

**PROJECT DESIGN FACTORS INFLUENCING IMPLEMENTATION OF  
INFRASTRUCTURAL DEVELOPMENT PROJECTS IN DEVOLVED  
GOVERNMENTS: A CASE OF MARSABIT AND ISIOLO COUNTIES, KENYA**

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## **DECLARATION**

This research project report is my original work and has not been presented for any award in any other University.

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## **DEDICATION**

This research project report is dedicated to my lovely parents Mr. Abdullahi Abdi Mumin and Genya Omar Aden whose efforts to educate me have borne the fruits of this work. This report is also dedicated to my wife Rahma Haji for her unwavering support and understanding during my long periods of absence while preparing this study. I equally dedicate it to my children Akram, Ikran, Ruman, Khalid, Abdulrahman, Abdulfattah, and Salma. And to all my brothers and sisters.

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## **ABBREVIATIONS AND ACRONYMS**

<b>CCPM</b>	Critical Chain Project Management Theory
<b>FAO</b>	Food and Agriculture Organization
<b>GOK</b>	Government of Kenya
<b>ILO</b>	International Labour Organization
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>PDPCPP</b>	Project Design Principles and Community Participation Project
<b>PMBOK</b>	Project Management Body of Knowledge
<b>PM&amp;E</b>	Participatory Monitoring and Evaluation
<b>SPSS</b>	Statistical Package for Social Sciences
<b>UN</b>	United Nations
<b>UNDP</b>	United Nations Development Programme
<b>UNESCO</b>	United Nations Educational Scientific and Cultural Organization
<b>WHO</b>	World Health Organization

## ABSTRACT

This purpose of this study was to investigate the project design factors influencing the implementation of infrastructural project in devolved governments; a case of Marsabit and Isiolo Counties. The study was guided by five objectives. The objectives sought to establish how project planning, project leadership, community involvement, resources availability and commitment of project participants influenced the implementation of infrastructure projects in Marsabit and Isiolo counties. The study was guided by descriptive research survey design. The target population was 56 project personnel involved in the management of the projects and 320 households. The sample size for the study was 48 personnel involved in the management of the projects and 175 household heads. Data was collected using questionnaires for the personnel while interview was conducted for the household heads. Descriptive statistics were used to analyze the data while Pearson's product-moment correlation coefficient was used to measure relationship between independent and dependent variables. Findings revealed that project planning, project leadership, community involvement, resources availability and commitment of project participants influenced the implementation of infrastructure projects in Marsabit and Isiolo counties. Persons product-moment correlation revealed that there was a strong, positive correlation between project planning and implementation of infrastructure projects, ( $r= 0.682$ ,  $p= 0.05$ ). There was a positive correlation between project leadership and implementation of infrastructure projects ( $r= 0.512$ ). There was a positive correlation between community involvement and implementation of infrastructure projects ( $r= 0.623$ ). There was a positive correlation between resources availability and implementation of infrastructure projects( $r= 0.543$ ). It was also revealed that there was a strong, positive correlation between project participants' commitment and implementation of infrastructure projects which was statistically significant ( $r= 0.732$ , ( $p = 0.05$ ). The study concluded that project planning influenced the implementation of infrastructure projects. It was also concluded that community involvement influenced the implementation of infrastructure projects. It was further concluded that resources availability influenced the implementation of infrastructure projects. The study also concluded that project participants' commitment influenced the implementation of infrastructure projects and lastly it was concluded that there was a positive correlation between project participants' commitment and implementation of infrastructure projects. It was also recommended that the county governments of Marsabit and Isiolo should focus on project leadership in the training of leaders as this was important in the implementation of infrastructure projects. The study further recommended that the county governments should involve the community for better implementation of infrastructure projects. Lastly it was recommended that the county governments of Marsabit and Isiolo should avail the required resources for the implementation of infrastructure projects. The study suggested that there is still room for further investigation in this area, more studies should be carried out in other counties and in other projects undertaken in devolved governments. The researcher therefore suggests more exploration on various ways of involving the community members to enhance the implementation of infrastructure development projects. There is need for assessment and further studies on the challenges this will pose for the successful implementation of infrastructure projects.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

A project is defined as an undertaking that takes in inputs and gives out outputs that are desired by a group of people or an individual within a given period of time. According to the World Bank (2003), projects have a definite life cycle that is only done away with when the project has achieved the desired objectives; marking its end. Project design stage is an important stage in projects where critical elements such as features and deliverables are planned. This phase requires support of technical experts to assist in making clear, the project objectives. The project design process is considered the most relevant for integrating sustainability elements as it is in this early phase that most influence can be taken (Gareis et al 2012). Ika(2012) points out that project relevance, efficiency, effectiveness, impact and sustainability are key criteria in designing development projects. Project planners may adopt different project designs but of critical concern is how design factors have been incorporated. Barasa and Jelagat (2013) consider community participation too in project design and management as very important. Furthermore, Kosgey and Okeyo (2007) observes that authentic community participation encourages fairness, makes critical decision making process acceptable, builds synergy among beneficiaries, and promotes a democratic culture within the community.

According to United Nations Development Programme (UNDP (2012) simple examples of how devolution of projects was essential and is still essential in the world today are exemplified by the Egyptian and Syrian ancient agrarian periods. However, studies have shown that projects all too frequently fail to achieve their goals due to a number of problems that could be termed managerial and organizational (Kwak, 2002). In the USA for example, after the country gained its independence, the citizens were in dire need of a revolutionized state with political, racial, economic, security and social stability. Providing an economically stable country required resources, expertise and proper identification and management of projects that could reach the citizens irrespective of their location.

However, Contzen and Böker (2014) reiterates that the core challenges in contemporary development practice is to select specific groups that face the challenge in the

management of the existing resources and to classify them into different groupings based on their social economic status. Another key design consideration in projects is how the capacity of the community is developed as a driver to the implementation of these projects. Community capacity can be understood from the perspective that the community possesses the necessary human capital to drive their development agenda and that the community has the necessary structures to assist in harnessing community resources for project implementation (Dongier, et al 2003).

Project implementation is an important project management issue and it is one of the most frequently discussed topics. According to the World Bank (2013), a project is defined as an undertaking that takes in inputs and gives out outputs that are desired by a group of people and/or an individual within a given period of time. According to the World Bank, projects have a definite life cycle that is only done away with when the project has achieved the desired objectives; marking its end. Projects range from the government/public funded infrastructural facilities like roads, electricity, railway lines, housing units, industries etc. to small run individual ventures like retail businesses managed by one or two people in a state or community (Kaliba, Muya& Mumba, 2009). These authors add that projects require human, capital and non-capital resources like positive and enabling culture for their effective implementation. In his research in the causes of delayed roads construction in Ghana, Agyeman (2010) found out that projects identification and implementation has been the core operational centre of almost all the world's leadership and governments since ancient times. During the ancient times for example, sailors made boats that could be moved along the world oceans for business, they made passable roads for trade, had industries that produced goods and other related projects such as schools, roads, dams and buildings among others. With the emergence of devolved governments, it is possible to improve efficiency and effectiveness of internal projects within the county governments and to relocate government services from central government offices to counties closer to the citizens (Eboh. 2010).

According to the Daily Monitor (2010) the county governments in the USA operate their mini budgets through different tax levies that they lay on their citizens up to the tune of 43% of projects implementation. Projects implemented by the county governments in states like Texas. Fernando (2009) in his comparative study on the development of manufacturing companies in America, Austria, Malaysia and India found out that there is imbalanced development in various states, counties and local states/municipalities in all

these four countries (Paddock, 2013). The major reason cited for this different development in states/counties despite the fact that they are operating in the same countries include: differing state/county by laws, rates of imposed taxes, financial resources availability, natural resources availability, corruption, infrastructure, politics, security, cultural factors and educational factors and climatic conditions. Factors like political opposition, level of technology, human resources development, financial resources allocation from the budgets, availability of minerals and many more (VOA, 2010), has greatly influenced projects implementation on the light railway line construction in Texas up to the tune of 55 % (Choudhury&Phatak, 2013)

According to the Government of Kenya Report (2014), the country has made significant improvement in infrastructural projects, education projects, mining projects, water projects among others since the new constitution was promulgated in 2010. The 47 counties in Kenya have their own project and development plans, fund part of their projects and get the deficit financial resources from the central government up to the tune of 35% of the national budget. However, a report published by the ministry of devolution (2013) showed that counties have made significant development in projects development and integration of ICT in projects development. However, projects implementation in all the 47 counties has never been a success to a tune of 55% due to various prevailing constraints like lack of sufficient projects finances, politicization of development projects, insecurity in some counties, poor state of enabling infrastructure, poor technology, low levels of community participation etc.(Republic of Kenya,2013).

## **1.2 Statement of the problem**

Marsabit and Isiolo counties are some of the counties that have not implemented their infrastructural projects in time. For example out of the 13 projects that had been prioritized in Marsabit county, only 3 (23%) have been fully implemented to completion by the end of the third financial year (Marsabit County Government, 2018). In Isiolo County out of 17 infrastructural projects lined up in the 2017/2018 financial year, only 5 were fully implemented representing only 29.4% (Isiolo County Government, 2018). This is far below the completion rates in other counties for example Makueni had 61% completion, Meru which borders Isiolo had 58.9% completion. Laikipia and Samburu counties had 33% and 29% respectively. This then begs the question why the counties have not been able to implement their projects in time or as scheduled. A number of studies have been conducted on the implementation of projects. Mulwa, (2008); Thwala, 2010; Stratton,

2009; Kaliba, Muya, & Mumba, K. (2009; Agyeman, 2010; Mkutu, 2011; Chikane, 2004 among others. These studies have however not focused on the implementation of infrastructural development in the devolved governments. This study therefore sought to investigate the project design factors influencing the implementation of infrastructural development projects in devolved governments; a case of Marsabit and Isiolo Counties, Kenya.

### **1.3 Purpose of the study**

The purpose of this study was to investigate the project design factors influencing the implementation of infrastructural projects in devolved government, a case of Marsabit and Isiolo Counties.

### **1.4 Objectives of the study**

The study was guided by the following objectives

- i. To establish how project planning influences the implementation of infrastructure projects in Marsabit and Isiolo counties
- ii. To establish how project leadership influences the implementation of infrastructure projects in Marsabit and Isiolo counties
- iii. To determine how community involvement influences the implementation of infrastructure projects in Marsabit and Isiolo counties
- iv. To assess how resources availability influences the implementation of infrastructure projects in Marsabit and Isiolo counties
- v. To assess how commitment of project participants influences the implementation of infrastructure projects in Marsabit and Isiolo counties

### **1.5 Research questions**

The study helped answer the following questions;

- i. How does project planning influence the implementation of infrastructure projects in Marsabit and Isiolo counties?
- ii. How does project leadership influence the implementation of infrastructure projects in Marsabit and Isiolo counties?
- iii. In what ways does community involvement influence the implementation of infrastructure projects in Marsabit and Isiolo counties?



- iv. How does resources availability influence the implementation of infrastructure projects in Marsabit and Isiolo counties?
- v. How does commitment of project participants influence the implementation of infrastructure projects in Marsabit and Isiolo counties?

### **1.6 Significance of the study**

The findings of this study may be important in a number of ways. For example, the findings of the study may be used by the government in advising how financial resources play a role in projects implementation. The findings may also be important in establishing how project design factors such as project planning, project leadership, community involvement, resources availability and commitment of project participants play a role in project implementation. The findings may also be of importance to the policy makers in assessing how these factors affect project implementation.

Through the findings of this study, the county project management teams may get relevant information that would guide them before identifying and passing project proposals. The county governments may also be able to gain information that would be necessary in ensuring smooth and proper implementation of development projects. The finding may be important to educationists and researchers who may be provided with information on project design factors that influence project implementation. Finally the research findings would help to identify gaps in the current research and carry out research in those areas.

