seemingly small mistakes that conspire together to lead to larger issues (Kenya Power, 2013).

Several studies have been carried out in relation to performance of projects such as; Kariuki (2015) who did a study on project manager leadership style, teamwork, project characteristics and performance of water projects in Kenya, Njogu (2011) studied factors influencing performance of informal labourers in the construction industry in Karatina Municipality, Central Province, Kenya. Munyoki (2014) analysed factors influencing completion of projects Nairobi County, Kenya. Wanjau (2015) studied factors influencing completion of building projects in Kenya, ministry of land, housing and urban development, Nairobi County. The studies found that failures & defects are common in projects which rises cost, duration and resources. The identified factors are climatic conditions, materials, faulty design and lack of supervision. However, none of the studies reviewed focused on factors influencing performance of repairs and maintenance projects. To the bridge gap, this study sought to establish the factors influencing performance of repairs and maintenance projects in Kenya Power Company Meru County.

1.3 Purpose of the Study

The study sought to establish the factors influencing performance of repairs and maintenance projects in Kenya Power Company Meru County.

1.4 Objectives of the Study

The study was guided by the following objectives;

i. To examine the influence of community participation on performance of repairs and maintenance projects in Kenya Power Company Meru County.
ii. To determine the influence of financial availability on performance of repairs and maintenance projects in Kenya Power Company Meru County.
iii. To assess the influence of availability of materials on performance of repairs and maintenance projects in Kenya Power Company Meru County.
iv. To establish the influence of management support on performance of repairs and maintenance projects in Kenya Power Company Meru County.

1.5 Research Questions

The study sought answers to the following research questions:

i. What is the influence of community participation on the performance of repairs and maintenance projects in Kenya Power Company Meru County?
ii. To what extent does financial availability influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?
iii. How does availability of materials influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?
iv. What is the influence of management support on the performance of repairs and maintenance projects in Kenya Power Company Meru County?

1.6 Significance of the Study

1.6.1 Kenya Power Company

The study findings would also be used by the Kenya Power Company. The findings of this study would enrich existing knowledge in repair and maintenance projects. The findings of this study would be of value in the sense that there is an increasing need to provide better services to the citizens through the repairs and maintenance projects by Kenya Power Company in Meru County. The study would therefore provide information on the strategies that the players in the adopt to improve service delivery in repairs and maintenance.

1.6.2 Energy Sector

The findings might further be used as a pilot project by other government corporations hence promoting performance of repairs and maintenance projects inclusivity by tapping on indigenous knowledge therefore improving chances and status of project(s) Kenya Power Company. This study would help organizations realize the best way to ensure that new innovation is quickly accepted by customers. It would also inform innovators of the barriers that may affect acceptance of their innovations.

1.6.3 Policy Makers

Policy makers, planners and program implementers would benefit from the finding to formulate policies and strategies on effective performance of repairs and maintenance projects. This would be of value to the government as it would assist it in coming up with policies and laws that would help reduce the cost of power. This is more so considering the key role the power sector plays in the Kenyaôs economy.

1.6.4 Researchers and Academicians

The research findings would lay some foundations for further research on performance of repairs and maintenance projects. It would also contribute to the available literature in project management. The study helps analysts and academicians to grow their examination into the influence on performance of repairs and maintenance projects.

1.6.5 Power Utilities, Manufacturers and General Public

The locals and general public are bound to benefit as the study highlights key areas of understanding the factors influencing performance of repairs and maintenance projects. The study shall be beneficial to other power utilities, manufacturers and all those who use electricity as a source of energy. Good maintenances practices would lead to high plant availabilities, increased production and low operational costs and reduction to electricity bills.

1.7 Delimitation of the Study

The study established the factors influencing performance of repairs and maintenance projects in Kenya Power Company Meru County. The study examined how community participation, financial availability, availability of materials and management support influence performance of repairs and maintenance projects in Kenya Power Company Meru County. The study was carried out at Kenya Power Company Meru County offices where the management staff were the respondents. The study was carried out in a period of three months.

1.8 Limitations of the Study

Time was a major challenge of the study. Getting access and appointments to the respondents posed some difficulties since they do not have time to fill in the questionnaires due to their busy office schedules. The researcher overcame this by booking appointments with the respondents in advance before distributing the questionnaires as well as agreeing with them on the best time to get back the questionnaire. Also, the respondents targeted in this study were reluctant in giving information fearing that the information being sought might be used to intimidate them or print a negative image about them. The researcher handled this by carrying an introduction letter from the University to assure them that the information they give was treated with confidentially and was used purely for academic purposes. Financial resources required to conduct this study was limited as well as shortage of the time to conduct

the study. This study therefore suffered from generalizability of the results if the nature of projects undertaken is significantly different from those in Meru County.

1.9 Basic Assumptions of the Study

The researcher assumes that the respondents provided information that is accurate and reliable in conducting research. The researcher assumed that there were no serious changes in the composition of the target population that might affect the effectiveness of the study sample. This study also assumed that the respondents were cooperative and objective in the response to the research instruments and was available to respond to the research instruments in time. Finally, the study assumed that the authorities in the company granted the required permission to collect data from employees.

1.10 Definition of Significant Terms Used in the Study

The following are the definitions of terms that were used throughout this study:

Availability of resources: Refers to sufficiency of an economic or productive factor required accomplishing an activity, or as means to undertake an enterprise and achieve desired outcome.

Community participation: is the process by which individuals, families, or communities assume responsibility for their own welfare and develop a capacity to contribute to their own and the communityôs development by being involved in the decision-making processes in determining goals and pursuing issues of importance to them for example, the direction of services and the allocation of funds.

Financial availability: Refers to sufficiency of an economic or productive factor required accomplishing an activity, or as means to undertake an enterprise and achieve desired outcome.

Management support: This is when high level managers in a corporation seek to help lower-level employees to develop a certain behavior or assist them perform their duties.

Project performance: It refers to project achievements and in particular on the successful accomplishment of the project with regards to cost, time and quality.

Repair and maintenance: the combination of all technical, administrative and managerial actions during the life cycle of an item intended to retain it in, or restore it to, a state in which it can perform the required function.

1.11 Organization of the Study

This study was organized into five chapters. Chapter one contains the introduction to the study. It presents background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the Study, delimitations of the study, limitations of the Study and the definition of significant terms. On the other hand, chapter two reviews the literature based on the objectives of the study. It further looked at the conceptual framework and finally the summary. Chapter three covers the research methodology of the study. The chapter describes the research design, target population, sampling procedure, tools and techniques of data collection, pre-testing, data analysis, ethical considerations and finally the operational definition of variables. Chapter four presented analysis and findings of the study as set out in the research methodology. The study closed with chapter five which presents the discussion, conclusion, and recommendations for action and further research.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter provides an extensive literature and research related to performance of repairs and maintenance projects. The chapter is thus structured into theoretical, conceptual and empirical review. The study also presented the knowledge gap the chapter sought to fulfill.

2.2. Concept of Performance of Repairs and Maintenance Projects

The measurement of maintenance performance has essentially become an essential element of strategic thinking for service and manufacturing industry. Due to outsourcing, separation of asset owners and asset managers, and complex accountability for the asset management, the measurement of asset maintenance performance and its continuous control and evaluation is becoming critical. As a result of the dramatic change in the use of technology, there is a growing reliance on software and professionals from other functional areas, for making or managing decisions on asset management and maintenance. Therefore, the performance of repair and maintenance project is critical for the long-term value creation and economic viability of many industries. It is important that the performance of the maintenance process be measured, so that it can be controlled and monitored for taking appropriate and corrective actions to minimize and mitigate risks in the area of safety, meet societal responsibilities and enhance the effectiveness and efficiency of the asset maintained (Kumar, 2013).

There exists asset management softwareôs in the market and established best world practice benchmarks which if well utilized could reduce maintenance costs to a great extent. Best maintenance practices are defined in two categories: standards and methods. Standards are the measurable performance levels (benchmarking) of maintenance execution; methods and strategies must be practiced in order to meet the standards. The combination of standards with methods and strategies provides the elements of an integrated planned maintenance system. Achievement of the best maintenance practice standards (maintenance excellence) is accomplished through an interactive and integrated series of links with an array of methods and strategies.

Managers must develop and implement both preventive and corrective maintenance tasks that achieve maximum use of maintenance resources and the production capacity of plant systems. Good planning is not an option. Plants should adequately plan all maintenance activities, not just those performed during maintenance outages. Standard procedures and

practices are essential for effective use of maintenance resources. The practices should ensure proper interval of inspection, adjustment or repair.

In addition, these should ensure that each task is completed properly. Standard maintenance procedures (SMPs) should be written so that any qualified craftsperson can successfully complete the task in the minimum required time and at minimum costs. Adherence to standard operating practices (SOPs) is also essential. The workforce must have the training and skills required to complete their assigned duties. In addition, maintenance management must ensure that all maintenance employees follow standard practices and fully support continuous improvement. The importance of power plant performance is poorly known to industry outsiders, although it is one of the major factors which could have a significant impact on the future of our planet (Kenya & Kariuki, 2013).

Analysis of generating plant performance data undertaken by the World Energy Council Committee performance of Generating Plant in 2004 demonstrates the enormous value of plant availability. It has been estimated that improving the availability of all power plants in the world to the performance levels achieved today by the 25% of best performing plants, is worth a staggering US$80 billion per year. In addition, this improvement in performance of repair and maintenance project would reduce the annual global GHG emissions by 1 billion tonnes CO2 equivalent (i.e. by approximately 4%), along with proportional reduction of other pollutants. This could be achieved using existing best practice technologies at an average benefit to cost ratio of 4 to 1. Case studies from utilities and manufacturers around the world confirm that while some technology enhancements and equipment upgrades will be required, the majority of the improvement will come as a result of addressing human factor issues and power plant management.

There is growing recognition that different types of projects require different approaches to their management, requiring management procedures tailored to the needs of the project (Crawford et al, 2011) and project managers selected with appropriate competencies (Mulle & Turner, 2012). Increasing globalization of performance of repair and maintenance project adds to this diverse mix, creating intercultural challenges for project managers (Mulle & Turner, 2014). Professional associations are beginning to recognize this diversification of project management. The project management literature agrees that there are two components of project success (Jugdev & Mulle, 2011). Achieving project success is becoming more important in the highly competitive construction industry. Large and complex construction

projects are becoming more difficult to complete successfully in developing countries such as Kenya (Swan & Khalfan, 2012).

2.3 Community Participation and Performance of Repairs and Maintenance Projects

The conceptualization of community participation has evolved over time, moving from its narrow definition as the mobilization of people to contribute free labor and materials, to more extensive interpretations as a process of empowering people and giving them authority to control programs (Muhangi, 2013). World Bank (2013) looks at community participation from development perspective as a process through which beneficiariesô influence and share control over development initiatives, decisions and resources that affect their lives. The community has a legitimate right to make decisions regarding the project on behalf of the users. Interference from the donor or government should be minimal and occur only when requested by the community or when intervention is in the interests of the beneficiaries.