### **1.7 Limitations of the study**

The project had the following limitations. First, time allocated for the research and for the work place commitments for the researcher are scarce. However, this was overcome by creating time to link with the supervisor. The other limitation was financial constraints whereby the researcher was be required to travel to rural places like vast interior parts of Isiolo and Marsabit counties to gather information. However this was overcome by using strategic informants in the field and in the county governments. The respondents especially those working with the county government may not give information freely especially when the people involved in projects that have failed were their superiors. In this regard the respondents may give socially acceptable responses. This was however overcome by treating the information with utmost confidentiality.

### **1.8 Delimitations of the study**

The study delimited itself to only five factors on project design which are project planning, project leadership, community involvement, resources availability and commitment of project participants. The study was conducted in Isiolo and Marsabit counties. The geographical scope was selected from the county projects that are ongoing in the two counties. The research targeted the employees of the ministry of works in the county governments, persons of interest like ministers/chief officers of the relevant ministries undertaking projects and some selected direct beneficiaries of the projects.

### **1.9 Assumptions of the study**

The study assumed that the county government personnel in the public works are aware of all the infrastructural projects under their jurisdiction, those projects that have failed to kick off, those that have stagnated and those that have been successfully implemented and therefore it will be easy getting documented information. The study also assumed that the challenges facing infrastructural projects implementation are uniform both in the national and county governments. The study further assumed that factors like project planning, project leadership, community involvement, resources availability and commitment of project participants affect project implementation. Finally, the study assumed that the respondents will be sincere in giving their responses in the questionnaires.

### **1.10 Definition of significant terms**

**Commitment of project participants-** Refers to the level of willingness of the participants to take part in the project

**Community involvement-** Refers to the extent to which the local people are involved in infrastructure projects

**Devolved Units-** Refers to the statutory granting of powers from the central government of a state to government at a sub-national level, such as a regional, local or county level.

**Project design factors-** Refer to the aspects that are considered during the formulating a project

**Project Implementation-** (or project execution) is the phase where visions and plans of projects become a reality.

**Project planning -**Refers to the plans that are made or done in establishing how to implement the project

**Resource Availability**-Refers to strategies used in the allocation of resources and other materials to the project

**Infrastructure Development Projects**-Are public or privately funded projects related to infrastructure improvements of basic systems of a business or nation which are high cost investments vital to a country's economic development and prosperity

### **1.11 Organization of the project**

This study was organized into five chapters. Chapter One consists of the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitations of the study, delimitations of the study, basic assumptions and definitions of significant terms. Chapter two covered literature review based on the objectives which were, establishing how project planning influences implementation of infrastructure projects in Marsabit and Isiolo Counties, establishing how project leadership influences the implementation of infrastructure projects in Marsabit and Isiolo counties, determining how community involvement influences the implementation of infrastructure projects in Marsabit and Isiolo counties; assessing how resources availability influences the implementation of infrastructure projects in Marsabit and Isiolo counties and lastly assessing how commitment of project participants influences the implementation of infrastructure projects in Marsabit and Isiolo counties. The chapter also presented the theoretical framework, conceptual framework, gaps in reviewed literature and summary of literature. Chapter Three presented research methodology which includes research design, target population, sample size and sampling procedure, research instruments, validity and reliability of the research instruments, data collection procedure, data analysis techniques and ethical considerations. Chapter Four presented the data analysis, presentation and interpretation while Chapter Five focused on summary of the findings, discussions, conclusions and recommendations. Suggestions for further study were also presented in this chapter.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents the literature review for the study. The chapter presents literature on influence of project planning on implementation of infrastructure projects, influence of project leadership on implementation of infrastructure projects, influence of community involvement on implementation of infrastructure projects, influence of resources availability on implementation of infrastructure projects and lastly on the influence of commitment of project participants on implementation of infrastructure projects. The chapter also presents the theoretical and conceptual framework of the study.

#### **2.2 Project design factors**

Project design is the starting point that involves a systematic and theoretical conceptions, tried primary assumptions, and credible information that which enable the delivery of a project within a specified timeline. Sanoff (2000) posits that designing of a project requires calculative thinking and investment because failure to this exposes the project to higher risk of failure or poor quality of implementation. Due to complexity and uniqueness of projects, Sanders & Binder (2010) posits that it is important to carefully select the most appropriate design method, tools and techniques to apply in a specific project. To make project design effective, Hussain & Sanders, (2012) advises that projects need to remain sensitive to the history and culture of the community where the project is implemented. This requirement will be achieved if community participation in the project design is promoted. Kim (2006) points out that top down approach to project design where experts dictate the process is an impediment to active project beneficiary participation.

Very often projects are designed at national level, based on considerations such as political priorities, technical concerns, and macroeconomic targets. These national level considerations by project designers can actually be in conflict with the factors effecting change behavior of villagers which in turn affect the overall success of rural development projects. Laah et al (2013) explains that to achieve success in projects, there is need to involve beneficiaries in the design and implementation of the projects. Participatory project design is a design approach where the project designers, project beneficiaries and

users together with the relevant stakeholders work together to design a project (Sanders & Binder, 2010). This is what (Sanders & Binder (2010) refers to as co-designing which needs to take full advantage of the knowledge system of the host community.

### **2.3 Project implementation**

Project implementation in its simplest terms, can be thought of as incorporating four basic facets. A project is generally considered to be successfully implemented if it comes in on schedule (time criterion), comes in on-budget (monetary criterion), achieves basically all the goals originally set for it (effectiveness criterion), and is accepted and used by the clients for whom the project was intended (client satisfaction criterion). By its basic definition, a project comprises a defined time frame to completion, a limited budget, and a specified set of performance characteristics. Further, the project is usually targeted for use by some client, either internal or external to the organization and its project team. It seems reasonable therefore; that any assessment of project implementation should at least include these four measures among others.

During project implementation, the project independent variables i.e. project planning, project leadership, community involvement, resources availability, and commitment of project participants should show the effect they have on the dependent variable, implementation of infrastructure projects in devolved governments, a case of Marsabit and Isiolo Counties.

### **2.4 Project planning and implementation of infrastructure projects**

Planning starts immediately the organization identifies the probable need for a project, and continues throughout the project life cycle. The emphasis changes from strategic planning through detailed planning to monitoring and control using the plan, and while the project is being implemented, action may be required to maintain the plan and to replan if necessary. Planning shows the changing emphasis throughout the life cycle, and indicates typical timing of gate reviews – formal points in a project where its plan, progress, expected cost and benefits are reviewed and decisions are made on whether to continue to the next phase.

Effective project planning takes into consideration all aspects of planning including stakeholder engagement, benefits mapping, risk assessment, as well as the actual plan (schedule) itself. The three most cited factors for project failure are: lack of stakeholder engagement, lack of communication, and lack of clear roles and responsibilities. The

planning techniques used vary throughout the project life cycle, reflecting the transition from strategic to detailed planning and the evolving emphasis of the questions about the project that planning must answer. Not all of these techniques are planning-specific, many have other project management applications, and some are wider than project management but they can all contribute to effective planning.

Planning techniques need to be chosen carefully. The aim is to assist the project manager and the team, and through them the sponsor and the key stakeholders, to conceptualize and define the project, and to provide the baseline for monitoring and control. The techniques used should be relevant, appropriate and cost-effective. They need to be neither so simple that they ignore significant issues, nor so complex as to confuse matters. The project manager's experience in project planning, often aided by that of the specialist planner(s), determines the techniques appropriate to the project.

These factors therefore, need to be considered very early on in the creation and planning of any project. An article published in *The Project Manager*, by Angela Lecomber, looked at the dynamic challenge of planning in the world of new and complex projects: The singular unifying characteristic new and complex projects possess is the inability for all stakeholders to 'be on the same page' in order to envision the same outcome. Good project managers therefore, will have identified all the stakeholders and ensure, through good communication, that stakeholders have clarity of the project's objectives and outputs. Before detailed planning takes place, stakeholder agreement for the project's outputs are obtained (this has long been recognized as a significant factor for project success). Detailed planning then commences by breaking down the components into sub-components to produce a product (deliverables) breakdown structure as far as breakdown is feasible.

The next step is to produce further detail of the activities, tasks and dependencies required (the work breakdown structure), together with the sequencing of activities needed to produce the many sub-deliverables or component products. Finally, we achieve a level of granularity needed to manage the project on a day-to-day basis. This is typically represented as a schedule (Lecomber, 2013). The closing paragraph concludes that "... we need to resist the modern cultural problem of impatience that often leads to cutting corners at the planning stage." Although the article goes on to say that the above approach may still not be enough to ensure a successful outcome in new and complex projects (and looks

at some recent developments and innovation in practical planning techniques for project management), it is important to at least get these fundamental processes right.

Planning in the early phases of the project life cycle is strategic rather than detailed: it is top-down and focuses on ‘why’, ‘what’ and ‘how’. The answers to these questions provide the strategic framework for the project plan. The project manager asks ‘why’ and ‘how’ questions of the project sponsor and other key stakeholders in structured interviews. The client is a key stakeholder but may not be directly accessible to the project manager, in a situation where the organization is participating in competitive bidding for a contract to undertake the client’s project. In this situation, indirect means may need to be employed to obtain the client’s perspective: informal contacts, stakeholder analysis and market intelligence. Some of the answers given will prompt further research or analysis. Requirements management may commence.

## **2.5 Project leadership and implementation of infrastructure projects**

Leadership is perhaps one of the most talked of aspect that influence performance. It is also a term that has continued to elicit debate on the differences it draws from the term ‘management’. Whereas leadership has more to do with finding new ideas, directions, approaches among others regardless of existing regulatory frameworks, management is more concerned with maintaining the status quo by following the laid down procedures and policies. In leadership, one of the most vital rudiments of organizational structure is the chain of command. This refers to an uninterrupted line of authority that extends from the top of the organization (for instance, the Chief Executive Officer) all the way down to the bottom. Chain of command specifies who reports to whom in the leadership hierarchy. Leadership and project performance are inextricably linked such that the success of a project is highly dependent on the existing leadership (Dirks & Shamir, 2012).

Project management research in the 1960s to 1990s largely concentrated on the elements of scheduling and planning (Kloppenborg & Opfer, 2002). These researchers went ahead to point that, in the 1990s, the emphasis was on control, automated tools and scheduling, all of which led to studies in the area of life cycle estimation and risk-management scheduling. However, in the 1990s, studies on team building and leadership emerged (Shenhar & Dvir, 2007). The load placed on human relations and leadership led to increased efficiency in addressing the challenges met in the course of project implementation (Johnson, 2014) In their work, Kloppenborg and Opfer (2002) went a notch higher to clarify that development of better processes and the organization of teams

more effectively was as a result of increased emphasis on human resources and leadership. It is also important to note that attainment of successful project products entail a mixture of technical and leadership skills. This corroborates with the findings of (Hyvari, 2002)

While laying more emphasis on the role of leadership in determining the implementation of any project, Kloppenborg and Opfer (2002), contended that while management procedures and techniques – automated tools, control, planning and scheduling – happen to follow-up and quantify the technical rudiments of projects, they do not follow-up or measure human elements of managing people like communication, conflict resolution, relationship building and team management. This gives the impression that, tools in themselves are not adequate and that an extra tool – leadership – is of essence in motivating project stakeholders. This is supported by the works of scholars like Schmid and Adams (2008), who agreed with this claim when they coined in their work that leadership competencies are a prerequisite to enabling project managers effectively and efficiently utilize human resource skills to improve or influence project outcomes. Nevertheless, despite widespread belief on the importance of leadership on project performance, the numbers of projects that fail to realize the set objectives are still disturbingly high. This is a sentiment echoed by scholars like Morris (2008) and Skaistis, (2007). Putting figures into perspective, the figures often range between 66% and 99% (Besner and Hobbs, 2006; McCormick, 2006; Standish Group, 1994, 2000, 2004, 2006, 2009; Zhang et al., 2002; Zhang and Faerman, 2007).

Studies arguing for leadership as a necessity for successful project implementation have fallen short of emphasizing leadership as a reason that impede project outcomes. This is in view of the fact that most projects continue to fail despite the employment of established project approaches and techniques like leadership skills (Belassi and Tukel, 2013). Successful realization of goals and objectives in any project largely rely on the quality of relationship that exists between the organization's leaders and followers (Heifetz & Laurie, 2001). As the name postulates, leaders lead and the rest of the subordinates follow. It therefore, calls for sobriety in leadership to guarantee realization of project goals in the most effective and efficient ways.

Burns (1978) was of the opinion that leadership ought to be viewed either as a transactional or transformational process. The former tend to place more emphasis on



finishing tasks, encouraging followers through goal setting, outlining outcomes, and feedback while offering rewards for achieving the desired results (Dvir, Edin, Avolio, 2012). The latter, according to Burns (1978) understanding of transformational leadership, refers to the act of realizing a transformation in the conventions and opinions of juniors and establishing an obligation for the tactics, objectives and mission of the organization, firm/company or corporation'. According to Yukl (1998), transformational leadership is 'when focus on the leader is directed toward the organization, and the leader's behavior builds follower commitment toward the organizational objectives through empowering followers to accomplish those objectives'.

While giving comparison of the two, Yukl (1998) posits that whereas transactional leaders focus on exchange relations with followers, transformational leaders inspire followers to higher levels of performance for the sake of the organization. This is a statement that Burn (1978) agrees with. It can therefore, be argued that the very meaning of transformational leadership shapes the edifice of commitment to the organizational objectives. In discrediting leadership theories, notably, transformational and transactional, Patterson (2003), argues that the two theories focused largely on the organization and were inadequate to explain the behaviors that were follower focused, or altruistic in nature. He added that the reception of servant-leadership, which is follower fixated, better elucidates the selfless actions that is demonstrated by the leader (Patterson, 2003; Patterson, Russell, & Stone, 2004). Other literature view servant leadership as qualitative features that are part of one's character (Whetstone, 2001) and incorporate the moral tenets of being noble, exceptional or trustworthy (Pollard, 1996). These ethical models described servant-leaders and fashioned attitudes, features, and behavior (Patterson, 2003). With the foregoing literature, it is clear that leadership affects projects performance in one way or another. Leadership dictates the project's pace, direction and even acceptance by the projects' stakeholders. This objective will hence seek to understand from empirical research findings how leadership affects implementation and/or performance of research projects.

Project leadership is about leading others in projects, which is different and additive to project management but there may some overlap. Project management focuses on managing the project work whereas leading others is focused more towards individuals, on their ways of working to perform best work on projects. All project leaders must face any of the three issues related to variety of task, personnel and commitment situations which

are more complex in projects than in on-going operations due projects exceptional demands of their temporary nature and unique outcomes. To understand that, project leaders must make timely decisions, is the science of project leadership due to its perspective – that a decision must be made.

Research on Leadership progressed in last century while research on project management evolved in latter part of the last century, and as a result, project leadership evolved in 21st century to cope with competitive challenges. Project leadership is about knowledge and creation of learning, which occurs during project execution and across the projects in organizations. Project leadership is the ability to lead in most powerful manner while leading the others in project work. Project leadership impact on improving project management practices in order to reduce uncertainty and complexity associated with project pursuit. A strong project leadership is required to deal with administrative or bureaucratic projects but it does not mean that a strong leader is always a more successful leader. Any strong leadership with weak management and vice versa is always not better for good results but the actual challenge is to use a combination of strong management and strong leadership for balancing each other. Though some people have the ability to be a strong manager but cannot be an excellent leader, in contrast, some people have great leadership skills.

It is mandatory for the project leadership during planning and execution of projects to apply sound project management practices. Project leadership rather than just focusing on time and budget, should consider customer needs on day-to-day basis, future market and competitive advantage to manage projects strategically. In project leadership, the essence of leading others focuses on empowering the individuals in order to create the situations and environment for effective and efficient performance. Project leadership is supposed to access needs of project team and help them for best project performance by meeting the team members frequently and by providing a more empowering environment. To achieve outstanding results and overcome gigantic obstacles, people are transformed and inspired by visionary project leaders. The first principle of strategic project leadership is to develop the project managers of yesterday to learn the power of leadership for motivating, inspiring and coaching right intelligence.

Effective project leaders are capable to articulate an inspiring project vision and build an appropriate project spirit or spark aligned with project strategy which creates energy, excitement, and commitment among the project team to perform efficiently to ensure project success. Project leadership asserts own wisdom to make difficult decisions by using leadership techniques and give directions to the project team according to the situations. The project leadership strategically focus on projects for creating competitive advantage as well as winning the market place rather than focusing on “getting the job done” and the strategic project leadership approach provide step-by-step guidelines for projects turning into successful competitive weapons, to project managers and business organizations.

Often project leadership is concerned with the following three common types of responsibilities performed by project leaders. First, project leaders need to continuously make decisions according to changing situations and aware of project details. Second, project leaders must identify project priorities and continue to insist that these priorities must be adhered. Finally, project leaders must see and communicate with key stakeholders to integrate the project into grander scheme of things which benefits both within the performing organization as well as customer organization. Now time has come to move truly towards strategic project leadership, to lead and manage the projects effectively and efficiently. The project leadership must address project spirit properly and must know how to define and cultivate vision for energizing and bringing out the best of people. The role of project manager’s leadership on the project outcome and success is vital which is often discussed in literature, in context of leadership and management which are dissimilar to certain extent from each other but complementary and cannot function without each other in this competitive and challenging environment. There is very limited research to address the issue of project manager’s leadership and its contribution to project success.

It has generally been recognized in management literature that performance of functional manager’s leadership contributes to project success in an organization but the performance of project manager is ignored while identifying the project success factors. The performance of leadership is reported as most explored part of human behavior which is fundamental for the project team to work together. Leadership is one of the critical elements in project management and considered key in project sustainability. Development projects require motivated and committed leaders to steer projects to success and keep the momentum over the long-term thus sustainability of the projects. Leadership

practices can be seen as routinized types of behavior displayed by individuals or collectives with the goal of producing leadership (Reckwitz, 2002). Pasmore et al (2009) defines leadership as the evident and collective behaviors that influence and largely determine the leadership culture.

Leadership is seen as the pillar of any infrastructural project without which the projects collapse and fail to achieve the desired goals. Rubin and Rubin (2001) observes that community development is achieved when community ties are made stronger in the neighborhood that leads to coherent community organization that bring about long term capacity to address local problems. Leadership here is important to facilitate the necessary environment for this to happen. Fariborz et al. (2009) argued that, just like in formal organizations, local communities require authentic leadership for them to develop. Further, this success is dependent on the innovativeness, quality and commitment of project leaders. The nature and type of leaders will determine the progression of a project and eventually its sustainability. A study conducted by Ezatollah and Karami (2006), on selection of leaders for agricultural projects reviewed key traits that a leader must possess as, interest in leadership, sympathy with people, religious beliefs and self-confidence. Other traits reviewed by the same study were understanding of social aspects of leadership, their business motivation, and sense of responsibility, literacy and education level.

This study considers three types of project leadership namely transactional, transformational and servant leadership. It is viewed that project designs must be cognizant of these forms of leadership for them to succeed. Transactional leadership and transformational leadership represent two complementary points of view. In transactional leadership, there must be some work or action that is rewarded in exchange. Equally, transformational leadership focuses more on empowerment and aligning the aspirations of the people with the organizational higher goal (Tyssen, 2013). Theory and practice indicates that both types of leadership are important in different business environments (McCleskey, 2014). Transformational leader's strive to challenge the status quo and initiate more dynamic ones that promote greater enthusiasm and promise. Nikezić et al (2012) came up with four characteristics of transformational leadership as charisma, inspiration, individual support, and intellectual motivation. Transactional and transformational leadership contrasts with the servant leadership in the sense that servant leadership is more personalized and belief in service first. Lubin (2001) explains that

servant leaders prioritize relationships with the work and the output coming last. Stone et al (2003) says that servant leadership is oriented to building the people with the expectation that organizational goals and objectives will be achieved eventually.

## **2.6 Community involvement and implementation of infrastructure projects**

Often the term involvement is modified with adjectives, resulting in terms such as community participation, citizen participation, people's participation, public participation, and popular participation. The Oxford English Dictionary defines participation as to have a share in or to take part in, thereby emphasizing the rights of individuals and the choices that they make in order to participate. Brager, Specht, and Torczyner (1987) defined involvement as a means to educate citizens and to increase their competence. It is a vehicle for influencing decisions that affect the lives of citizens and an avenue for transferring political power. However, it can also be a method to co-opt dissent, a mechanism for ensuring the receptivity, sensitivity, and even accountability of social services to the consumers.

Armitage (1988) defined community involvement as a process by which the community act in response to public concerns, voice their opinions about decisions that affect them, and take responsibility for changes to their community. Pran Manga and Wendy Muckle (Chappel, 1997) suggest that community involvement may also be a response to the traditional sense of powerlessness felt by the general public when it comes to influencing government decisions: people often feel that health and social services are beyond their control because the decisions are made outside their community.

Involvement or community participation has become one of the important conditions and is essential for the implementation of projects and also a fundamental condition to attract projects and programmes. It is also considered as a method capable of solving problems of maintenance of essential services that some of the communities meet like inadequate access to water and sanitation and lack of public health care. The concept of community participation in development gained prominence in development discourse in the seventies and since then literature on the subject has grown dramatically. The incorporation of the locals in development projects has become a common phenomenon that almost every organization talks about.

Related literature shows that there is very little scope of involvement for common people in decision making, management and supervision of many community based development projects. Contemporary development scholars have been advocating the inclusion of people's participation in development projects as they believe the avowed objectives of any project cannot be fully achieved unless people meaningfully participate in it (Stone, Russell R & Patterson 2013). Development policies worldwide often seek to improve the living standards of the rural communities. This has been perceived to be a positive move particularly in the developing countries where majority of the population live in rural areas, (Kimani and Muia, 2004). It is in rural areas where the bulk of the foreign exchange and investment surplus are produced (UNDP, 2004).

Community involvement in infrastructural development projects involves an act of sharing common to all participants as stakeholders of the development process. In this case, each participant is directed towards a specific goal, which is shared by others within the development process. This is what is defined as popular participation in the development process, and which has been thought to be a positive move in the running of affairs that directly concern and affect people (Tandon, 1991). Internationally, there have been some attempts to operationalize and extend the involvement of people in infrastructural development process. Over the years, participatory development approach has been a major concern for United Nations Agencies such as the International Labour Organization (ILO), World Health Organization (WHO), Food and Agriculture Organization (FAO) and United Nations Educational Scientific and Cultural Organization (UNESCO).

Project designs that create an opportunity for the project beneficiaries to make contribution, material or in kind have better chance of succeeding. Khwaja (2004) reviewed 132 projects on impact of community participation on development projects in Northern Pakistan. Results indicate that projects where beneficiaries made either cash or in kind contribution registered high level of success than those without. Another study by Breslin (2010) on the adoption of use of latrines in Bolivia indicated that projects without community contributions from the community did not prove successful. Dongier et al. (2003) observes that community contributions help reduce dependency on external support, promote community confidence and ownership, ensure community priority needs are addressed and that genuine beneficiaries are targeted.