Community participation leads to empowerment of the community; empowerment centers on individuals developing a critical understanding of their circumstances and social reality. Participation of the community in development projects leads to capacity building which enables the community to be more effective and efficient in the process of identifying, implementing, management of developmental projects (Davids et al., 2009). All aspects related to project development and implementation has to be based on community preferences. The community has to communicate their needs and decide what is best for them. Issues such as project design, community contributions, external assistance, and user fees or tariffs have to be decided upon by the community or beneficiaries of the project. For water and sanitation programs, involvement of women in all stages of decision making is of paramount importance. Internationally, resources for social welfare services are shrinking. Population pressures, changing priorities, economic competition, and demands for greater effectiveness are all affecting the course of social welfare.

Davids et al. (2009) indicated that people-centred development is a process by which the members of the society increase their personal and institutional capacities to mobilize and manage resources to produce sustainable and justly distributed improvements in their quality of life consistent with their own aspirations. The concept of participation in projects has been evolutionary for the past two decades. The contribution of the community to development projects in the form of unpaid labour was then widely accepted as an important constituent and in most cases the only form of community participation. This widespread acceptance

meant that as long as developers could convince a local community to volunteer labor, full participation as well as ócceptanceôof the project was guaranteed.

The concept of community participation in development process is essential to the modern development processes. The governments and international community calls for people involvement in development process that direct affect their life. Community may participate in different development activities such as building infrastructures such as roads, health services and education development. In any development projects, clearly defined indicators are essential for accurately and realistically measuring and evaluating results. Communities should willingly contribute to the development and operation of the project if they are to feel that they own the project. Contributions such as monetary investment, material equipment, labor, and general. Participation in project related committees and meetings should be voluntary. Coercive contributions create hostility towards the project. Communities must be informed on the available options or available alternatives and associated costs. Informed choice helps communities to make decisions concerning community capabilities to manage the project (Castles, De Ha & Miller, 2013).

Community participation in budgeting process strengthens and broadens partnerships and also creates spaces for mutual learning. Participatory budgeting process produce actual welfare effects by improving the effectiveness of public investments, emphasizing a pro-poor orientation and reducing possibilities for pork-barrel politics and other forms of clientelist policy-making processes. Transparency is a vital ingredient for building trust and maintaining the commitment of individual members of community water projects. When the beneficiaries actively participate in financial management of community projects, the management committees tend to be more accountable and transparent in their operations. A study done by Twebaze (2010) on community mobilization in rural water supply and sanitation programs in Wakiso District Uganda established that the high knowledge by water beneficiaries on the way funds were spent increased transparency in the way that the Water User Committees of the programs operated.

Tanga and Maliehe (2011) made an analysis of community participation in handicraft projects in Lesotho. The findings of the study revealed that the Handicraft projects had committee members who were not elected by the projects` beneficiaries, yet they were charged with the responsibility of running the day-to-day activities of the projects as well as managing finances. The study further revealed that these committeesô members did not work satisfactorily in projects` financial management. As indicated by Bown (2009), group interest

in undertakings distinguishing proof and arranging advances new values, states of mind, learning and aptitudes among group individuals and assembles their ability as specialists of progress. Hence, certifiable interest is a need with a specific end goal to empower every constituent gathering of nearby group required at all phases of venture from configuration to assessment. Government specifically finances formative activities in different groups. For this situation it recognizes the need of the nearby group, starts and executes the program with no monetary, materials or work bolster from the groups. The significant issue with such a venture is, to the point that the general population may not be counseled. They may not take part in arranging, executing, checking and assessing the achievement or disappointment of these undertakings (Hassan & Oyebamiji, 2012).

The system cannot function without skilled people who effectively execute the tasks for which they are responsible. Therefore, understanding the skills needed and the capacity of people involved in the system (undertaking human capacity assessments) and addressing capacity gaps (through structured capacity development programs) is at the heart of the system (Gorgens & Kusek, 2010). The failure to have enough skilled and knowledgeable officers in organizations has led to poor development of the systems that mainly capture and develop too many indicators, focus on operations rather than the strategy to use to get better outcomes.

Human capacity is a major constraint to projects in many developing countries in Africa. While management units or committees do exist in many national programmes, they are generally dramatically understaffed and their work is often limited to managing sero-surveillance systems (UNAIDS, 2011). Capacity building is vital if management systems are to be strengthened. If capacity cannot be maintained within the national programme, networks can be created to access outside skills as necessary. Staffing is a special concern for management work because it demands special training and a combination of research and project management skills (Worldbank, 2014). Also, the effectiveness of management work often relies on assistance from staff and volunteers who are management experts. Thus, capacity building is a critical aspect of implementing good management work.

The lack of training and competence leads to inefficiencies which impede adoption in management in many community development projects in Kenya. Political interference opens doors to incompetent people who do not understand the parameters used in management (GOK, 2009). In as much as research has been carried in school, effective adoption of participatory practice has not been realized. This is so because most the key participants who

are board of governors (BOG) and parent representative (PTA) are not competent enough to carry out the process. In some cases, they are unwilling to do this duty because they are not well remunerated (Oyuga, 2011).

2.4 Financial Availability and Performance of Repairs and Maintenance Projects

Financial Availability has a positive and significant effect on repairs and maintenance projects performance. The preparation of budgets coupled with budget expertise provides a spending plan for finances making it possible for availability of funds to enhance future growth and overall project performance. Budgeting practice as a predictor to performance has a very strong relationship hence has a very strong contribution to performance (Finnerty, 2013).

Adequate budgetary allocation ensures effective and quality implementation of projects. It is critical to set aside adequate financial and human resources at the planning stage (Seith & Philippines, 2012). The required financial and human resources for implementation of projects should be considered within the overall costs of delivering the agreed results and not as additional costs. Dedicated staff time for effective implementation of projects, staff should be dedicated for the function. The practices of deployment of personnel for monitoring vary among organizations. Budget limitations are consistently one of the greatest constraints to implementing projects. While projects can often compensate for a lack of technical capacity through training and/or outsourcing, they cannot compensate for the lack of money. Carrying out implementation costs money and, depending on how ambitious project implementers are about their project, it can cost a lot of money.

National implementation of projects systems in resource-limited settings tend to be chronically challenged, with persistently incomplete reporting and inaccurate data posing a major threat to their utility (Kawonga, 2012). Conducting implementation activities requires that an organization invest valuable resources, including money and peoplesô time. At the earliest stage of designing an implementation activity, key stakeholders must make a decision on whether the activity is worth pursuing given the expected use and costs. At least a rough budget for the activity is therefore needed as part of up-front planning. This may be done initially as part of an overall implementation plan and again as a first draft of ToR is developed (Estrella, 2010). The project budget should provide a clear and adequate provision for implementation of projects activities. A key function of planning for project is to estimate the costs, staff, and other resources that are needed for project work. It is important for

project specialists to weigh in on project budget needs at the project design stage so that funds are allocated specifically and are available to implement key project tasks.

Financial resources for implementation of projects should be estimated realistically at the time of planning for implementation of implementation of projects (UNDP, Handbook on planning, management for development results., 2009). The availability of finances will determine what can be achieved as far as implementation, strengthening and sustainability of implementation of projects system is concerned (UNAIDS, 2009a). Quite often money to undertake project is not factored in implementation of many projects. One in four countries with a national project plan has not calculated the budgetary requirements (Report on the Global AIDS Epidemic, 2009). project activities tend to be pushed to the periphery in the allocation of funds for project activities. In more than half of counties 54%, project activities are exclusively financed through external sources (Report on the Global AIDS Epidemic, 2009).

Such arrangements should be documented at the beginning of the programme to enable partners to transfer necessary funds in accordance with their procedures, which could take considerable time and effort Human resources are critical for effective implementation of projects, even after securing adequate financial resources. For high-quality implementation of projects, there should be an excellent learning tool as well as a means to improve programme. The failure to consider Implementation of projects in the design stage and poor pay to evaluators is seen as a key challenge in setting up and running a project system (World Bank, 2009). According to Omiti, Mude, and John (2012), many organizations fail to decentralize and allocate resources as they consider Implementation of projects as just has an activity. In essence, management has assumed a major biasness compared to Evaluation that receive little or no attention if any. According to Rubin and Rubin (2009), organizations sight lack of funds to conduct Implementation of projects or even document aspects of project in their projects. Brock and Pettit (2012) argue that Participatory Implementation of projects is an expensive venture that requires a lot of resources but is a sure way of ensuring people are brought on board for sustainable development.

Financial availability is the stronghold of implementing a strong and effective implementation of projects (Global fund, 2013). IFAD (2012), in its report noted that most developing countries are being faced with the challenge of implementing a sound implementation of projects due to lack of control on their funding. Therefore, the donors need to put more emphasizes on the establishment of sound implementation of projects systems

through factoring this in the funding (World Bank, 2012). This is the only way to ensure that most of these projects realize their goals and leave a sustainable impact on the society. Similarly, in Kenya, project is not comprehensively done due to various factors among them allocation of insufficient funds for this process. There are doubts on quality management capabilities, training levels and effectiveness of the boards of governors in implementation of projects (GOK, 2013). Kaarin and Njuki (2013) indicate that resource availability is a basic element of participatory implementation of projects and increases the likelihood that running project activities and resource allocation could continue until the project ends and reach chance to grab advantages.

2.5 Availability of Materials and Performance of Repairs and Maintenance Projects

Materials required carrying out the project tasks can be classified as, equipment, facilities or anything else capable of definition required for the completion of a project activity. Unavailability of all materials will therefore be a constraint on the completion of the project within the timelines. Resource scheduling, availability and optimization are considered key to successful project management. Allocation of limited resources is based on the priority given to each of the project activities. Their priority is calculated using the Critical path method and heuristic analysis (Seith & Philippines, 2012).

Kaarin and Njuki (2013) for a case with a constraint on the number of materials required, the objective is to create the most efficient schedule possible - minimizing project duration and maximizing the use of the resources available (Meredith et al, 2013). Efficient and effective use of resources can often make or break a project. This is because resources are limited, some hard to obtain, expensive or both. Material availability can have a major influence on project schedules. Delays in their supply would extend the period of the projects which in turn increases project cost. When planning a project, managers first decide on the deliverables of the project and the activities needed to produce them. Then resources needed are estimated. Combination of resource needs and availability, help to determine the time needed for entire project. Resources are estimated in term of activities so that they can be deployed in the most effective manner.

The Government has the ultimate responsibility to provide access to services and to ensure that public private partnership does not alter the basic responsibility of government. It therefore has to provide guidelines on funding, sourcing of material, technology and manpower engagement to caution the public against cartel and other interested parties that

supplies resources to the project against overpricing, supplying substandard materials and workmanship remuneration and compensation. All these will ensure quality delivery of materials at the appropriate cost and time. According to Kelechi (2004), policy making requires a strong legitimate institutional structure for decision making and policy enforcement. Kelechi further observes that policy formulation, among other things, requires a strong representative government which is seen as legitimate and relevant to the masses which will result in a strategy for domestic revenue mobilization through acceptable taxation policies that the citizen will be willing to comply with because they appreciate and relate to it. It also requires that policies be made on the basis of strategic options and choices be rooted in the states realistic efforts at internal resource mobilization.