Project Design Principles and Community Participation Project (PDPCPP) design principles are those issues which are integrated in various aspects of the project's operations and addressed, with a view to achieving the project goal. This section reviews project design principles which are usually integrated to address aspects of participation and ownership. These include gender mainstreaming, stakeholder approach/engagement and participatory monitoring and evaluation. Moser & Moser,(2005) describe gender mainstreaming as a strategy for ensuring that the concerns of both women and men form a fundamental aspect of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that they can benefit equally. The ultimate goal of gender mainstreaming is to achieve gender equality Women and men exhibit distinct differences in their perspectives, and priorities concerning environmental quality, natural resource use, project activities and benefits and access to services.

A research by Souza (2003) of Brazil reported that a couple of women who started in the project left because of the lack of community involvement. In Egypt, in a similar research by Hammam (2004), it became clear that existing projects failed since the community was not involved. Poku (2008) from Ghana embarked on a research and observed that although the communities are the key players in implementing development projects, the community was often overlooked or under-utilized hence most of the projects were not effectively implemented. Similarly, Majekodunmi (2006) of Nigeria in his research observed a major obstacle to successful implementation of project was poor community involvement in decision making pertaining to the project (Majekodunmi, 2006). Tanja,(2000) says that it is only when those planning or implementing programmes, projects or policies act on the evidence of community involvement impact thereby promoting effective implementation of the projects.

Arnstein (1969) argues that community involvement is the redistribution of power to those excluded from the political and economic arena to take part in the decision-making process. An inefficient participatory practice may lead to failure in meeting the needs and concerns of the public and hence failure in improving the quality of the decisions and in incorporating a wide range of stakeholders (Innes & Booher, 2004). Arnstein (1969) argued that approaches to genuine participation must safeguard stakeholders' needs and concerns in the decision-making process. However, even best-intentioned experts are prone to be unfamiliar with the problems and aspirations of stakeholders (Arnstein, 1969).

Furthermore, scholars argue that there is not one universally effective method to community involvement as different methods are highly dependent on the contextual and environmental factors embedded in the project (Smith et al., 1997).

Innes and Booher (2004) mention how community involvement models exclude the participation of a broader range of stakeholders. Community involvement is often perceived as a dual system that involves the citizens and the government and fails to integrate other stakeholders in the model. Innes and Booher (2004) argue that community involvement must be perceived as a collaborative process that engages a wide range of stakeholders from citizens, special interests groups, non-profit organizations, private and public sectors and where communication, learning and action are essential for meaningful participation. However, as argued by Brody (2003), broad participation in the planning process does not necessarily lead to better plans; it is the involvement of specific stakeholders which significantly increase the quality of plans. Instead of engaging as many stakeholders as possible, Brody (2003) suggests that focus should be placed on identifying and involving specific stakeholder groups that are likely to enhance the quality of decisions.

Further, according to Innes and Booher (2004), engagement of a wide range of stakeholders, through collaborative participation, increases the potential to build social capital and to produce innovative solutions to the complex problems in society. Inadequate management of the concerns of stakeholders can lead to controversy and conflict about the implementation of the project (Olander & Landin, 2008). Community attitudes are one example that has been shown to be an important factor when planning for, and locating, a development project (Rogers, 1998). The demands of different stakeholder groups vary and a project can benefit one stakeholder group whilst simultaneously having a negative impact on others. Understanding the viewpoints of different stakeholders helps the project manager build relationships and thus avoid preconceived ideas and assumptions (Watson et al., 2002). To ensure community involvement, especially by stakeholders in the external environment, various analysis and mapping techniques are available (Olander & Landin, 2005; Bourne & Walker, 2005; Olander, 2007). Various stakeholder groups are analyzed depending on their possibility to influence project decisions, and the potential consequence, for the project, if they choose to do so.



## **2.7 Resources availability and implementation of infrastructure projects**

Project resource planning includes the processes required to ensure that the project is completed within the approved budget (PMBOK, 2008). The major processes are: Resource Planning, Cost Estimating, Cost Budgeting and Cost Control. Project Cost Management is primarily concerned with the cost of the resources needed to complete project activities. The principle objectives of which profit-oriented business organizations tend to pursue are wealth enhancement, maximization of profit, maximization of return on investment of shareholders and satisfying stakeholders. Though wealth enhancement may not be a perfect description of what businesses seek to achieve, it is almost certain that wealth is something which business cannot ignore. A particular business only has a certain amount of wealth (capital) and it will take only a limited number of “wrong” decisions to see the business collapse. Therefore, business needs decisions such that it would be worth more as a result of the decision. When valuing businesses, managers need to take into account future profitability, both long-term and short-term, and the risk attached with the investment.

The functions of finance should be handled in accordance with the goal and objectives of the organization. In a profit-oriented enterprise, this goal should be maximization of the wealth of the shareholders. Cost is often measured in monetary terms. The success of projects is judged by the efficiency with which we achieve the project objectives and that efficiency is assessed by measuring against two constraints Cost and Time (West, 2008). In assessing the project duration, the duration of individual activities and resource usage have been optimized and further reduction of project duration must increase the direct cost of the project due to overtime and uneconomic use of the plants and machineries. Cost estimating is never simple. Project managers must recognize that time, cost and resource estimates must be accurate if project planning, scheduling, and controlling are to be effective. At the work package level, the person most familiar with the task should make estimates. The line supervisors who are responsible for getting the job done and who are experienced and familiar with the work should be asked to develop the estimates at this level (West, 2008). The advantage is that the line supervisors will be responsible to ensure that the work activities as estimated by them would be achievable.

There are two practical problems in estimating. First, you are simply too optimistic. It is human nature at the beginning of a new project to ignore the difficulties and assume best-

case scenario - in producing your estimates (and using those of others) you must inject a little realism. In practice, you should also build-in a little slack to allow yourself some tolerance against mistakes. This is known as defensive scheduling. Second, you will be under pressure from senior management to deliver quickly, especially if the project is being sold competitively or the project is fast tracked as specified within the terms and conditions of contract (Brown, 2011). Historical estimates has some inherent danger because they assume the past represents the future and may miss uncertainties that are associated with the new task. Any time estimates should reflect efficient methods for the resources normally available.

Estimating of time must consider if normal time is calendar days, working days, weekends, holidays and hours etc. Many schedules developed by project managers are over optimistic (or faulty) because they do not take into considerations public holidays and other non-working days. Therefore, in developing the schedule, project managers are advised to formulate the project calendar to take into consideration the possible non-working days and other risks associated with schedule (workers can be sick, take leave, or raining days). Unfortunately, padding carries a price. While increasing the allowed time will reduce schedule risk, we will also increase the possibility of an increase in the budgeted cost – this is the time/cost trade-off. The objective of all planning should be to develop a “realistic plan” and if padding is required, it must be done on a “task-by task” basis (Brown, 2011). There will always be some variation in working times, caused by external factors outside the control of the project team.

Project Cost Budgeting involves allocating the project cost estimate to individual work items. A properly constructed budget must be capable of being base lined and used as the basis for performance measurement and control. It must reflect the way that resources are applied to achieve planned objectives over time (Horine, 2005). It must be structured in relation to the build-up of estimates, and to the collection of actual. In converting an estimate to a control budget, two important differences should be considered. First, the organization and the categorization of costs suitable for preparing an estimate are often not compatible with realistic field cost control. Second, estimates must deal in averages, whereas tighter standards are sometimes desirable for control purpose. In building the project budget we should consider providing certain buffer of extra money. Padding is a standard procedure in managing any project. There is no way that every risk can be fully calculated or anticipated. By assuming that the project might run over budget, we could

have a cushion against unexpected incidents or cost overruns. As a project manager, you must have as much direct control of your budget as possible if you are going to be held accountable for the project outcome (Schultz & Slevin, 2009).

A properly constructed budget must be capable of being base lined and used as the basis for performance measurement and control. It must reflect the way that resources are applied to achieve planned objectives over time. It must be structured in relation to the build-up of estimates, and to the collection of actual. The budget assumes special importance in project environments as the only basis against which to measure achievement. Project operating budget is developed initially from the original project budget approved at the conceptual stage. Once the key stages of the project have been identified and the logic developed, the budget can be divided and apportioned to each stage. Operating budget is derived from the work breakdown structure, initially focused on the key stages of the plan. Cost for each key stage is assessed based on the level of details developed and identified at the time. As we layer the plan progressively, the operating budget for each key stage is developed. As the detailed budget for each key stage is derived, we must compare the total with the project budget and analyze the variance (Stier & Kjellin, 2009). Any negative deviations must be subject to close scrutiny and action planning to determine what action, if any, be taken to contain the situation.

Effective control of cost gives the opportunity to forestall inevitable cost escalation, foresee potential problems and take advantage of possible savings. Cost is best controlled at source and designed into the project, not inspected in after the event. This allows us to resolve problems before they occur and to respond quickly to those that do occur. Project Cost Control includes monitoring cost performance, ensuring that only appropriate project changes are included in a revised cost baseline, and informing project stakeholders of authorized changes to the project that will affect costs. It must be remembered that cost, time and specification are inextricably linked. Most massive overspends on projects are caused by over-runs in time or unclear and ever changing specifications. Effective control of specification and time can make the cost control task much simpler. Several tools and techniques assist in project cost control. There must be some change control system to define procedures for changing the cost baseline. Another tool for cost control is performance measurement. The Earned Value analysis is especially useful for cost control as it helps to determine what is causing the variance and to decide if the variance requires corrective action (Young, 2013). Computerized tools such as project management

software and spreadsheets are often used to track planned cost vs. actual costs and to forecast the effects of cost changes.

## **2.8 Commitment of project participants and implementation of infrastructure projects**

Project participants' commitment is the process by which an organization involves people who may be affected by the decisions it makes or can influence the implementation of its decisions. The implementation of rural development projects is inherently complex, partly due to the need to satisfy multiple stakeholders and calls for participant commitment. In light of this, the diversity of knowledge and values of the rural community have to be taken into consideration (Reed, 2008) and it is necessary to ensure that there is stakeholder participation in decision-making processes (Stringer, Reed, Dougill, Rokitzki, & Seely, 2007) and implementation. Stakeholder participation in decision making is a democratic right (see the United Nations Economic Commission for Europe's, 1998, Aarhus Convention), hence it is not uncommon that it is an operational framework mainly adopted by community development facilitators.

Substantial evidence suggests that reciprocal relationship between participants increases their commitment in rural development projects because they provide a platform for new relationships to be developed in addition to the existing ones and they learn to appreciate the legitimacy of each other's views (Forester, 1999; Leeuwis & Pyburn, 2002). This makes the commitment of stakeholders necessary for sustainability and the implementation of decisions to be addressed effectively (Richards, Blackstock, & Carter, 2004). One of the arguments that has been used to justify stakeholders' participation is that it results in a strong sense of ownership over the process and outcomes achieved (Reed, 2008).

Participant commitment has its roots in community participation approaches; these approaches were influenced by the political debates of the late 1960s, and were more radical. Activists of community participation argued that if the local people are to really benefit from any programmes aimed at changing their quality of life, they must be involved in its decision-making (Beetham, 1992; Midgley et al 1986). Community or stakeholder commitment has thus been viewed as an approach that contributes to sustainable development because the views, opinions and perspectives of those affected are taken into consideration (Jaarsveld, 2001). There is a strong global belief, especially

among NGO.s and other donor communities, that less state intervention and more community/stakeholder participation in managing society's projects and natural resources, frees up civil society to participate openly (Dube and Swatuk, 2002). Concepts such as community participation and public participation also came into use within the development discourse since the 1960s. Though the terms community and participant commitment have been used in project initiatives and implementation, the term stakeholder participation has also been used, since it encompasses everyone within a particular system, whether affected negatively or positively (Freeman, 1984). The community or the public referred to in a particular programme or project could be a group of stakeholders. On the other hand, stakeholders within a particular system can be people from different communities.

Additionally, Yang et al. (2011) in their study on the typology of stakeholder analysis and engagement methods reiterated the importance of participant commitment in project implementation and execution. This reiteration was informed by their awareness of the basic rights of humans to participation. Their research showed that community participation facilitated the monitoring process by increasing the public's self-confidence and skills learned throughout the project to help the participants to respond more effectively to local problems. Furthermore, the research showed that participant commitment in local development projects not only improved economic conditions but the social conditions and networking as well. Most projects are working towards integrating participation in monitoring and evaluation.

Marisol Estrella notes that interest in participatory monitoring and evaluation (PM&E) developed due to the international development community's dissatisfaction with conventional approaches to monitoring and evaluation (M&E), characterized by its orientation towards the needs of funding agencies and policy makers. In an effort to maintain objectivity, outsiders are usually contracted in the conventional approach to carry out an evaluation (Estrella, 2000). Correspondingly, as Frances Rubin observes, stakeholders directly involved in, or affected by, the very development activities meant to benefit them have little or no input in the evaluation - either in the determination of questions asked or the types of information obtained, or in defining measures of success (Rubin, 1995).

In a literature review of PM&E conducted together with John Gaventa, Estrella identified four broad principles that contribute to good participant commitment: participation, learning, negotiation, and flexibility (Estrella & Gaventa, 1998). A participatory approach allows various stakeholders to take part in M&E. Stakeholders are those who directly or indirectly become involved in deciding what a project or program should achieve and how it should be achieved. The concept of participant commitment is not only emphasized as an important element in development, but correspondingly it is recognized that M&E of development and other community-based initiatives should be participatory. Participation in M&E can be characterized in two ways: (1) by whom (distinguishes between M&E that is externally led, internally led, or jointly-led) it is initiated and conducted, and (2) whose perspectives (distinguishes between which stakeholders)

As multiple stakeholders come together in the monitoring and evaluation process, negotiation contributes towards the building of trust and changing perception behaviors. These may include beneficiaries, project or program staff and management at local, regional, national or international levels, researchers, government agencies, and donors,(Estrella & Gaventa 1998). Attitudes among stakeholders, which affect the way they contribute to the project. Reaching consensus through negotiation becomes particularly evident during the development of indicators and criteria for monitoring and evaluation, especially when determining whose perspectives are represented in selecting indicators (Estrella & Gaventa, 1998). Since there is no prescribed set of approaches to carrying out PM&E, the process continually evolves and adapts according to project-specific circumstances and needs.

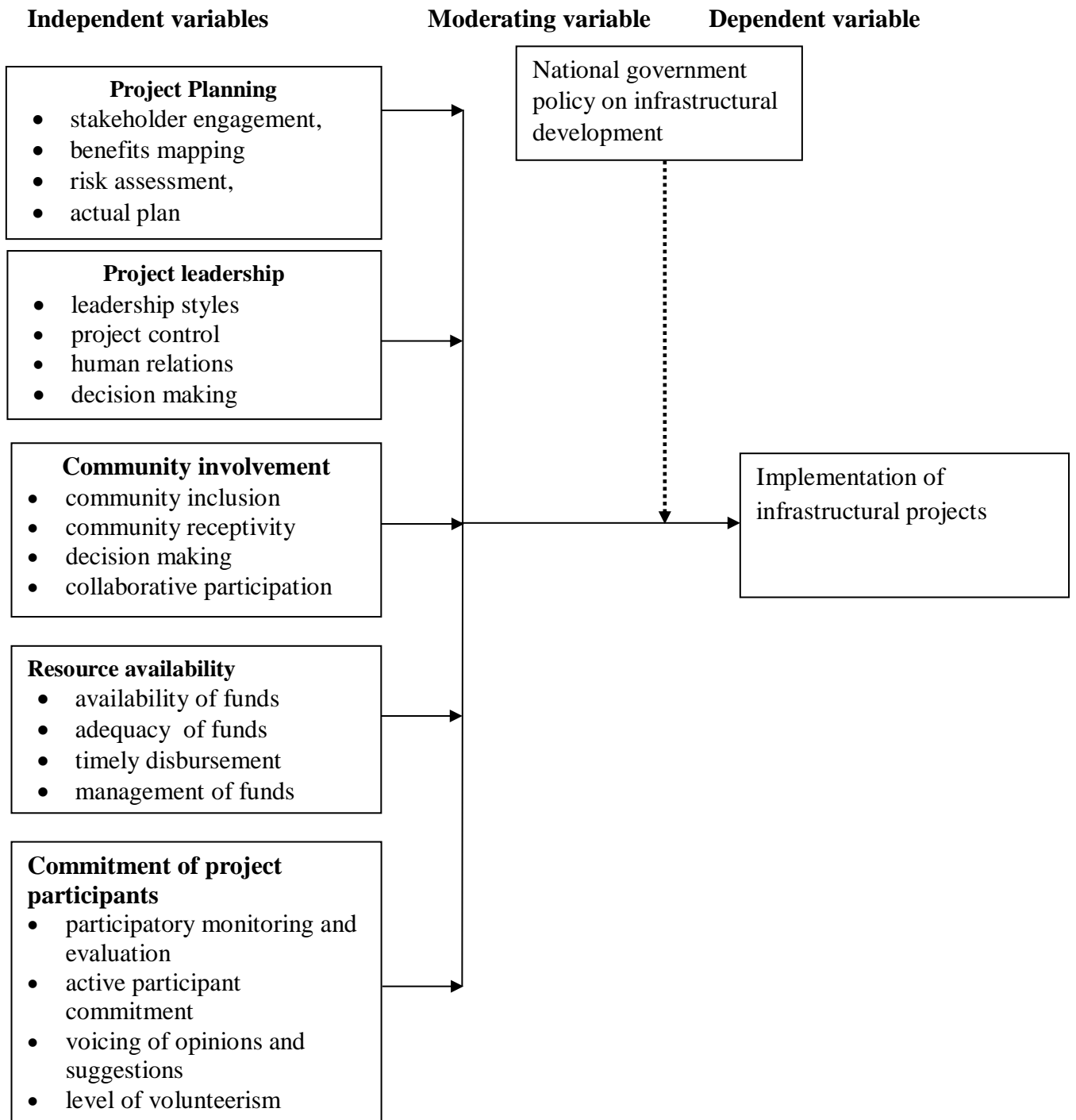
Reid (2002) confirmed the assertion that the active participant commitment in the monitoring process was a very powerful empowerment tool. He observed that participation reduced alienation of the community by empowering the public to voice their opinions and suggestions on how the project could be improved or adapted to changing political, social, cultural, and economic environments. In his study on the power of community participation, Reid noted that community participation in the monitoring stage increased the level of volunteerism and community spirit because the public no longer felt alienated or marginalized by external agents.

## **2.9 Theoretical framework**

The project will be based on Critical Chain Project Management Theory (CCPM). The CCPM is a method of setting up projects that emphasizes on the resources essential in the implementation of project tasks. It puts emphasis on the material and human resources needed to implement the projects. It applies the Theory of Constraints to the implementation of projects. The goal is to boost the completion rates of projects. The theory as proposed by Eliyahu M. Goldratt (1997) differs from other conventional methods derived from the critical path and PERT. These methods put emphasis on order and rigid scheduling of project tasks. In the management of projects the critical chain refers to the order of progression of constraints that prevent the project from being completed in a shorter time (Stratton, 2009). The theoretical approach of the study seeks to establish the constraints faced by the county governments in project implementation as well as other factors that affect the implementation of infrastructural projects in the devolved governments. An effective project manager should possess the drive to complete the difficult tasks and keep the project on schedule, within cost and write project reports that are accurate. He must make sure that all the critical resources are available when required in order to increase the completion rates of infrastructure projects.

## **2.10 Conceptual framework**

The conceptual framework for the study is presented in Figure 1



**Figure 1: Conceptual framework**

Figure 1 presents the diagrammatical framework for the study on the project design factors influencing implementation of infrastructural project in devolved government, a case of Marsabit and Isiolo counties. The framework shows that independent variables which are project planning which is indicated by stakeholder engagement, benefits mapping, risk assessment and actual plan; project leadership which is shown by leadership styles, project control, human relations and decision making; community involvement which is indicated by community inclusion, community receptivity, decision making and



collaborative participation; resources availability which is shown by availability of funds, adequacy of funds, timely disbursement of funds and management of funds lastly commitment of project participants which is shown by participatory monitoring and evaluation, active participant commitment, voicing of opinions and suggestions and level of volunteerism. These are the independent variables of the study. These factors, according to the conceptual framework have a direct influence on implementation of infrastructural projects in devolved governments, a case of Marsabit and Isiolo counties.

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter outlines the procedures that were used in conducting the study. The chapter focuses on research design, target population, sample and sampling procedures, research instruments, validity of the instruments, reliability of the instruments, data collection procedures and data analysis and ethical considerations

#### 3.2 Research design

The study was hinged on descriptive research survey design. According to William (2006), descriptive studies are more formalized and typically structured with clearly stated investigative questions. According to Mugenda and Mugenda (2008) descriptive research determines and reports the way things are. It was restricted to fact finding and may result in the formulation of important principles. A survey design is deemed suitable for this study since the researcher intended to get information that describes the current status on factors influencing the implementation of infrastructural projects in devolved governments, a case of Marsabit and Isiolo Counties.

#### 3.3 Target population

Cooper and Schindler (2003) define target population as the list of the elements from which sample size is actually drawn. According to the county governments of Isiolo and Marsabit, There are about 30 infrastructural projects in both counties. There are about 56 personnel involved in the management of the projects. The target population was therefore be 56 personnel involved in the management of the projects and 320 households.

#### 3.4 Sample size and sampling techniques

Best and Kahn(2004) define a sample as a small portion of the population that is selected for observation and analysis. According to Krejcie and Morgan (1970) out a population of 56 a sample of 48 should be taken while out of 320 a sample of

175 should be taken. The research used simple random sampling to select samples from the population. The sample size for the study was 48 personnel involved in the management of the projects and 175 household heads. The research also randomly sampled the members of the household heads who were supposed to be the direct beneficiaries of the projects.

### **3.5 Research instruments**

Data for this study was collected using questionnaires for the personnel involved in the management of the projects and an interview for the household heads. According to Mugenda and Mugenda(2009), a questionnaire is a written set of questions to which subjects respond in writing. Questionnaires ensure anonymity of the respondents, thus it is expected to enhance their honesty (Orodho2005). Questionnaires allow the respondents to freely express themselves. Items in the questionnaires were designed based on the objectives of the study. The questionnaires consisted of five sections: A, B, C, D and E. Section A sought information on the respondents' demographic information while section B to E sought information on the influence of project planning, project leadership, community involvement, resource availability and commitment of project participants on the implementation of infrastructural projects. The interview consisted of items that sought the opinions of the respondents on the project planning, project leadership, community involvement, resource availability and commitment of project participants on the implementation of infrastructural projects

### **3.6 Validity of research instruments**

Validity is the degree to which results obtained from the analysis of the data actually represent the phenomena under study (Mugenda & Mugenda, 2009). The researcher tested for content validity. Kothari(2003) defines content validity as the extent to which a measuring instrument provides adequate coverage of the topic under study. Supervisor's opinions were sought to check on the content validity of the instruments. The supervisors read through the draft instruments and thereafter gave their recommendations which were incorporated while coming up with the final instruments that were used for data collection.

### **3.7 Reliability of research instruments**

The extent to which results are consistent over time and that the results of a study can be achieved in the same way is referred to as reliability. Donald and Delno (2006) define

reliability of research instrument as the consistence of scores obtained and have two aspects: stability and equivalency. To ensure reliability, the researcher used test and retest method at an interval of three weeks. A Cronbach  $\alpha$  (Alpha) reliability coefficient that ranges between 0 and 1 was generated to measure the reliability. Larry (2013) indicates that Cronbach Coefficient is used to test internal consistencies of samples of a given population when research instrument with Likert type scales with multiple responses are used for data collection. For the purposes of this study, the questionnaire hadan  $\alpha$  of 0.7 and was hence considered reliable (Field, 2009).