All this have either direct or indirect influence on the timely delivery of road construction projects. Gupta (2011) stated that repairs and maintenance projects are complex, capital intensive, having long gestation period and involve multiple risks to the project participants. Due to this, the task of providing infrastructure is traditionally that of the government as the government is able to utilize its planning and administrative capabilities in undertaking infrastructure development. Public authorities were generally in charge of financing and building new infrastructures. However, infrastructure development is also financially taxing to the government. That is why even when infrastructure development has a positive effect on the economy, no government can afford to concentrate all its resources towards the provision of infrastructure. Any government in the world will have to balance between the need for developing infrastructure such as road and highways with other requirement such as providing healthcare and education since the economic rule of resource scarcity will limit its capability to do so. A lot of progress has been made in repairing vital road links in the country despite critical challenge in funding.

Conducting project activities requires that an organization invest valuable resources. At the earliest stage of designing a project activity, key stakeholders must make a decision on whether the activity is worth pursuing given the expected use and costs. At least a rough budget for the activity is therefore needed as part of up-front planning. This may be done initially as part of an overall project plan and again as a first draft of ToR is developed (Estrella, 2010). The project budget should provide a clear and adequate provision for implementation of projects activities. A key function of planning for project is to estimate the costs, staff, and other resources that are needed for project work. It is important for project specialists to weigh in on project budget needs at the project design stage so that funds are

allocated specifically to project and are available to implement key project tasks. Adequate resources ensure effective and quality performance of repairs and maintenance projects. It is critical to set aside adequate financial and human resources at the planning stage (Seith & Philippines, 2012).

2.6 Management Support and Performance of Repairs and Maintenance Projects

Extant literature shows that unlike in formal organizations, management support in projects is complicated due to involvement of different experts from organizations with diverse philosophies and practices, limited and predefined duration, individual project characteristics, conflict of interest and existence of temporary management structures that are formed to facilitate project execution (Tyssen, et al., 2013). For instance, limited and predefined project duration hinders development of social relations such as teamwork which is critical in enhancing team cohesion. On the other hand, existence of heterogeneous work teams results in role ambiguity and this hinder achievement of project objectives due to lack of appropriate communication and coordination mechanism. In addition, there is the issue of adversarial relationship between project teams and clients in that each have their own interest which at times might conflict with each other. Further, for construction projects, which were subject of this study, there are additional complexities due to individual projects being tailor-made according to the needs of the client, non-transportable and assembled at the place of use (Clarke, 2012).

Muller and Turner (2010) investigated leadership competency profiles of successful project managers through administration of a web-based questionnaire to project management professional and masters students in project management in the UK, Ireland, Australia, New Zealand, USA and Canada. Using data from 400 returned questionnaires, they found differences in project managerôs leadership competency profiles in terms of complexity and contract type and not in terms of application area and project importance. They also found manifestation of critical thinking, influence, motivation and conscientious in all successful project managers.

Communication and information sharing as an aspect of management support not only impacts on a project but also determines the understanding that a community has of specific issues and the general status of the project. Holding consultations with the community as a whole, rather than engaging in selective consultation provides clear communication channels and disseminates information so that everyone has a similar understanding of the key issues.

At the implementation phase, clear communication channels need to be put in place so as to keep stakeholders informed of any modification to the project design and implementation strategies. For governance to be effective at the community level, a project is required to be inclusive and communicative; with communication channels free flowing so as to enhance transparency. Thus, at the implementation/ construction phase, in particular, clear communication channels need to be highly functional so as to keep the community informed of any modification to the project and implementation strategies at whatever is the cost (Fewings, 2013).

Managers with the needed information for day-to-day decisions; key stakeholders with guidance information on the project strategy; project early warnings signs; empowerment to beneficiaries; capacity building as well as assess progress and build accountability (Welsh et al., 2011). However, to deliver proper planning has to be in place, by which progress and achievements are measured against (Shapiro, 2011). With project staff mechanically completing forms and project managers seeing the task as merely the collection of data and writing of reports for donors (World Bank, 2014). At times irrelevant and poor-quality information is produced as it focuses only on the physical and financial aspects and ignores factors such as projectôs outreach, effect and impact (Khan, 2013). According to (McLaughlin and Jordan, 2009), choosing what to measure, collecting and analyzing the data necessary for improvement measurement is new to many managers. However, establishing relevant indicators will set the standard to measure their achievement. Indicators should be selected during the formulation stage of a program or project when the objectives are being established (UN-Habitat, 2013).

Management support indicators identified during implementation, should enable the assessment of processes, outcomes, and impact, providing a reliable evaluation of the success or failure of a project or a program (Nash, et al., 2009). Ideally, indicators should highlight key elements of change that can be attributed to program activities. Indicators should be readily available from existing data sources or should be possible to obtain on a regular basis at low cost. Efforts should be made to ensure that the indicator is well defined, easy to collect, easy to interpret, and capable of demonstrating changes over time. Thus, skills in are vital in its implementation process (UNEP, 2011).

Research managers have to decide on how to gather and analyze the information as well as document a plan for an evaluation system (Goyder, 2009). Setting-up a project system in a participatory way is desirable because it helps to build stakeholdersô understanding of the

project and creates a learning environment by sharing understanding of terminology and action, develop a framework, approach or system that is designed within the institutional context, standardize data collection to ensure that results are valid and comparable (Khan, 2013).

Top managers in project play a crucial role in providing and creating the required conditions for the project to succeed (Staehr, 2010). Top management support has been widely identified and highly ranked as a critical success factor in most projects. Generally, research findings in this area indicate that this level of support is critical for the planning, implementation and eventual success of projects. It has become an important factor with the introduction of maturity models. These models analyse projects as an organisational effort, rather than a project managerôs exercise.

2.7 Theoretical Orientation

This section discusses the theoretical foundation on which the study is anchored. The study will be grounded on the empowerment theory, public participation theory, resource base view theory and strategic leadership theory.

2.7.1 Empowerment Theory

The origin of empowerment as a form of theory is traced back to the Brazilian humanitarian and educator, Paulo Freire (Hur, 2012). Paulo Freire's, the pedagogy of the oppressed (1970) provided the conceptual base for the debates on empowerment. However, according to Bailey (2009), Ernst Friedrich Schumacher's 'Small is Beautiful '(1 973), which came into circulation at a similar time with Freire's piece, is also known to have influenced the debate on empowerment. Empowerment theory postulates that participation in decision-making may enhance individual's sense of empowerment and that empowered individuals are likely to be active in community organizations and community activities.

Empowerment as a construct is multifaceted. Theories of empowerment touch on different dimensions of life. Hur (2012) argues that empowerment theories are not only concerned with the process of empowerment, but also with results that can produce greater access to resources and power for the disadvantaged. An empowering intervention is that which builds capacity of individuals to positively influence their wellbeing outcomes. Just like social capital, empowerment is operative at various levels: personal or individual, interpersonal, organizational, community, and collective. Zimmerman et al. (2009) observes that the focus

of both empowerment theory and practice is to understand and strengthen processes and context where individuals gain mastery and control over decisions that affect their lives. Thus, interventions that provide genuine opportunities for individuals to participate may help them develop a sense of psychological empowerment (Zimmerman, 2009; Zimmerman et al., 2009). Typically, therefore, an empowering development process might begin with an environmental assessment of the opportunities to participate and develop strategies to include participants in the design, implementation, management of interventions.

Empowerment, however, is not a panacea for all individual and social illness. It has been criticized as overly individualistic and conflict-oriented, resulting in an emphasis on mastery and control rather than cooperation and community (Hur, 2012). According to Hur (2012), although the practice of empowerment is effective for the removal of powerlessness, certain factors still exist that may inhibit the manifestation of empowerment. He cites organizational aspects, such as an impersonal bureaucratic climate, supervisory styles described as authoritarianism and negativism as well as arbitrary reward systems as hindrances to empowerment. The other argument against the empowerment theory is the 'loose' manner in which empowerment as a concept is framed.

2.7.2 Public Participation Theory

It is until recently that, scholars and many researchers have concurred that project success concerns not only cost, time and quality, but also the satisfaction and effective management of all the stakeholders involved (Bourne & Walker, 2011). They further define stakeholders as those individuals or group of individuals who have a claim or interest in a project and its activities. The theory underscores the fact that the creation and the ongoing operations of each project are as a result of several actors' activities, who are the stakeholders. The central idea therefore is that a programme/project's success is dependent on how well the organization manages the relationships with key groups such as customers, employees, suppliers, communities, financiers, and others that can affect the realization of the project objectives. The social responsibility of the government owned Special Purpose Vehicle (SPV) therefore significantly increases, and external relationships become crucial for the success of the project. In any projects, stakeholder management is a decisive factor as well for a projectôs success or failure and therefore identification of stakeholders and their involvement should be part of the projectôs planning process (Seith & Philippines, 2012).

2.7.3 Resource Base View Theory

Resource Base View will be used to underpin the study. Popularly known as RBV, the theory is a very popular in management science proposed by Porter (1985). RVB implies that organizations can leapfrog over their rivals through developing resources that are distinctive and diversely distributed. Resource based view aspired to explain the internal sources of a firmós sustained competitive advantage (Kraaijenbrink, Spender & Groen, 2010). The Resource Based View (RBV) of the firm postulated that, resources internal to the firm were sources of competitive advantage (Tukamuhabwa, Eyaa & Derek, 2011). Such resources were valuable, rare, unique and difficult to substitute. Resources believed to be valuable were those that were capable of facilitating conception or implementation of strategies that improved performance, exploited market opportunities or neutralized impending threats.

The two assumptions for RBV theory were, resources and capabilities were heterogeneously distributed among firms; and resources and capabilities were imperfectly mobile, which made firmsô differences remained stable over time. Every firm was different (heterogeneous) from other firms in terms of the resources and capabilities a firm possesses or accesses. These differences differentiated one firm from another and a firm success was due to its firm-specific (idiosyncratic) resources (Karia & Wong, 2011). Accordingly, individual resources, competencies and capabilities of the organization were a bundle of the firm resources or the essence of the resource-based view. For instance, in inventory business, a resource is described as a basic element or a prerequisite for the development and operation of logistics; and it is required for building up a firm ós capabilities. The resource-based view (RBV) of firms mainly emphasized their internal strengths and weaknesses, in contrast to industrial organization economics which focused on firms óexternal opportunities and threats Shang & Marlow (2015), because when the external environment is unstable, a firm ós own resources and capabilities may be easier to control (Shang & Marlow, 2015).

The resource focused perspective contends that a firm was a collection of tangible and intangible resources (Kraaijenbrink, et al., 2010). This collection was unique to each firm so that each firm could be considered different (heterogeneous) from each other within the same industry i.e. no two companies possess the same experiences, or had acquired the same assets or skills or built the same organizational culture. Such differential endowment of resources among firms was the ultimate determinant of strategic decisions (Shang & Marlow, 2015). Ganotakis and Love (2010) used the RBV to explain the importance of inventory

management to a firm. According to Ganorakis and Love (2010), inventory flexibility and efficiency was considered to be a source of competitive advantage for entrepreneurial firms. Therefore, this theory helps in understanding developing availability of resources for performance of repairs and maintenance projects.