### **3.8 Data collecting procedures**

The researcher first obtained an introduction letter from the Department of Open Learning, School of Open and Distance Learning, University of Nairobi. The researcher also sought for a research permit from the National Commission of Science Technology and Innovation (NACOSTI). Once the permit is given the researcher visited the organization's management, create rapport with the members and then proceed to collect data. The filled in questionnaires were collected immediately.

### **3.9 Data analysis techniques**

Analysis of data started with editing in order to identify errors made by the respondents such as spelling mistakes and any other wrongly answered or un-responded to items. Data on the questionnaires were then edited by inspecting the data pieces before coding them. This process helped in identifying those items which are wrongly responded to, spelling mistakes and blank spaces left by the respondents. The data was then coded to facilitate data entry into the computer to allow for statistical analysis. The researcher used Statistical Package for Social Sciences (SPSS) version22.0 to organize the quantitative data collected from the respondents into manageable information that is understood. The data analysis was based on the research objectives. Descriptive statistics such as frequencies, percentages and averages were used to analyze the data and data was presented in form of figures and tables.

Pearson's product-moment correlation coefficient was also used as a measure of the strength and direction of association that exists between independent and dependent variables. A Pearson's correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient,  $r$ , indicates how far away all these data points are from this line of best fit. The variables correlated with implementation was

project planning, project leadership, community involvement, resources availability and commitment of project participants while the dependent variable was implementation of infrastructural project in devolved governments.

### **3.10 Ethical considerations**

In research, ethics may be defined as the norm for the conduct that distinguishes between acceptable and unacceptable behavior in a scientific investigation (Wambugu,2015). The considerations for ethics are very important within the course of the research process. The researcher should not embarrass, perpetrate pain, or impose other disastrous effects on the respondents. The researcher adhered to some research ethics. In adhering to the ethical issues, the researcher sought to safeguard against doing anything that would harm the participants in the study. The researcher also sought permission from the participants to have them participate in the study willingly. The researcher also ensured that participants were informed to the extent possible, about the nature of the study. It was the responsibility of the researcher to interpret the data and present evidence so that other scans decide to what extent interpretation is believable. Informed consent allows the respondents to choose to participate or not, Kombo and Tromp(2006). In this study the participants' informed consent was used when sampling the participants. Confidentiality and anonymity were achieved by not asking participants to write their names on the questionnaires.

**Table 3.1: Operationalization of variables**

<b>Research objectives</b>	<b>Independent variable</b>	<b>Dependent variables</b>	<b>Measurement Scale</b>	<b>Tools of analysis</b>	<b>Type of analysis</b>
To establish how project planning influence the implementation of infrastructure projects in Marsabit and Isiolo counties	Project planning	Implementation of infrastructure projects	Nominal and Ratio	<ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> <li>• Pearson’s Correlation</li> </ul>	Descriptive and inferential statistics
To establish how project leadership influence the implementation of infrastructure projects in Marsabit and Isiolo counties	Project leadership	Implementation of infrastructure projects	Nominal and Ratio	<ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> <li>• Pearson’s Correlation</li> </ul>	Descriptive and inferential statistics
To determine how community involvement influence the implementation of infrastructure projects in Marsabit and Isiolo counties	Community involvement	Implementation of infrastructure projects	Nominal and Ratio	<ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> <li>• Pearson’s Correlation</li> </ul>	Descriptive and inferential statistics
To assess how resources availability influence the implementation of infrastructure projects in Marsabit and Isiolo counties	Resources availability	Implementation of infrastructure projects	Nominal and Ratio	<ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> <li>• Pearson’s Correlation</li> </ul>	Descriptive and inferential statistics
To assess how commitment of project participants influence the implementation of infrastructure projects in Marsabit and Isiolo counties	Commitment of project participants	Implementation of infrastructure projects	Nominal and Ratio	<ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> <li>• Pearson’s Moment Correlation</li> </ul>	Descriptive and inferential statistics

## **CHAPTER FOUR**

### **DATA ANALYSIS, PRESENTATION AND INTERPRETATION**

#### **4.1 Introduction**

This chapter presents data analysis and interpretation. As stated by Hatch (2002), data analysis is a systematic search for meaning. It is a way to process qualitative data so that what has been learned can be communicated to others. Analysis means organizing and interrogating data in ways that allow researchers to see patterns, identify themes, discover relationships, develop explanations, make interpretations, mount critiques, or generate theories. It often involves synthesis, evaluation, interpretation, categorization, hypothesizing, comparison, and pattern finding. The chapter presents the questionnaire return rate, demographic information of the respondents and the analysis of the project design factors influencing the implementation of infrastructural project in devolved governments; a case of Marsabit and Isiolo Counties.

#### **4.2 Questionnaire return rate**

Questionnaire return rate is the percentage of people who respond to a survey. In this study out of a sample size 48 personnel involved in the management of the projects, 42 returned the questionnaires while out of 175 household heads sampled, 168 returned the questionnaires. This was a percentage response rate of 87.5 and 96 which was deemed high hence the results are representative of the target population.

#### **4.3 Demographic information of the respondents**

In social sciences research, personnel characteristics of respondents have very significant role to play in expressing and giving the responses about the problem. In this study there were a set of personal characteristics namely, gender, age, academic qualifications, and the duration that they had been involved in the projects.

##### **4.3.1 Demographic information of the project personnel**

The demographic information of the project personnel comprised of gender, age, highest professional qualification and the duration of service at the project. The data on these

variables is presented in this section. The project personnel were asked to indicate their gender. The data is presented in Table 4.1.

**Table 4.1 Gender of the personnel**

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
Male	32	76.2
Female	10	23.8
<b>Total</b>	<b>42</b>	<b>100.0</b>

Data on the gender of the respondents indicated that majority (76.2%) were male were the rest 23.9% were female. The data shows that there was low representation of female gender in the infrastructural projects. The respondents were also asked to indicate their age. The data is presented in table 4.2.

**Table 4.2 Age of the project personnel**

<b>Age</b>	<b>Frequency</b>	<b>Percent</b>
Below 30 years	3	7.1
31-40 years	11	26.2
41-50 years	20	47.6
51 years and above	8	19.0
<b>Total</b>	<b>42</b>	<b>100.0</b>

Data on the age of the project personnel show that most of them were aged above 41 years as shown by over 60 percent of them. The data shows that most may have had experience in project management and hence were able to provide information on project design factors influencing the implementation of infrastructural projects in devolved government, a case of Marsabit and Isiolo Counties.

The project personnel were further asked to indicate their highest professional qualifications. The data is presented in table 4.3.



**Table 4.3 Distribution of respondents by highest academic qualifications**

<b>Professional qualification</b>	<b>Frequency</b>	<b>Percent</b>
Certificate	3	7.1
Diploma	15	35.7
Undergraduate	19	45.2
Masters	5	11.9
<b>Total</b>	<b>42</b>	<b>100.0</b>

Data on the academic qualifications of the project personnel indicated that most of them had academic qualification of above diploma with those having diploma at 15 (35.7%), undergraduate degree at 19 (45.2%) and 5 or a representation of 11.9 percent with a master’s degree. Data implies that most of the project personnel had a relatively high level of education which enables to perform their duties effectively in the organization and hence are able to understand the project design factors influencing the implementation of infrastructural projects in devolved government, a case of Marsabit and Isiolo Counties.

The researcher was also interested in establishing the duration of service at the project. The data is presented in table 4.4.

**Table 4.4 Duration of service at the project**

<b>Duration</b>	<b>Frequency</b>	<b>Percent</b>
Below one year	2	4.8
1-2 years	2	4.8
3-4 years	10	23.8
4-5 years	6	14.3
Above 5 years	22	52.4
<b>Total</b>	<b>42</b>	<b>100.0</b>

Data on the duration of service at the project revealed that 10 (23.8%) had worked at the project for between 3 and 4 years, 6 (14.3%) for between 4 and 5 years and majority 22 (52.4%) for above 5 years. The data implies that majority had served for a relatively long time and hence are able to provide information on project design factors influencing the implementation of infrastructural projects in devolved government, a case of Marsabit and Isiolo Counties.

#### 4.4 Project planning and its influence on implementation of infrastructure projects

The first objective of the study was to assess how project planning influenced the implementation of infrastructure projects. The researcher sought to find out how factors relating to project planning affected the implementation of projects. The researcher specifically sought to establish whether there was always a stakeholder engagement before the commencing of the project, whether good project planning benefited the mapping for the project, whether there was risk assessment before the commencement of the project, whether the project had actual plan which was discussed before the project started and lastly whether poor project planning had affected most of the projects. Table 4.5 presents the data.

**Table 4.5 Influence of project planning on implementation of infrastructure projects**

Statement	SA		A		D		SD		MEAN	SD
	F	%	F	%	F	%	F	%		
There is always a stakeholder engagement before the commencing of the project	6	14.3	25	59.5	9	21.4	2	4.8	2.17	.730
Good project planning benefits the mapping for the project	11	26.2	28	66.7	2	4.8	1	2.4	1.83	.621
There is risk assessment before the commencement of the project	5	11.9	28	66.7	7	16.7	2	4.8	2.14	.683
The project has actual plan which is discussed before the project starts	13	31.0	23	54.8	4	9.5	2	4.8	1.88	.772
Poor project planning has affected most of the projects	14	33.3	23	54.8	2	4.8	3	7.1	1.86	.814

Data on the influence of project planning on implementation of infrastructure projects revealed that majority 25 (59.5%) of the respondents agreed that there is always a stakeholder engagement before the commencing of the project. Further 6 (14.3%) strongly agreed to the statement. Only 9 (21.4%) and 2 (4.8%) strongly disagreed and disagreed to the statement. The item had a mean of 2.17 and a standard deviation of 0.730. With a mean of 1.83 and a standard deviation of 0.621, majority of project personnel 28 (66.7%) agreed that good project planning benefits the mapping for the project. In this item, 28 (66.7%) agreed to the statement while 11 (26.2%) strongly agreed. Data further indicated that 28 (66.7%) agreed that there was risk assessment before the commencement of the project. Five (11.9%) strongly agreed to the statement. Only a relatively few respondents 7 (16.7%) disagreed and 2 (4.8%) strongly disagreed to the statement. The statement had a mean of 2.14 and a standard deviation of 0.683). Data further showed that majority 23 (54.8%) agreed and 13 (31.0%) strongly agreed that the project has actual plan which is discussed before the project started. The statement had a mean of 1.88 and a standard deviation of 0.772. It was also revealed by 14 (33.3%) who strongly agreed that poor project planning has affected most of the projects. A further 23 (54.8%) agreed to the statement. The statement had a mean of 1.86 and a standard deviation of 0.814.

Findings from the interview with the household heads revealed that the household heads indicated that there was always a stakeholder engagement before the commencing of the project. They also indicated that good project planning benefited the mapping for the project. They however objected that there was risk assessment before the commencement of the project. They were not sure whether the project had actual plan which was discussed before the project started. They also agreed that poor project planning had affected most of the projects in the counties.

To statistically establish the influence of project planning on implementation of infrastructure projects, Pearson's product-moment correlation was used. In doing so, the researcher correlated the mean for the descriptive statistics. Table 4.6 shows the descriptive statistics on project planning on implementation of infrastructure projects

**Table 4.6 Descriptive statistics for project planning on implementation of infrastructure projects**

Statement	N	Min	Max	Mean	Std. Deviation	Variance
There is always a stakeholder engagement before the commencing of the project	42	1	4	2.17	.730	.533
Good project planning benefits the mapping for the project	42	1	4	1.83	.621	.386
There is risk assessment before the commencement of the project	42	1	4	2.14	.683	.467
The project has actual plan which is discussed before the project starts	42	1	4	1.88	.772	.595
Poor project planning has affected most of the projects	42	1	4	1.86	.814	.662

A Pearson's product-moment correlation was run using the mean scores for items representing the project planning on implementation of infrastructure projects. Table 4.7 presents the data.