2.7.4 Strategic Leadership Theory

This theory for this study was postulated by House and Baetz (1979). Strategic leadership gives organizational leaders the ability to create and re-create reasons for the organizationós continued existence. According to Kirmi and Minja (2010), strategic leaders shape the formation of strategic intent and strategic mission and influences successful strategic actions for the formulation of strategies and implementation of strategies which yields strategic competitiveness above average returns. A number of scholars have observed substantial interest in strategic leadership, such as reflected in works by Bradley and Barrick (2008). This interest was highlighted in the comprehensive treatment of strategic leadership by Finkelstein, Hambrick, and Cannella (2009). Carter and Greer (2013) wonder how a strategic leader affects organizational performance! Further Ireland and Hitt (1999) observed that strategic leaders create meaning and purpose for the organization with a powerful vision and mission. It is evident from literature that organizations are set up to achieve certain strategic goals. It is the leader who has the capability to influence organizational members to contribute effectively towards the accomplishment of pre-determined goals and objectives.

This is further confirmed by Awan, Qureshi and Arif (2012) who observed that effective leadership in NGOs/NFPs led to improved organizational performance. Strategic leadership is important in all kinds of organizations. In a review of strategic leadership in the first decade of the twenty-first century, Hitt, Haynes and Serpa (2010) noted that a number of strategic organizational leaders have failed to deal effectively with environmental turbulence. The failures in most organizations were observed to be due to lack of strategic leadership. Likewise, Kirimi and Minja (2010) observed that organizations fail when the leadership fails to sell their vision for the organization to its followers, have not convinced followers why they should be passionate, and which they fail to make employees loyal to the organizational agenda. Empirical review found that strategic leadership guides organization in ways that result in the formation of a strategic intent and strategic mission. Goffee and Jones (2006) provide evidence that when leaders practice strategic leadership this leads to improved organizational performance.

In affirmation to this argument, Kirimi and Minja (2010) observe that strategic leadership is no doubt important to all organizations. Likewise, Hughes and Beatty (2005), note that strategic leadership leads to achievement of the objectives of the organization. Similarly, Serfontein (2010) theorized that the primary goal of a strategic leader is to gain a better understanding of the business conditions, the environment and other aspects that help identify future challenges. Ahmed (2013) asserts that strategic leadership includes both the management and leadership functions where the TMT work as partners in strategic issues. According to Gill (2011) strategic leaders must be able to develop the organizationós vision, mission, strategies and culture and above all, monitor progress and changes in the environment with a view to ensuring strategies are focused, relevant and valid. Therefore, this theory is relevant to this study as it helps in understanding management support on performance of repairs and maintenance projects.

2.8 Conceptual Framework

A conceptual framework is a model that presents and explains the relationship between various variables. In a conceptual framework there are two types of variables: dependent variable and independent variable. In this study, independent variables are; community participation, financial availability, availability of materials and management support while performance of repairs and maintenance projects is the dependent variable. Furthermore, it also shows other factors, moderating and intervening variables that can play in and affect both independent and dependent variables in this study.

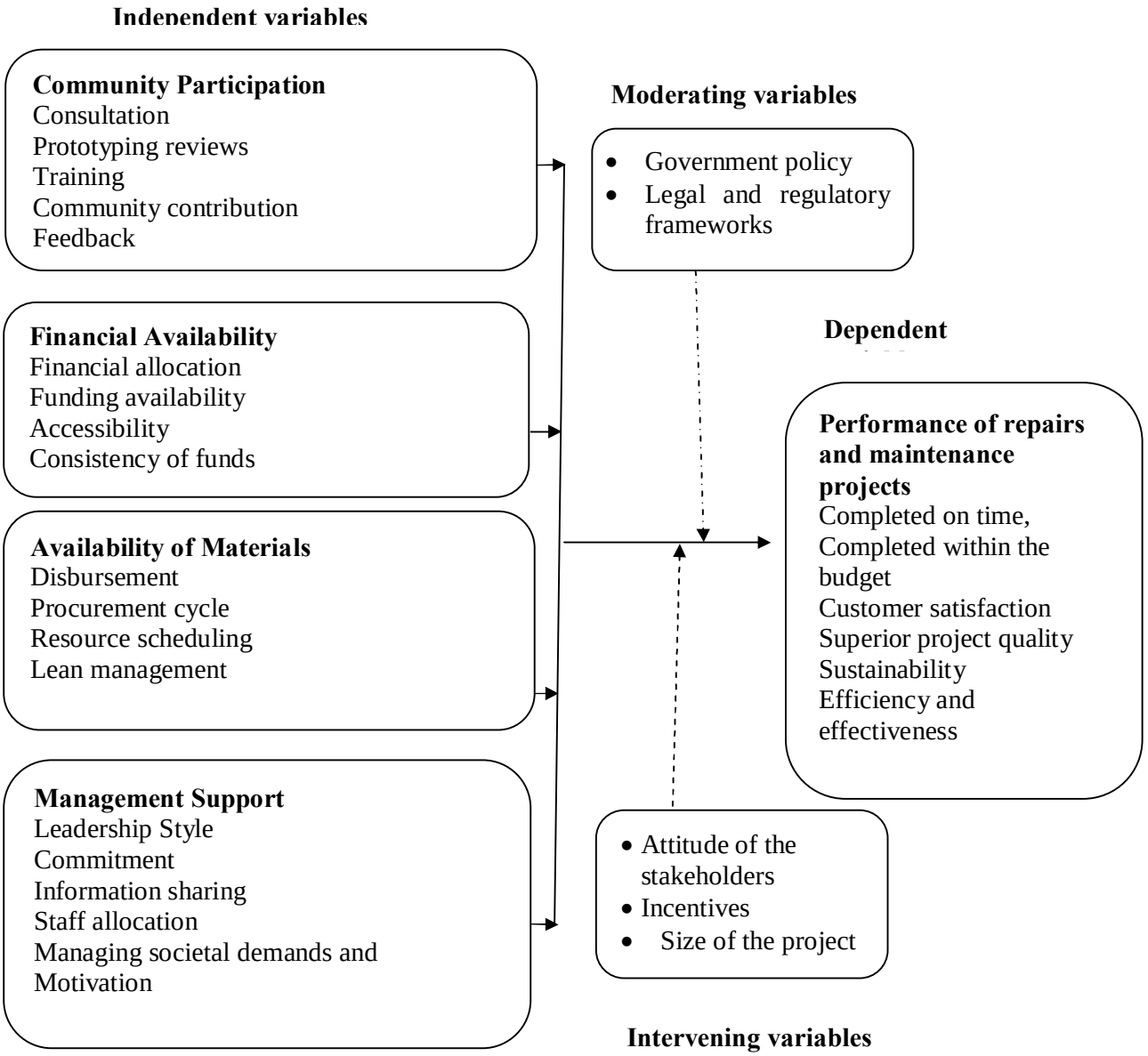

Figure 2. 1: Conceptual Framework

2.9 Summary and Research Gaps

This study is grounded on the public participation theory, which has over the years gained prominence in response to demands for greater individual and community control over the activities of governments towards its citizens. Poorly functioning public institutions and weak governance are major constraints to growth and equitable development in many developing countries. Ensuring institutional accountability can be useful in setting high level strategic objectives. Objectives should be set and indicators selected in consultation with stakeholders, so that objectives and targets are jointly owned.

Performance of repairs and maintenance projects, with proper training and experience is vital for the production of the results. There is need to have an effective human resource capacity in terms of quantity and quality, hence community participation, financial availability, availability of materials and management support influence performance of repairs and maintenance projects in Kenya Power Company Meru County. It is critical to set aside adequate financial and human resources at the planning stage.

Although literature has been reviewed on factors influencing performance of repairs and maintenance projects such as Kariuki (2015), Njogu (2011), Munyoki (2014) and Wanjau (2015). The studies found that failures & defects are common in projects which rises cost, duration and resources. The identified factors are climatic conditions, materials, faulty design and lack of supervision. However, none of the studies reviewed focused on factors influencing performance of repairs and maintenance projects. To the bridge gap, this study established the factors influencing performance of repairs and maintenance projects in Kenya Power Company Meru County.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is the approach by which the meaning of data is extracted and is a continuous process. The research methodology gives the direction to follow to get answers to issues that are of concern. This chapter describes the methods used to gather information on the area of the study. The chapter guided the research methodology used in carrying out the study. The chapter presents details of the research design, target population, sampling procedures, methods of data collection, validity and reliability of instruments, data collection process, methods of data analysis and ethical considerations while conducting the study.

3.2 Research Design

A research design is the overall strategy that you choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring you effectively addressed the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data (Gorard, 2013). The study adopted a descriptive research design. A descriptive design is concerned with determining the frequency with which something occurs or the relationship between variables (Bryman & Bell, 2011). Descriptive research design was chosen because it enabled the researcher to generalize the findings to a larger population. This type of research design presents facts concerning the nature and status of a situation, as it exists at the time of the study (Creswell, 2014). It also brings out relationships and practices that exists, beliefs and processes that are ongoing, effects that are being felt or trends that are developing. Thus, this approach is suitable for this study, since the study intends to collect comprehensive information through descriptions which was helpful for identifying variables.

According to Avoke (2015), descriptive surveys are designed to portray accurately the characteristics of individuals, situations or groups. It is used as a needs assessment tool to provide information on which to base sound decisions and to prepare the background for more constructive programmed of educational research.

3.3 Target population

Rubin and Rubin (2005) emphasized that to ensure credibility of research, the researcher should interview people who understand and have deeper information about the issue. This is because the credibility of the interviews depends on the knowledgeability of the interviewees

or participants of the study. A Population is the entire group of persons or elements that have at least one thing in common. It is the mass of individuals, cases, events to which the statements of the study referred and which has to be delimited unambiguously beforehand with regard to the research question. According to Sekaran and Bougie (2010), a population is the total collection of elements about which we wish to make inferences. The population under consideration which is the unit of analysis comprised of management staff in Kenya Power Company, Contractors and the Community leaders in Meru County.

Table 3.1: Target Population

Category	Population	Percentage
KPLC managers	56	31.6
Contractors	34	19.2
Community leaders	87	49.2
Total	**177**	**100.0**

3.4 Sample size and Sampling Procedures

Sampling is a deliberate choice of a number of people who are to provide the data from which a study drew conclusions about some larger group whom these people represent. The section focused on the sampling size and sampling procedures.