**Table 4.7 Pearson's product-moment correlation for project planning on implementation of infrastructure projects**

		Correlations	
		Project planning	Implementation of infrastructure projects
project planning	Pearson's Correlation	1	.682**
	Sig. (2-tailed)		.013
	N	245	5
implementation of infrastructure projects	Pearson Correlation	.682**	1
	Sig. (2-tailed)	.013	
	N	42	5

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

From the table 4.7 Pearson correlation coefficient,  $r$ , is 0.682, and that it is statistically significant ( $p= 0.05$ ). The results indicated that there was a strong, positive correlation between project planning and implementation of infrastructure projects. The data implied that implementation of infrastructure projects was influenced by the project planning.

#### 4.5 Project leadership and its influence on implementation of infrastructure projects

The second objective of the study sought to establish how project leadership influenced the implementation of infrastructure projects in Marsabit and Isiolo counties. The researcher was interested in establishing whether there was community inclusion in the project leadership, whether there has been community receptivity in the project leadership, whether project leaders involved all stakeholders in decision making pertaining the project, whether the leadership of the project ensured collaborative participation of all stakeholders and lastly whether poor leadership had affected the implementation of the projects. The data is presented in table 4.8.

**Table 4.8 Influence of project leadership on implementation of infrastructure projects**

Statement	SA		A		D		SD		MEA	SD
	F	%	F	%	F	%	F	%		
There is community inclusion in the project leadership	1	38.	2	52.	2	4.8	2	4.8	2.17	.730
There has been community receptivity in the project leadership	6	1	2	4	5	11.	1	2.4	1.83	.621
Project leaders involve all stakeholders in decision making pertaining the project	1	26.	2	52.	8	19.	1	2.4	2.14	.683
The leadership of the project ensure collaborative participation of all stakeholders	1	28.	2	66.	1	2.4	1	2.4	1.88	.772
Poor leadership has affected the implementation of the projects	9	21.	2	61.	6	14.	1	2.4	1.86	.814

Data on the influence of project leadership on implementation of infrastructure projects revealed that 16 (38.1%) strongly agreed and 22 (52.4%) agreed that there is community inclusion in the project leadership. The statement had a mean on 2.17 and a standard deviation of 0.730. With a mean of 1, 83 and a standard deviation of 0.621, majority 13 (31%) strongly agreed that there has been community receptivity in the project leadership while 23 (54.8%) agreed to the statement. Further data revealed that project leaders involve all stakeholders in decision making pertaining the project. This was as per 11 (26.2%) who strongly agreed to the statement and 22 (52.4%) who agreed. The mean for the statement was 2.14 and a standard deviation of 0.683. Data also showed that majority 12 (28.6%) strongly agreed that the leadership of the project ensure collaborative participation of all stakeholders while 22 (52.4%) agreed. The statement had a mean of 2.14 and a standard deviation of 0.683. Majority 12 (28.6%) strongly agreed that the leadership of the project ensure collaborative participation of all stakeholders. This was agreed to by 28 (66.7%) where the statement had a mean of 1.88 and a standard deviation of 0.772. Lastly data revealed that 9 (21.4%) strongly agreed that poor leadership has affected the implementation of the projects while 26 (61.9%) agreed. The statement had a mean of 1.86 and a standard deviation of 0.814.

Findings from the interview with the household heads indicated that they interviewees indicated that there was no community inclusion in the project leadership. They however agreed that there was community receptivity in the project leadership. They also disagreed that project leaders involved all stakeholders in decision making pertaining the project. They also agreed that poor leadership had affected the implementation of the projects.

To statistically establish the influence of project leadership on implementation of infrastructure projects, Pearson’s product-moment correlation was used. Table 4.9 shows the descriptive statistics on project leadership on implementation of infrastructure projects

**Table 4.9 Descriptive statistics on project leadership on implementation of infrastructure projects**

<b>Statements</b>	<b>N</b>	<b>Mi</b>	<b>Ma</b>	<b>Mea</b>	<b>Std.</b>	<b>Variance</b>
		<b>n</b>	<b>x</b>	<b>n</b>	<b>Deviation</b>	
There is community inclusion in the project leadership	42	1	4	1.76	.759	.576

There has been community receptivity in the project leadership	42	1	4	1.86	.718	.516
Project leaders involve all stakeholders in decision making pertaining the project	42	1	4	1.98	.749	.560
The leadership of the project ensure collaborative participation of all stakeholders	42	1	4	1.79	.606	.368
Poor leadership has affected the implementation of the projects	42	1	4	1.98	.680	.463

A Pearson's product-moment correlation was run to measure of the strength and direction of association that exists between the two variables measured on at least an interval scale. Table 4.10 presents the data.

**Table 4.10 Pearson's product-moment correlation for aspects of project leadership on implementation of infrastructure projects**

		Correlations	
		Project leadership	Implementation of infrastructure projects
Project leadership	Pearson's Correlation	1	.512
	Sig. (2-tailed)		.058
	N	42	5
Implementation of infrastructure projects	Pearson's Correlation	.512	1
	Sig. (2-tailed)	.058	
	N	42	5

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

Pearson correlation coefficient revealed an  $r$ , is 0.512, and that it is statistically significant ( $p = 0.05$ ). The results indicated that there was a positive correlation between project leadership and implementation of infrastructure projects.

#### 4.6 Community involvement and its influence on implementation of infrastructure projects

The study in the third research objective sought to establish how community involvement influenced the implementation of infrastructure projects. The researcher sought to establish whether the community had participatory monitoring and evaluation of the project, whether the community members were allowed to voice their opinions and suggestions, whether the community has various levels of volunteerism in the project and whether poor or lack of community participation has led to poor project implementation. The data is presented in table 4.11.

**Table 4.11 Community involvement and its influence on implementation of infrastructure projects**

Statement	SA		A		D		SD		ME	SD
	F	%	F	%	F	%	F	%		
The community has participatory monitoring and evaluation of the project	3	7.1	1	40.	14	33.	8	19.	2.1	.73
			7	5		3		0	7	0
There is active participant commitment by the members of the community	1	23.	2	69.	1	2.4	2	4.8	1.8	.62
	0	8	9	0					3	1
The community members are allowed to voice their opinions and suggestions	8	19.	3	71.	3	7.1	1	2.4	2.1	.68
		0	0	4					4	3
The community has various levels of volunteerism in the project	9	21.	2	59.	7	16.	1	2.4	1.8	.77
		4	5	5		7			8	2
Poor or lack of community participation has led to poor project implementation	5	11.	2	52.	9	21.	6	14.	1.8	.81
		9	2	4		4		3	6	4



Data on the influence of community involvement on the implementation of infrastructure projects as presented in table 4.11 revealed that the community did not have a participatory monitoring and evaluation of projects. This was as per the 14 (33.3%) of the project personnel disagreed to the statement and a further 8 (19.0%) who strongly disagreed. The statement had a mean of 2.17 and a standard deviation of 0.730. Majority of the project personnel 10 (23.8%) and 29 (69.0%) strongly agreed and disagreed respectively that there was active participant commitment by the members of the community. The statement had a mean of 1.83 and a standard deviation of 0.621. The data also revealed that the community members were allowed to voice their opinions and suggestions as it was strongly agreed to by 8 (19.0%) and 30 (71.4%) who agreed to the statement. The statement had a mean of 2.14 and a standard deviation of 0.683. Data further indicated that 9 (21.4%) agreed that the community has various levels of volunteerism in the project as strongly agreed so by 9 (21.4%) and 25 (59.5%) who agreed. The statement had a mean of 1.88 and a standard deviation of 0.772. Lastly on the influence of community involvement on the implementation of infrastructure projects, 5 (11.9%) strongly agreed that poor or lack of community participation had led to poor project implementation while 22 (52.4%) agreed to the statement. The statement had a mean of 1.86 and a standard deviation of 0.814.

Responses from the interview with the household heads indicated that the community did not have a participatory monitoring and evaluation of the project. They also indicated that community members were not allowed to voice their opinions and suggestions pertaining to the project. They also denied that the community had various levels of volunteerism in the project. They agreed that poor or lack of community participation has led to poor project implementation.

To statistically establish the influence of community involvement and its influence on implementation of infrastructure projects, Pearson's product-moment correlation was used. In doing so, the researcher computed the descriptive statistics on the aspects of community involvement and its influence on implementation of infrastructure projects. The descriptive statistics are presented in table 4.12.

**Table 4.12 Descriptive statistics on community involvement and its influence on implementation of infrastructure projects**

Statements	N	Min	Max	Mean	Std. Deviation	Variance
The community has participatory monitoring and evaluation of the project	42	1	4	2.64	.879	.772
There is active participant commitment by the members of the community	42	1	4	1.88	.670	.449
The community members are allowed to voice their opinions and suggestions	42	1	4	1.93	.601	.361
The community has various levels of volunteerism in the project	42	1	4	2.00	.698	.488
Poor or lack of community participation has led to poor project implementation	42	1	4	2.38	.882	.778

A Pearson's product-moment correlation was run to measure of the strength and direction of association that existed between community involvement and implementation of infrastructure projects. Table 4.13 presents the data.

**Table 4.13 Pearson's product-moment correlation for community involvement and its influence on implementation of infrastructure projects**

		Correlations	
		Community involvement	Implementation of infrastructure projects
Community involvement	Pearson's Correlation	1	.623
	Sig. (2-tailed)		.062
	N	42	5

Implementation of infrastructure projects	Pearson's Correlation	.623	1
	Sig. (2-tailed)	.062	
	N	42	5

As presented in table 4.13, Pearson's correlation coefficient,  $r$ , is 0.623, which is statistically significant ( $p = 0.05$ ). The results indicated that there was a positive correlation between community involvement and implementation of infrastructure projects.

#### 4.7 Resources availability and its influence on implementation of infrastructure projects

The fourth research objective sought to establish how resources availability influenced on implementation of infrastructure projects. The research sought to specifically establish whether there is adequate funds for the project, whether funds allocated for the project are adequate, whether there was timely disbursement of funds for the projects from the county government, whether there is proper management of funds for the projects and lastly whether lack of funds has led to poor implementation of projects in the county. The data is presented in table 4.14.

**Table 4.14 Influence of resources availability on implementation of infrastructure projects**

Statement	SA		A		D		SD		MEA	SD
	F	%	F	%	F	%	F	%		
There is adequate funds for the project	1	31.	2	57.	2	4.8	3	7.1	2.17	.730
	3	0	4	1						
The funds allocated for the project are adequate	1	31.	2	52.	6	14.	1	2.4	1.83	.621
	3	0	2	4		3				
There is timely disbursement of funds for the projects from the	9	21.	2	61.	7	16.	0	00	2.14	.683
		4	6	9		7				

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county government										
There is proper	1	31.	2	66.	0	00	1	2.4	1.88	.772
management of funds for	3	0	8	7						
the projects										
Lack of funds has led to	1	26.	2	61.	3	7.1	2	4.8	1.86	.814
poor implementation of	1	2	6	9						
projects in the county										

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Data on the influence of resources availability on implementation of infrastructure projects revealed that majority of the respondents 13 (31%) and 24 (57.1%) strongly agreed and agreed that there was adequate funds for the project. The item had a mean of 2.17 and a standard deviation of 0.73). It was also agreed by 13 (31%) and 22 (52.4%) that the funds allocated for the project were adequate. Only a small percentage (4.8 and 7.1%) disagreed and strongly disagreed respectively that there was adequate funds for the project. The statement had a mean of 1.83 and a standard deviation of 0.621. Data also revealed that majority 26 (61.9%) agreed that there was timely disbursement of funds for the projects from the county government. In the same item 9 (21.4%) strongly agreed to it with only 7 (16.7%) who disagreed that there was timely disbursement of funds for the projects from the county government. The data also showed that majority 13 (31.0%) and 28 (66.7%) strongly agreed and disagreed that there is proper management of funds for the projects. Only 1 (2.4%) disagreed to the statement. The statement had a mean on 1.88 and a standard deviation of 0.772. Majority 26 (61.9%) and 11 (26.2%) agreed and strongly agreed that lack of funds has led to poor implementation of projects in the counties. The statement had a mean of 1.86 and a standard deviation of 0.814. Majority of the respondents were of the opinion that availability of resources was a significant factor in the implementation of infrastructural projects in the counties.