3.4.1 Sampling Size

The sample size is a subset of the population that is taken to be representatives of the entire population (Kumar, 2011). A sample population of 121 was arrived at by calculating the target population of 177 with a 95% confidence level and an error of 0.05 using the Nassiuma (2000) formula as shown;

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

Where n= sample size

N = population (177)

Cv= coefficient of variation (take 0.6)

e= tolerance of desired level of confidence (take 0.05) at 95% confidence level)

$$n = \frac{177(0.6^2)}{} = 121.16 \text{ (rounded to } 121)$$

$0.6^2 + (177\text{-}1)\ 0.05^2$

For convenience, the researcher rounded the sample size ***'n'*** to 121 which was guided by Mugenda & Mugenda (2003) that 30% of the population can be used to determine a representative sample size of the whole population. To obtain the desired sample size from each stratum, stratified proportionate random sampling formula was used $i = n\ (N/P)$, (Kothari, 2009). Where: ***i*** are the number of respondents in the stratum to be sampled, ***n*** is the sample size, ***N*** is the population of the specific stratum, ***P*** is the population. The sample size of each stratum was calculated using the formula $i = n\ (N/P)$,

Table 3. 2: Sampling Frame

Category	Population	Sampling Ratio	Sample
KPLC managers	56	0.68	38
Contractors	34	0.68	23
Community leaders	87	0.68	60
Total	**177**		**121**

3.4.2 Sampling Procedures

Sampling is the process of selecting a number of individuals or objectives from a population such that the selected group contains elements representative of the characteristics found in the entire group. The study selected the respondents using stratified proportionate random sampling technique. Stratified random sampling is unbiased sampling method of grouping heterogeneous population into homogenous subsets then making a selection within the individual subset to ensure representativeness. The goal of stratified random sampling is to achieve the desired representation from various sub-groups in the population. In stratified random sampling subjects are selected in such a way that the existing sub-groups in the population are more or less represented in the sample (Kothari, 2004). The study used simple random sampling to pick the respondents in each stratum.

3.5 Research Instruments

Data collection instrument is used in research to refer to a device that specifies and objectifies the data collecting process, instruments are usually written and may be given directly to the subject to collect data or may provide objective description of the collection of certain types of data. Primary data was obtained using self-administered questionnaires. The questionnaire was made up of both open ended and closed ended questions. The open-ended questions were used so as to

encourage the respondent to give an in-depth and felt response without feeling held back in illuminating of any information and the closed ended questions allow respondent to respond from limited options that had been stated. According to Saunders (2011), the open ended or unstructured questions allow profound response from the respondents while the closed or structured questions are generally easier to evaluate. The questionnaires were used in an effort to conserve time and money as well as to facilitate an easier analysis as they are in immediate usable form.

3.6 Pilot Testing

Pilot study is the measurement of a dependent variable among subjects. Its purpose is to ensure that items in the instrument are stated clearly and have the same meaning to all respondents. The purpose of pre-testing the data instrument is to ensure that the items in the instrument are stated clearly and have the same meaning to all respondents. In this study this involved checking whether the questions are clear and revoking any positive or negative response (Kumar, 2011). Pilot testing of the research instruments were conducted using staff working in health projects in Isiolo County. 12 questionnaires were administered to the pilot survey respondents who were chosen at random representing 10% of the sample size. After one day the same participants were requested to respond to the same questionnaires but without prior notification in order to ascertain any variation in responses of the first and the second test. This is very important in the research process because it assists in identification and correction of vague questions and unclear instructions. It is also a great opportunity to capture the important comments and suggestions from the participants. This helped to improve on the efficiency of the instrument. This process was repeated until the researcher is satisfied that the instrument does not have variations or vagueness.

3.7 Validity of Research Instruments

According to Golafshani (2012), validity is the accuracy and meaningfulness of inferences, based on the research results. Validity is the degree by which the sample of test items represents the content the test is designed to measure. Content validity which was employed by this study is a measure of the degree to which data collected using a particular instrument represents a specific domain or content of a particular concept. One of the main reasons for conducting the pilot study is to ascertain the validity of the questionnaire. The study used content validity which draws an inference from test scores to a large domain of items similar to those on the test. Content validity is concerned with sample-population representativeness.

Gillham (2011) stated that the knowledge and skills covered by the test items should be representative to the larger domain of knowledge and skills. Expert opinion was requested to comment on the representativeness and suitability of questions and give suggestions of corrections to be made to the structure of the research tools. This helped to improve the content validity of the data that was collected. Content validity was obtained by asking for the opinion of the supervisor, lecturers and other professionals on whether the questionnaire was adequate.

3.8 Reliability of Research Instruments

Reliability of a measure indicates the extent to which it is without bias (error free) and hence ensures consistent measurement across time and across the various items in the instrument. It is an indication of the stability and consistency with which the instrument measures the concept and helps to assess the ñgoodnessò of measure (Bell, 2010). Reliability is concerned with the question of whether the results of a study are repeatable. The questionnaire was administered to a pilot group of 12 randomly selected respondents from the target population and their responses used to check the reliability of the tool. Reliability of the data collection instrument was done using the split half method (Gay, 2012) then be calculated using Spearman Brown correlation formulae to get the whole test reliability. A construct composite reliability co-efficient of 0.7 or above, for all the constructs, is considered to be adequate for this study (Rousson, Gasser & Seifer, 2012).

3.9 Data Collection Procedures

The study used primary data which was collected by use of questionnaires; use of questionnaires is based on the fact that they are suitable for a descriptive study given that they are easy to administer, ensure fast delivery and the respondent can answer at their convenience. The questionnaires were self- administered through drop and pick later method. The researcher delivered the questionnaire and give the selected respondent a maximum of 3 days after which the researcher collected the completed questionnaire for analysis. The researcher also assured the participants that the information they give was treated with strict confidentiality. An envelope marked ñquestionnaireò and thesis topic was provided so that once the employee completes the questionnaire, they sealed it to ensure confidentiality is maintained within the organization and guarded against potential victimization by the human resource division or the person designated by the company to co-ordinate the process. The researcher then proceeded to administer the questionnaires through the designated officers

and co-ordinate with them to ensure respondents have adequate time to complete them. This enabled create a conducive environment for the distribution and administration of the questionnaire. Administration of the questionnaire followed the agreed schedule.

3.10 Data Analysis Techniques

Data was analyzed using Statistical Package for Social Sciences (SPSS Version 25.0). All the questionnaires received was referenced and items in the questionnaire was coded to facilitate data entry. After data cleaning which entailed checking for errors in entry, descriptive statistics such as frequencies, percentages, mean score and standard deviation was estimated for all the quantitative variables and information presented inform of tables. The qualitative data from the open-ended questions were analyzed using thematic content analysis and presented in narrative form.

Inferential data analysis was done using multiple regression analysis. Multiple regression analysis was used to establish the relations between the independent and dependent variables. The multiple regression model is chosen because it was useful in establishing the relative importance of independent variables to the dependent variable (Bryman & Cramer, 2012). Such importance is deduced from standardized regression coefficients (beta-weights), whose magnitudes show how much relative impact the independent variables have on the dependent variable, while the negative and positive signs associated with the coefficients show negative and positive impacts respectively (Park, 2008). Also, it is ideal for the dependent variable to be recorded at a continuous level of measurement**.** Since there were four independent variables in this study the multiple regression model generally assumed the following equation;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: -

Y= Performance of repair and maintenance projects

β_0=constant

β_1, β_2, β_3 and β_4 = regression coefficients

X_1= community participation

X_2= Financial availability

X_3= Availability of materials

X_4= Management support

ὐ=Error Term

A One-Way ANOVA was used to test the fitness of the model. The basic principle of ANOVA was to test for differences among the means of the populations by examining the amount of variation within each of these samples, relative to the amount of variation between the samples (Kothari, 2012). Specifically, one-way (or single factor) ANOVA is a way to test the equality of three or more means at one time by using variances (Panneerselvam, 2012). The Levineôs homogeneity of variance test with p value < 0.05 was interpreted to mean the ANOVA test results are significant and the study rejected the null hypothesis if computed F>F critical at 95% confidence interval (Freedman, 2010). The value for the F-statistic was applied in determining the robustness of the model.

3.11 Ethical Considerations

Ethics are norms or standards that guide moral choices about behavior and relationship with others. All parties in research should exhibit ethical behavior (Mathooko *et al.*, 2007). In research ethics refers to the appropriateness of oneôs behavior in relationship to the rights of those who become subjects of oneôs work or are affected by it (Saunders et al, 2003). The researcher observed the following standards of behaviour in relation to the rights of those who become subject of the study or are affected by it.

3.9.1 Authority

The relevant authorization and permits was obtained before proceeding to the field. Further consent was sought for concerned parties whose interest might be touched by the research in question. Copies of the research permit was availed to research assistants who were helping in data collection.

3.9.2 Plagiarism

This is a situation where a researcher refers to another personôs work as theirs without acknowledging another (Mugenda & Mugenda, 2003). It is the unauthorized use of the language, and thoughts of another author and representation of them as oneôs own. The researcher ensured that sources for all information of others are acknowledged through complete, accurate and specific references, foot notes or through use of quotation marks.

3.9.3 Consent

Respondents in a research must make their decision to take part based on adequate knowledge of the study in which they are asked to participate (Oso & Onen, 2009). The researcher provided respondents with information on the purpose, duration, procedure of the study, risks, benefits and the extent of privacy and confidentiality.

Voluntary and informed consent was obtained from the participants each respondent was requested to sign a consent form or provide a verbal consent before taking part in the research.

To ensure privacy and confidentiality, respondents were made to understand that data collected from the study was used only for purposes of this report. They were informed that they can withdraw from the study at any time and for any reason. Their refusal to participate or withdrawal did not affect them in any way. Participants in this research was made aware of their right to remain anonymous in order to get more honest responses. The research team adhered to ethical issues by being confidential, anonymous and avoid any form of deception. The data collected from the study was kept confidential while the researcher ensures that his personal integrity is maintained.

3.12 Operationalization of Variables

The operationalization of variables was shown in Table 3.3.

Table 3.1: Operationalization of variables

Objectives	Type of Variable	Indicator	Measuring of Indicators	Tools of analysis	Type of analysis
To examine the influence of community participation on performance of repairs and maintenance projects in Kenya Power Company Meru County.	Independent	Community participation	Consultation Prototyping reviews Training Community contribution Feedback	Percentages Mean score	Descriptive statistics Regression analysis
To determine the influence of financial availability on performance of repairs and maintenance projects in Kenya Power Company Meru County.	Independent	Financial availability	Financial allocation Funding availability Accessibility Consistency of funds	Percentages Mean score	Descriptive statistics Regression analysis
To assess the influence of availability of materials on performance of repairs and maintenance projects in Kenya Power Company Meru County.	Independent	Availability of materials	Disbursement Procurement cycle Resource scheduling Lean management	Percentages Mean score	Descriptive statistics Regression analysis
To establish the influence of management support on performance of repairs and maintenance projects in Kenya Power Company Meru County.	Independent	Management support	Leadership Style Commitment Information sharing Staff allocation Managing societal demands and Motivation	Percentages Mean score	Descriptive statistics Regression analysis
	Dependent	Performance of repairs and maintenance projects	Completed on time, Completed within the budget Customer satisfaction Superior project quality Sustainability Efficiency and effectiveness	Mean score	Descriptive statistics Regression analysis

CHAPTER FOUR
DATA ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 Introduction

In this chapter, presentation, interpretation as well as analysis of the data collected on the to establish the factors influencing performance of repairs and maintenance projects in Kenya Power Company Meru County were presented. The researcher made use of frequency tables and percentages to present data. Mean and standard deviation were also used to represent the findings for matrix questions

4.2 Response Rate

The study targeted 121 respondents that included KPLC managers, contractors and community leaders. From these respondents only 92 were able to deliver back fully filled questionnaires. This gave a return rate of 76% which was acceptable for data analysis as it was more than 50% as recommended by Osoro (2012).

4.3 Reliability Analysis

In this study, construct reliability was determined using Cronbach alpha coefficients that test internal consistency of items on a scale. The results of the reliability analysis are presented in the Table 4.1.

Table 4. 1: Reliability of Measurement Scales

	Number of Items	Cronbach's Alpha
Community participation	4	.704
Financial availability	4	.791
Availability of materials	4	.822
Management support	6	.871

From the findings , management support was more reliable with a coefficient of 0.871 while community participation was less reliable with a coefficient of 0.704. All the variables were considered reliable since the results showed that their Cronbach Alpha associated were above 0.70 threshold as recommended by Cooper and Schindler (2014) that Cronbach Alphaôs should be in excess of 0.70 for the measurement intervals to be reliable. Since all the variables were found to be reliable, then no ammendment on the questionnaire were done.

4.4 Demographic Information

In this study, data was collected from different groups of respondents based on their gender, how long they have been working with repairs and maintenance projects, their highest level of education and their age bracket. This information was required to assess how eligioble the respondents were to respond to the querries in the questionnaire and whether the information they provide was reliable.

4.4.1 Gender of the Respondent

The researcher collected data based on the respondentsô gender. This data was then summarized and presented in Table 4.2.

Table 4. 2: Gender of the Respondent

	Frequency	Percent
Male	71	77.2
Female	21	22.8
Total	**92**	**100**

According to the results in Table 4.3, most of the respondents were revealed to be male as shown by 77.2% (71) and the female respondents were only 22.8% (21). This shows that the kenya power company management is dominated by male employees as a result of the nature of the work and most of the contractors as well as community leaders are male. However the study was gender biased since female respondents were also considered and the researcher obtain reliable information from all gender fronts.

4.4.2 Respondents Period Working with Repairs and Maintenance Projects

The researcher further explored how long the respondents how long have you been working with repairs and maintenance projects. The results are in Table 4.3.

Table 4. 3: Respondents Period Working with Repairs and Maintenance Projects

	Frequency	Percent
Less than 3 years	12	13
3 to 9 years	30	32.6
9 to 12 years	40	43.5
Above 12 years	10	10.9
Total	**92**	**100**

Majority of the respondents indicated that they had have been working with repairs and maintenance projects for a period of 9 to 12 years as shown by 43.5% (40). The remainder indicated they had have been working with repairs and maintenance projects for a period of 3 to 9 years as shown by 32.6% (30), less than 3 years as shown by 13% (12) and more than 12

years as illustrated by 10.9% (10). This implies that majority of the respiondents had alot of experfience in repairs and maintenance projects sector since they had been involved in as much as as 12 years. The experience comes in with alot of knowledge of what you are experienced in. This means that the information provided by the respondents could be reliaed upon.

4.4.3 Respondents Highest Level of Education

The researcher enquired about the respondentsô highest level of education by asking the respondents questions based on their highest level of education. Table 4.4 is a summary of their responses.

Table 4. 4: Respondents Highest Level of Education

	Frequency	Percent
Certificate	36	39.1
Diploma	11	12
Degree	26	28.3
Masters	10	10.9
PhD	9	9.8
Total	**92**	**100**

On the respondentsô highest level of education, majority of the respondents indicated to have a certificate as illustrated by 39% (36). Other respondents indicated to have a degree as shown by 28.3%(26), diploma as shown by 12% (11), masters as illustrated by 10.9% (10) while those who had PhD were 9.8% (9). All the the respondents had general knowledge on repairs and maintenance projects since they had basic education. This means that all the respondents could understant the questions in the questionnaires and respond to the effectively. Therefore the information obtained from the respondents was reliable.

4.4.4 Respondents Age Bracket

The respondents age bracket was also explored in this study where the respondents indicated to which age bracket do they belong. Table 4.5 shows the results.

Table 4. 5: Respondents Age Bracket

	Frequency	Percent
20-30 yrs	9	9.8
31-40 yrs	39	42.4
41-50 yrs	30	32.6
51 ï 60 yrs	14	15.2
Total	**92**	**100**

On the age of the respondents, the study found that the majority of the respondents were between 31 and 40 years as shown by 42.4% (39), 32.6% (30) were aged between 41 and 50 years, 15.2% (14) were aged between 51 and 60 years while 9.8% (9) were aged between 20 and 30 years. The respondents who responded to the questionnairres were from accross all the required age groups however majority were aged 31 to 40 years. This shows that the information given was from a wide scope making it reliable. Also since most of the respondents were aged between 31 and 40 years, it means that they had been in one way or the other been involved in the repairs and maintenance projects for long enough hence aking the information they provided to be valuable.

4.5 Factors Influencing Performance of Repairs and Maintenance Projects

The performance of repairs and maintenance projects is believed to affected by various factors. However, in this study the researcher focused on assessing the effect that community participation, financial availability, availability of materials and management support have on the repairs and maintenance projects performance. The findings for these factors were presented in this section.

4.5.1 Community Participation

The researcher required the respondents to use a likert scale of 1-5 and indicate to what extent do community participation influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. All the opinions of the respondents were summarised and illustrated in Table 4.6.

Table 4. 6: Community Participation Influence on Performance of Repairs and Maintenance Projects

	Frequency	Percent
Low extent	11	12
Moderate extent	28	30.4
Great extent	39	42.4
Very great extent	14	15.2
Total	**92**	**100**

From the respondents opinions, it was clear that community participation influence the performance of repairs and maintenance projects in Kenya Power Company Meru County in a great extent as shown by 42.4% (39), in a moderate extent as shown by 30.4% (28), in a very great extent as shown by 15.2% (14) and in a low extentb as shown by 12% (11). This is an indication that there is a great influence on performance of repairs and maintenance projects in Kenya Power Company Meru County by community participation.

Moreover, the researcher required the respondents to use a Likert scale of 1 to 5 and indicate the influence of various aspects of community participation on performance of repairs and maintenance projects in Kenya Power Company Meru County. Their responses were as shown in Table 4.7.

Table 4. 7: Influence of various Aspects of Comunity Participation on Performance of Repairs and Maintenance Projects

	Mean	Std. Dev.
Consultation	3.8152	0.6942
Prototyping reviews	2.6304	0.8983
Training	3.7935	0.9322
Community contribution	4.3152	0.8762

On the influence of aspects of community participation on performance of repairs and maintenance projects, the respondents revealed that community contribution as expressed by a mean of 4.3152 and a standard deviation of 0.8762, consultation as shown by a mean of 3.8152 and standard deviation of 0.6942, training as illustrated by a mean of 3.7935 and a standard deviation of 0.9322 greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. However, the respondents indicated that prototyping reviews as shown by a mean of 2.6304 and standard deviation of 8983 moderately influence the performance of repairs and maintenance projects in Kenya Power Company Meru County.

4.5.2 Financial Availability

The researcher expected the respondents to use a Likert scale of 1 to 5 and tell to what extent do financial availability influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. The findings from the opinions were presented in table 4.8.

Table 4. 8: Financial Availability Influence on Performance of Repairs and Maintenance Projects

	Frequency	Percent
Moderate extent	18	19.6
Great extent	56	60.9
Very great extent	18	19.6
Total	**92**	**100**

As per the results, the respondents revealed that performance of repairs and maintenance projects in Kenya Power Company Meru County is greatly affected by financial availability as shown by 60.9% (56), moderately and greatly as shown by 19.6% (18). This is an

implication that financial availability greatly influences the performance of repairs and maintenance projects in Kenya Power Company Meru County.

Further, the respondents were expected by the researcher to indicate the extent to which various aspects of financial availability influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. The results were as shown in Table 4.9.

Table 4. 9: Aspects of Financial Availability Influence the Performance of Repairs and Maintenance Projects

	Mean	Std. Dev.
Financial allocation	2.8913	0.3129
Funding availability	3.9239	0.8674
Accessibility	4.1304	0.6499
Consistency of funds	3.2935	0.9555

On the opinions of aspects financial availability influence, the respondents revealed that accessibility as illustrated by a mean of 4.1304 and a standard deviation of 0.6499, funding availability as shown by a mean of 3.9239 and a standard deviation of 0.8674 and consistency of funds as indicated by a mean of 3.2935 and a standard deviation of 0.95547 greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. The respondents further indicated that financial allocation as expressed by a mean of 2.8913 and a standard deviation of 0.31296 moderately influence the performance of repairs and maintenance projects in Kenya Power Company Meru County.

4.5.3 Availability of Materials

Using a Likert scale of 1 to 5, the respondents were asked to indicate the extent to which availability of materials influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. The respondentsô opinions were in Table 4.10.

Table 4. 10: Availability of Materials Influence on Performance of Repairs and Maintenance Projects

	Frequency	Percent
Low extent	9	9.8
Moderate extent	27	29.3
Great extent	21	22.8
Very great extent	35	38
Total	**92**	**100**

From the summary of the respondentsô opinions, it was clear that availability of materials influences the performance of repairs and maintenance projects in Kenya Power Company Meru County in a very great extent as shown 38% (35), in a moderate extent as expressed by

29.3% (27), in a great extent as shown by a mean of 22.8% (21) and in a low extent as shown by 9.8% (9). This shows that availability of materials influences the performance of repairs and maintenance projects in Kenya Power Company Meru County.

Moreover, the respondents were expected by the researcher to indicate the extent to which various aspects of availability of materials influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. The results were as shown in Table 4.11.

Table 4. 11: Aspects of Availability of Materials Influence the Performance of Repairs and Maintenance Projects

	Mean	Std. Dev.
Disbursement	4.1211	0.6421
Procurement cycle	3.9348	0.7675
Resource scheduling	2.8696	0.8922
Lean management	3.6957	0.8352

From the findings, the respondents indicated that disbursement (Mean=4.1211, Standard Deviation=0.6421), procurement cycle (Mean=3.9348, Standard Deviation=0.7675) and lean management (Mean=3.6957, Standard Deviation=0.8352) greatly influences the performance of repairs and maintenance projects in Kenya Power Company Meru County while resource scheduling (Mean=2.8696, Standard Deviation=0.8922) moderately influences the performance of repairs and maintenance projects in Kenya Power Company Meru County.

5.5.4 Management Support

The respondents were asked by the researcher to use a Likert scale of 1 to 5 and indicate the extent to which management support influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. Their replies were as illustrated in Table 4.12.

Table 4. 12: Management Support Influence the Performance of Repairs and Maintenance Projects

	Frequency	Percent
Low extent	8	8.7
Moderate extent	22	23.9
Great extent	52	56.5
Very great extent	10	10.9
Total	**92**	**100**

From the findings, the respondents indicated that management support influence the performance of repairs and maintenance projects in a great extent as shown by 56.5% (52), in

a moderate extent as shown by 23.9%, in a very great extent as shown by 10.9% (10) and in a low extent as shown by 8.7% (8). This reveals that management support influence the performance of repairs and maintenance projects greatly.

Further, the respondents were expected by the researcher to use a Likert scale of 1 to 5 and indicate the extent to which various aspects of management support influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. The results were as shown in Table 4.13.

Table 4. 13: Aspects of Management Support Influence the Performance of Repairs and Maintenance Projects

	Mean	Std. Dev.
Leadership Style	3.9565	0.69398
Commitment	2.3478	0.58243
Information sharing	4.4457	0.81691
Staff allocation	3.7391	0.69329
Managing societal demands and Motivation	3.6739	0.96201
Motivation	4.1957	0.74479

The respondents indicated that information sharing as shown by a mean of 4.4457 and a standard deviation of 0.8169, Motivation as illustrated by mean of 4.1957 and a standard deviation of 0.7448, leadership Style as illustrated by a mean of 3.9565 and a standard deviation of 0.6939 greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County.

The respondents also indicated that staff allocation as expressed by a mean of 3.7391 and a standard deviation of 0.6933 and managing societal demands and Motivation as shown by a mean of 3.6739 and a standard deviation of 0.9620 greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County while commitment as shown by a mean of 2.3478 and a standard deviation of 0.5824 lowly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County.

4.5.5 Performance of Repairs and Maintenance Projects

The researcher also expected the respondents to indicate the trend of the various aspects of performance of repairs and maintenance projects in KPLC for the last 5 years. The respondentsô opinions were presented in Table 4.14.

Table 4. 14: Trend of Performance of Repairs and Maintenance Projects

	Mean	Std. Dev.
Completed on time,	4.3804	0.67681

Completed within the budget	3.7283	0.96195
Customer satisfaction	4.0978	0.8652
Superior project quality	3.0978	0.94995
Sustainability	3.9565	0.69398
Efficiency and effectiveness	2.0652	0.78172

From the findings, the respondents indicated that completion on time as shown bya mean of 4.3804, customer satisfaction as expressed by a mean of 4.0978, sustainability as indicated by a mean of 3.9565 and completion within the budget as shown by a mean of 3.7283 have improved for the last five years. The respondents further indicated that superior project quality as shown by a mean of 3.0978 have been constant while efficiency and effectiveness as indicated by a mean of 2.0652 have been decreasing over the last five years.

4.6 Inferential Statistics

The researcher conducted both pearson moment correlation analysis and the multiple regressionn analysis. Pearson moment correlation was conducted to establish the strength of the relationship while multiple regression was done to establish the relationship between variables.

4.6.1 Pearson Moment Correlation Results

A correlation is a number between -1 and +1 that measures the degree of association between two variables. A positive value for the correlation implies a positive association while a negative value for the correlation implies a negative or inverse association. The findings were as shown in Table 4.15.

Table 4. 15: Pearson Moment Correlation Coefficients

		Performance of repair and maintenance nroiects	Community participation	Financial availability	Availability of materials	Management Support
Performance of repair and maintenance projects	Pearson Correlation	1				
	Sig. (2-tailed)	.				
Community participation	Pearson Correlation	.784	1			
	Sig. (2-tailed)	.020	.			
Financial availability	Pearson Correlation	.739	.223	1		
	Sig. (2-tailed)	.027	.006	.		
Availability of materials	Pearson Correlation	.815	.243	.497	1	
	Sig. (2-tailed)	.025	.002	.000	.	
Management Support	Pearson Correlation	.872	.333	.420	.531	1
	Sig. (2-tailed)	.017	.000	.000	.000	.

The analysis of correlation results between the Performance of repair and maintenance projects and Community participation shows a positive coefficient 0.784, with p-value of 0.020. It indicates that the result is significant at Ŭ =5% and that if the Community participation increases it will have a positive impact on the performance of repair and maintenance projects. The correlation results between financial availability and performance of repair and maintenance projects also indicates the same type of result where the correlation coefficient is 0.739 and a p-value of 0.027 which significant at Ŭ= 5%.

The results also show that there is a positive association between availability of materials and performance of repair and maintenance projects where the correlation coefficient is 0.815, with a p-value of 0.025. Further, the result shows that there is a positive association between management Support and performance of repair and maintenance projects where the correlation coefficient is 0.872, with a p-value of 0.017. Nevertheless, the positive relationship indicates that when the practice of the afore-mentioned factors is in place the levels of performance of repair and maintenance projects increases

4.6.2 Regression Analysis

The multiple regression analysis was used to test the relationship between the variables where it shows how the dependent variable is influenced by the independent variables.

Table 4. 16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.893	0.797	0.788	0.956

From the results, the adjusted R square was 0.788. This implies model highly fits the data since the Adjusted R square was more than 0.7 and that community participation, financial availability, availability of materials and management support explains 78.8% of the variation in performance of repair and maintenance projects. The remaining 21.2% accounted for the factors influencing performance of repairs and maintenance projects that are not covered in this study.

Table 4. 17: ANOVA Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	323.133	4	80.783	85.484	.000
	Residual	82.216	87	0.945		
	Total	**405.349**	**91**			

From the ANOVA Table, the p-value was 0.000 and the calculated F-value was 85.484. This shows that the overall regression model was significant in predicting the outcome of

Performance of repair and maintenance projects based on the values of community participation, financial availability, and availability of materials and availability of materials since p-value was less than 0.05 and F-calculated was greater than F-critical (2.4765).

Table 4. 18: Coefficients of Determination

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.136	0.182		6.242	.000
Community participation	0.736	0.296	0.784	2.486	.015
Financial availability	0.612	0.208	0.739	2.942	.004
Availability of materials	0.774	0.317	0.815	2.442	.017
Management Support	0.833	0.312	0.872	2.670	.009

The established model for the study was:

$$Y= 1.136 + 0.736X_1 + 0.612X_2 + 0.774X_3 + 0.833X_4$$

Where: -

Y= Performance of repair and maintenance projects

$б_0$=constant

X_1= Community participation

X_2= Financial availability

X_3= Availability of materials

X_4= Management support

The regression equation above has established that taking (community participation, financial availability, availability of materials and availability of materials), performance of repair and maintenance projects will be 1.136. The findings presented also show that taking all other independent variables at zero, a unit increase in the community participation significantly leads to an increase in increase in the score of performance of repair and maintenance projects as shown by B=0.736 and p-value of 0.015.

Further the study revealed that a unit change in financial availability would significantly lead to 0.612 increase in the score of performance of repair and maintenance projects since p-value (0.004) was less than 0.05. Moreover, if all other factors are held constant at zero, a unit increase availability of materials significantly leads to increase in performance of repair and maintenance projects as shown by a regression coefficient of 0.774 and p-value of 0.07.

The also study found that holding other factors constant at zero, a change in management support leads to a significant 0.774 increase performances of repair and maintenance projects

since p-value (0.009) was less than 0.05. Overall, management support had the greatest effect on performance of repair and maintenance projects in in Kenya Power Company Meru County followed by availability of materials, then community participation while financial availability had the least effect on the performance of repair and maintenance projects in Kenya Power Company Meru County.

CHAPTER FIVE
SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this section, the findings on effect community participation, financial availability, availability of materials and management support on the performance of repairs and maintenance projects in KPLC were summarized and presented. The findings were also discussed in relation with literature review. The conclusions and recommendations were later deduced from the findings.

5.2 Summary of the Findings

The first objective was to examine the influence of community participation on performance of repairs and maintenance projects in Kenya Power Company Meru County. In this case the study revealed that there is a great influence on performance of repairs and maintenance projects in Kenya Power Company Meru County by community participation. The study further established that the aspects of community participation that affect performance of repairs and maintenance projects greatly were community contribution, consultation, training while prototyping reviews had moderate influence the performance of repairs and maintenance projects in Kenya Power Company Meru County

The second objective was to determine the influence of financial availability on performance of repairs and maintenance projects in Kenya Power Company Meru County. Therefore, the study found that financial availability greatly influences the performance of repairs and maintenance projects in Kenya Power Company Meru County. It also found that accessibility, funding availability and consistency of funds greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County while financial allocation moderately influence the performance of repairs and maintenance projects in Kenya Power Company Meru County.

The third objective was to assess the influence of availability of materials on performance of repairs and maintenance projects in Kenya Power Company Meru County and found that availability of materials influences the performance of repairs and maintenance projects in Kenya Power Company Meru County. It was clear that disbursement, procurement cycle and lean management are the aspects of availability of materials that greatly influences the performance of repairs and maintenance projects in Kenya Power Company Meru County as

well as resource scheduling that moderately influences the performance of repairs and maintenance projects in Kenya Power Company Meru County.

The last objective was to establish the influence of management support on performance of repairs and maintenance projects in Kenya Power Company Meru County. The study revealed that management support influences the performance of repairs and maintenance projects greatly. Further it was clear that information sharing, motivation and leadership Style greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. Moreover, it was established that staff allocation and managing societal demands and Motivation greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County while commitment lowly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County.

5.3 Discussion of the findings

5.3.1 Community Participation

The study revealed that there is a great influence on performance of repairs and maintenance projects in Kenya Power Company Meru County by community participation. This is in line with Davids *et al*. (2009) who notes that community participation leads to empowerment of the community; empowerment centers on individuals developing a critical understanding of their circumstances and social reality. Participation of the community in development projects leads to capacity building which enables the community to be more effective and efficient in the process of identifying, implementing, management of developmental projects.

The study further established that the aspects of community participation that affect performance of repairs and maintenance projects greatly were community contribution, consultation, training while prototyping reviews had moderate influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. This is consistent with Muhangi (2013) who argues that the community has a legitimate right to make decisions regarding the project on behalf of the users. Interference from the donor or government should be minimal and occur only when requested by the community or when intervention is in the interests of the beneficiaries.

5.3.2 Financial Availability

The study found that financial availability greatly influences the performance of repairs and maintenance projects in Kenya Power Company Meru County. This concurs with Finnerty (2013) who argues that financial Availability has a positive and significant effect on repairs and maintenance projects performance. The preparation of budgets coupled with budget expertise provides a spending plan for finances making it possible for availability of funds to enhance future growth and overall project performance. Budgeting practice as a predictor to performance has a very strong relationship hence has a very strong contribution to performance.

It also found that accessibility, funding availability and consistency of funds greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County while financial allocation moderately influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. This agrees with findings by Kaarin and Njuki (2013) who indicates that resource availability is a basic element of participatory implementation of projects and increases the likelihood that running project activities and resource allocation could continue until the project ends and reach chance to grab advantages.

5.3.3 Availability of Materials

The study found that availability of materials influences the performance of repairs and maintenance projects in Kenya Power Company Meru County. This corelates with Gupta (2011) who stated that repairs and maintenance projects are complex, capital intensive, having long gestation period and involve multiple risks to the project participants. Due to this, the task of providing infrastructure is traditionally that of the government as the government is able to utilize its planning and administrative capabilities in undertaking infrastructure development.

It was clear that disbursement, procurement cycle and lean management are the aspects of availability of materials that greatly influences the performance of repairs and maintenance projects in Kenya Power Company Meru County as well as resource scheduling that moderately influences the performance of repairs and maintenance projects in Kenya Power Company Meru County. This conforms to Seith and Philippines (2012) who insinuates that it is important for project specialists to weigh in on project budget needs at the project design stage so that funds are allocated specifically to project and are available to implement key project tasks. Adequate resources ensure effective and quality performance of repairs and

maintenance projects. It is critical to set aside adequate financial and human resources at the planning stage.

5.3.4 Management Support

The study revealed that management support influences the performance of repairs and maintenance projects greatly. Further it was clear that information sharing, motivation and leadership Style greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. This is consistent with Muller and Turner (2010) investigated leadership competency profiles of successful project managers through administration of a web-based questionnaire to project management professional and masters students in project management in the UK, Ireland, Australia, New Zealand, USA and Canada and found that differences in project managerôs leadership competency profiles in terms of complexity and contract type and not in terms of application area and project importance.

Moreover, it was established that staff allocation and managing societal demands and Motivation greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County while commitment lowly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. This agrees with Fewings (2013) findings that communication and information sharing as an aspect of management support not only impacts on a project but also determines the understanding that a community has of specific issues and the general status of the project. Holding consultations with the community as a whole, rather than engaging in selective consultation provides clear communication channels and disseminates information so that everyone has a similar understanding of the key issues.

5.4 Conclusions

The study concluded that community participation significantly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. Some of the aspects of community participation that were found to greatly influence the performance of repairs and maintenance projects in KPLC were community contribution as well as consultation, training.

Further the study concluded that financial availability influenced the performance of repairs and maintenance projects in Kenya Power Company Meru County greatly and positively. This was attributed to the fact that accessibility, funding availability and consistency of funds

among other aspects of financial availability were found to greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County.

The study also concluded that availability of materials influence performance of repairs and maintenance projects in Kenya Power Company Meru County positively and significantly. The performance of repairs and maintenance projects in Kenya Power Company was found to be greatly influenced by disbursement, procurement cycle and lean management while a there was a moderate influence by resource scheduling.

The study concluded that management support had a great and significant influence on performance of repairs and maintenance projects in Kenya Power Company Meru County. This was as a result of the fact that information sharing, motivation and leadership Style as the aspects of management support greatly influence the performance of repairs and maintenance projects in Kenya Power Company Meru County. It was also clear that staff allocation and managing societal demands and Motivation greatly influenced the performance of repairs and maintenance projects in Kenya Power Company Meru County.

Finally, the study concluded that management support had the greatest effect on performance of repair and maintenance projects in in Kenya Power Company Meru County followed by availability of materials, then community participation while financial availability had the least effect on the performance of repair and maintenance projects in Kenya Power Company Meru County.

5.5 Recommendations

The study recommends that KPLC managers should be in-serviced on the importance of their strategic role in management of project resources which would determine the availability of materials and thus improved performance of the repairs and maintenance projects. The study further recommends that various project stakeholders and governments of developing countries should focus on competitive engagement of project managers based on their competencies and experience to promote successful project resource availability as a potential source of economic growth.

The study recommends that the contractors should hold capacity building sessions for project management committee members and community leaders so as to equip them with appropriate knowledge concerning the designing and development of repairs and maintenance projects. The local community should be mobilized so as to build an interest in participating during project activities. Mobilization should start at the initial stage of project

conceptualization. Frequent facilitation, support and monitoring from relevant institutions at different levels of project development are important and highly recommended so as to guarantee project sustainability.

The national government should allocate adequate funds for repairs and maintenance projects. The study recommends that the maintenance agencies in the rural areas must fully involve all the stakeholders including the residents in order to ensure achievement of good rural roads that will spur development. The county government should encourage residents to form social audit teams that cannot be easily compromised to monitor the performance of the assigned contractors.

The study recommends that training and capacity building programs are needed in which facilitators who are identified and trained by Ministry Energy can interact with and exchange ideas with local communities and, at the same time, instill new ideas. The training should be broad and touch on all areas relating to development, not narrowly on project identification and implementation. Once rural communities have been sensitized and encouraged to take the initiative in this direction, external support could be sought for more capacity building.

There is a need to ensure that communities are not only involved in the implementation of the repair and maintenance projects but are also encouraged by management at divisional and location levels (community-based development agencies) to alter their current low participation which inhibits their development. If the declining rural economy is to be revived, all officials at all levels must begin by informing the rural population of what is happening and by guiding them towards full participation in projects meant for their own welfare. This should go beyond the rural household to grass root levels, schools and tertiary institutions of learning. In order to guarantee sustainability of this spirit and motivate the rural people. Policymakers and project managers now need to devise ways of invoking more participation and ensuring that participation is sustained.

The project operation and maintenance agencies must accept the challenge for project sustainability and carry the whole community along. The leaders must be out-rightly accountable and answerable to beneficiaries rather than to political and bureaucratic superiors. The records should be well documented in a simple language and accessible to every member of the community. The project leaders should also be transparent in their dealings with the members of the community and call for regular meetings where the people are briefed on the sustainability efforts and challenges ahead. Therefore, the suitability of

infrastructure projects depends crucially on an enabling institutional environment which requires government commitment and accountability of the implementing agencies to the local communities

5.6 Recommendations for Further Studies

This study was limited to Kenya Power Company Meru County. Therefore, the study recommends that the same study should done to determine factors influencing performance of repairs and maintenance projects in Kenya Power Company in the other counties.

The study also recommends that this study should be replicated on other sectors of economy. This study should be done to establish the factors influencing performance of repairs and maintenance projects based on Road projects.

the study recommends that further studies need to be done on sustainability of repairs and maintenance projects in Kenya Power Company Meru County Kenya. Also, future studies may explore the factors affecting safety performance in repair, maintenance, alteration, and addition (RMAA) projects.

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APPENDICES

Appendix I: Letter of Transmittal

P.O Box 2345.

Meru.

Dear Sir/ Madam,

RE: ACADEMIC RESEARCH PROJECT

I am a Master of Arts in Project Planning and Management student at University of Nairobi. I wish to conduct a research entitled factors influencing performance of repairs and maintenance projects in Kenya Power Company Meru County. A questionnaire has been designed and will be used to gather relevant information to address the research objective of the study. The purpose of writing to you is to kindly request you to grant me permission to collect information on this important subject from your organization.

Please note that the study will be conducted as an academic research ant the information provided will be treated in strict confidence. Strict ethical principles will be observed to ensure confidentiality and the study outcomes and reports will not include reference to any individuals.

Your acceptance will be highly appreciated.

Yours faithfully,

Appendix II: Research Questionnaire

This questionnaire is to collect data for purely academic purposes. The study seeks to investigate the *factors influencing performance of repairs and maintenance projects in Kenya Power Company Meru County.* All information will be treated with strict confidence. Do not put any name or identification on this questionnaire.

Answer all questions as indicated by either filling in the blank or ticking the option that applies.

SECTION A: DEMOGRAPHIC INFORMATION

(Please tick (ã) appropriate answer)

1) Please indicate your gender: Female [ ] Male [ ]
2) For how long have you been working with repairs and maintenance projects?
   Less than 3 years [ ] 3 to 9 years [ ]
   9 to 12 years [ ] Above 12 years [ ]
3) State your highest level of education
   Certificate [ ] Diploma [ ] Degree [ ] Masters [ ] PhD [ ]

Others (Specify) ----------

4) Please Indicate your age bracket
   20-30 yrs [ ] 31-40 yrs [ ] 41-50 yrs [ ] 51 ï 60 [ ]

SECTION B: FACTORS INFLUENCING PERFORMANCE OF REPAIRS AND MAINTENANCE PROJECTS

Community Participation

5) To what extent does community participation influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

   Not at all [ ] Low extent [ ]
   Moderate extent [ ] Great extent [ ] Very great extent [ ]

6) To what extent do the following influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

	Very great extent	Great extent	Moderate extent	Low extent	Not at all

Consultation					
Prototyping reviews					
Training					
Community contribution					

7) In your view how do the above aspects of community participation influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

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Financial Availability

8) To what extent does financial availability influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

Not at all [ ] Low extent [ ]

Moderate extent [ ] Great extent [ ] Very great extent [ ]

9) To what extent do the following influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

	Very great extent	Great extent	Moderate extent	Low extent	Not at all
Financial allocation					
Funding availability					
Accessibility					
Consistency of funds					

10) In what way does financial availability influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

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Availability of Materials

11) To what extent does availability of materials influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

Not at all [ ] Low extent [ ]

Moderate extent [ ] Great extent [ ] Very great extent [ ]

12) To what extent do the following influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

	Very great extent	Great extent	Moderate extent	Low extent	Not at all
Disbursement					
Procurement cycle					
Resource scheduling					
Lean management					

13) In your view how does availability of materials influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

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Management Support

14) To what extent does management support influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

Not at all [ ] Low extent [ ]

Moderate extent [ ] Great extent [ ] Very great extent [ ]

15) To what extent do the following influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

	Very great extent	Great extent	Moderate extent	Low extent	Not at all
Leadership Style					

Commitment					
Information sharing					
Staff allocation					
Managing societal demands and Motivation					
Motivation					

16) In your view how does management support influence the performance of repairs and maintenance projects in Kenya Power Company Meru County?

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Performance of Repairs and Maintenance Projects

17) What is the trend of the following aspects of performance of repairs and maintenance projects in KPLC for the last 5 years? Where, 5 = greatly improved, 4= improved, 3= constant, 2= decreased, 1 = greatly decreased

	1	**2**	**3**	**4**	**5**
Completed on time,					
Completed within the budget					
Customer satisfaction					
Superior project quality					
Sustainability					
Efficiency and effectiveness					

Thank you for participating

Appendix III: Time Frame

Duration in weeks/Activity	**1**	**2**		**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Problem identification																	
Project writing																	
Seeking consent from ethical committees																	
Recruitment and training of research assistants																	
Pre-testing of study tools																	
Administration of tools																	
Data cleaning and entry																	
Data analysis																	
Report writing and presentation																	
Compilation of final report/dissemination																	

Appendix IV: Budget

ITEM	UNIT COST	QUANTITY	TOTAL COST
HUMAN RESOURCE			
(a)Training of research assistants			
Research assistants allowance (4)	500	4X3X500	6000
Principal researcher (1)	1000	1X3X1000	3000
b) Pretesting of questionnaires			
Research assistants allowance (4)	500	4X3X500	6000
Principal researcher (1)	1000	1X3X1000	3000
c)Data collection			
Research assistants allowance (4)	500	4X5X2X500	20000
Principal researcher (1)	1000	1X5X2X1000	10000
Subtotal			**48000**
MATERIALS AND SUPPLIES			
Biro pens (1doz)	180	1x 180	180
Pencils 1doz	60	1x60	60
Rubbers (5)	20	5x20	100
Folders (5)	100	5x100	200
Field books (5)	65	5x65	325
Subtotal			**1465**
PROJECT AND THESIS			
Project typing and printing (50pages)	35	35x50	1750
Photocopying 5 copies (250pages)	3	3x250	750
Photocopying of questionnaire	3	3x5x253	3795
Data analysis	30000	30,000	30000

Typing and printing of final report	35	35x60	2100
Photocopying of final report (5 copies)	3	3x5x60	900
Binding of final report (5 copies)	700	5x700	3500
Subtotal			**42,795**
GRAND TOTAL			**92,260**