Responses from the interview indicated that the household heads indicated that there was adequate funds for the project. They however indicated that funds allocated for the project were adequate. They denied that there was timely disbursement of funds for the projects from the county government. They also indicated that there was no proper management of funds for the projects and lastly they indicated that lack of funds had led to poor implementation of projects in the counties.

To statistically establish the influence of resources availability on implementation of infrastructure projects, Pearson’s product-moment correlation was used. In doing so, descriptive statistics were computed as shown in table 4.15.

**Table 4.15 Descriptive statistics on influence of resources availability on implementation of infrastructure projects**

Statements	N	Min	Max	Mean	Std. Deviation	Variance
There is adequate funds for the project	42	1	4	1.88	.803	.644
The funds allocated for the project are adequate	42	1	4	1.88	.739	.546
There is timely disbursement of funds for the projects from the county government	42	1	3	1.95	.623	.388
There is proper management of funds for the projects	42	1	3	1.71	.508	.258
Lack of funds has led to poor implementation of projects in the county	42	1	4	1.90	.726	.527

Pearson’s product-moment correlation was then run to measure of the strength and direction of association that exists between resources availability and implementation of infrastructure projects. Table 4.16 presents the data.

**Table 4.16 Pearson’s product-moment correlation for resources availability on implementation of infrastructure projects**

Correlations		Resources availability	Implementation of infrastructure projects
Resources availability	Pearson’s Correlation	1	.543
	Sig. (2-tailed)		.036

	N	42	5
Implementation of infrastructure projects	Pearson's Correlation	.543	1
	Sig. (2-tailed)	.036	
	N	42	5

As presented in table 4.16, Pearson's correlation coefficient,  $r$ , is 0.543, which is statistically significant ( $p = 0.05$ ). The results indicated that there was a positive correlation between resources availability and implementation of infrastructure projects which was statistically significant.

#### 4.8 Project participants' commitment of and its influence on implementation of infrastructure projects

The last objective of the study sought to establish how project participants' commitment of and its influence on implementation of infrastructure projects. The researcher sought to find out whether members of the community were able to give suggestions on the projects, whether there is a spirit of volunteer ship for the projects, whether the project managers were committed to the projects, whether projects participants assessed the projects as per the schedules laid down and whether poor project commitment had led to failure of the projects. The data is presented in table 4.17

**Table 4.17 Influence of project participants' commitment on implementation of infrastructure projects**

Statement	SA		A		D		SD		ME	SD
	F	%	F	%	F	%	F	%		
Members of the community are able to give suggestions on the projects	6	14.3	3	73.8	4	9.5	1	2.4	2.1	.73
There is a spirit of volunteer ship for the	1	31.0	2	61.9	2	4.8	1	2.4	1.8	.62

projects										
The project managers are committed to the projects	1	31.	2	64.3	1	2.4	1	2.4	2.1	.68
	3	0	7						4	3
The projects participants assess the projects as per the schedules laid down	1	26.	2	57.1	6	14.3	1	2.4	1.8	.77
	1	2	4						8	2
Poor project commitment has led to failure of the projects	9	21.	2	52.4	7	16.7	4	9.5	1.8	.81
		4	2						6	4

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Data on the project participants' commitment of and its influence on implementation of infrastructure projects revealed that 6 (14.3%) of the project personnel strongly agreed that members of the community are able to give suggestions on the projects. Majority 31 (73.8%) agreed that members of the community are able to give suggestions on the projects where only a few (9.5%) and 2.4%) respectively disagreed and strongly disagreed that members of the community are not able to give suggestions on the projects. The item had a mean of 2.17 and a standard deviation of 0.730 which implied that members of the community were able to give suggestions on the projects. With a mean of 1.83 and a standard deviation of 0.621 project personnel agreed that there was a spirit of volunteer ship for the projects. This was shown by 13 (13.0%) who strongly agreed to the same and a majority 26 (61.9%) who agreed that there was a spirit of volunteer ship for the projects. The project personnel were also in agreement that the project managers were committed to the projects. This was shown by majority 27 (64.3%) who agreed to the statement and a further 13 (31%) who strongly agreed. The statement had a mean of 2.14 and a standard deviation of 0.683. Concerning whether projects participants assess the projects as per the schedules laid down, 11 (26.2%) strongly agreed to the statement while a majority 24 (57.7%) agreed. The statement had a mean on 1.88 and a standard deviation of 0.772. This implied that projects participants assessed the projects as per the schedules laid down. Data on whether poor project commitment has led to failure of the projects, 9 (21.4%) strongly agreed while 22 (52.4%) agreed. Only 7 (16.7%) disagreed and 4 (9.4%) strongly disagreed to the statement.

Data from the interview revealed that the household heads indicating that members of the community were able to give suggestions on the projects. They also indicated that there was a spirit of volunteer ship for the projects. They however denied that the project managers were committed to the projects. They also indicated that projects participants assessed the projects as per the schedules laid down. They however indicated that poor project commitment had led to failure of the projects.

To statistically establish the influence project participants' commitment of and its influence on implementation of infrastructure projects, Pearson's product-moment correlation was used. Table 4.18 presents the data.

**Table 4.18 Descriptive statistics on project participants' commitment on implementation of infrastructure projects**

Statements	N	Min	Max	Mean	Std. Deviation	Variance
Members of the community are able to give suggestions on the projects	42	1	4	2.00	.584	.341
There is a spirit of volunteer ship for the projects	42	1	4	1.79	.645	.416
The project managers are committed to the projects	42	1	4	1.76	.617	.381
The projects participants assess the projects as per the schedules laid down	42	1	4	1.93	.712	.507
poor project commitment has led to failure of the projects	42	1	4	2.14	.872	.760

A Pearson's product-moment correlation was run to measure of the strength and direction of association that exists between the two variables measured on at least an interval scale. Table 4.19 presents the data.

**Table 4.19 Pearson's product-moment correlation for aspects project participants' commitment on implementation of infrastructure projects**

Correlations	
	Project
	Implementation of



		participants' commitment	infrastructure projects
Project participants' commitment	Pearson's Correlation	1	.732
	Sig. (2-tailed)		.043
	N	42	5
Implementation of infrastructure projects	Pearson's Correlation	.732	1
	Sig. (2-tailed)	.043	
	N	42	5

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

Pearson's correlation coefficient revealed an  $r$ , is 0.732, and that it is statistically significant ( $p = 0.05$ ). The results indicated that there was a strong, positive correlation between project participants' commitment and implementation of infrastructure projects which was statistically significant.

## **CHAPTER FIVE**

### **SUMMARY OF FINDING, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the summary, conclusions and recommendations. The chapter also presents the suggestions for further research

#### **5.2 Summary of the study**

This purpose of this study was to investigate the project design factors influencing the implementation of infrastructural project in devolved governments; a case of Marsabit and Isiolo Counties. The study was guided by five objectives. The first objectives of the study was to establish how project planning influences the implementation of infrastructure projects in Marsabit and Isiolo counties; the second research objective was to establish how project leadership influences the implementation of infrastructure projects in Marsabit and Isiolo counties; the third research objective was to determine how community involvement influences the implementation of infrastructure projects in Marsabit and Isiolo counties; the fourth research objective was to assess how resources availability influences the implementation of infrastructure projects in Marsabit and Isiolo counties while the last research objective was to assess how commitment of project participants influences the implementation of infrastructure projects in Marsabit and Isiolo counties. The study was guided by descriptive research survey design. The target population was 56 project personnel involved in the management of the projects and 320 households. The sample size for the study was 48 personnel involved in the management of the projects and 175 household heads. Data for this study was collected using questionnaires for the personnel involved in the management of the projects and an interview for the household heads. Descriptive statistics such as frequencies, percentages and averages were used to analyze the data and data was presented in form of tables. Pearson's product-moment correlation coefficient was used as a measure of the strength and direction of association that exists between independent and dependent variables.

### 5.3 Summary of findings

Findings on the influence of project planning on implementation of infrastructure projects revealed that majority 25 (59.5%) of the respondents agreed that there is always a stakeholder engagement before the commencing of the project. Further 6 (14.3%) strongly agreed to the statement. Only 9 (21.4%) and 2 (4.8%) strongly disagreed and disagreed to the statement. The item had a mean of 2.17 and a standard deviation of 0.730. With a mean of 1.83 and a standard deviation of 0.621, majority of project personnel 28 (66.7%) agreed that good project planning benefits the mapping for the project. In this item, 28 (66.7%) agreed to the statement while 11 (26.2%) strongly agreed. Data further indicated that a majority of 28 (66.7%) agreed that there was risk assessment before the commencement of the project. Findings on Pearson's product-moment correlation revealed a Pearson's correlation coefficient,  $r$ , is 0.682, that was statistically significant ( $p= 0.05$ ). The results indicated that there was a strong, positive correlation between project planning and implementation of infrastructure projects. The findings implied that implementation of infrastructure projects was influenced by the project planning.

Findings on the influence of project leadership on implementation of infrastructure projects revealed that majority 16 (38.1%) strongly agreed and 22 (52.4%) agreed that there is community inclusion in the project leadership. The statement had a mean on 2.17 and a standard deviation of 0.730. With a mean of 1.83 and a standard deviation of 0.621, majority 13 (31%) strongly agreed that there has been community receptivity in the project leadership while 23 (54.8%) agreed to the statement. Further findings revealed that project leaders involve all stakeholders in decision making pertaining the project. The mean for the statement was 2.14 and a standard deviation of 0.683. Data also showed that majority 12 (28.6%) strongly agreed that the leadership of the project ensure collaborative participation of all stakeholders while 22 (52.4%) agreed. The statement had a mean of 2.14 and a standard deviation of 0.683. Majority 12 (28.6%) strongly agreed that the leadership of the project ensure collaborative participation of all stakeholders. This was agreed to by 28 (66.7%) where the statement had a mean of 1.88 and a standard deviation of 0.772. Pearson's product-moment correlation to statistically establish the influence of project leadership on implementation of infrastructure projects revealed an  $r$ , of 0.512, and that it is statistically significant ( $p = 0.05$ ). The findings indicated that there was a positive correlation between project leadership and implementation of infrastructure projects.

Findings on the influence of community involvement on implementation of infrastructure projects revealed that the community did not have a participatory monitoring and evaluation of projects. This was as per the 14 (33.3%) of the project personnel disagreed to the statement and a further 8 (19.0%) who strongly disagreed. The statement had a mean of 2.17 and a standard deviation of 0.730. Majority of the project personnel 10 (23.8%) and 29 (69.0%) strongly agreed and disagreed respectively that there was active participant commitment by the members of the community. The statement had a mean of 1.83 and a standard deviation of 0.621. Findings also revealed that the community members were allowed to voice their opinions and suggestions as it was strongly agreed to by 8 (19.0%) and 30 (71.4%) who agreed to the statement. The statement had a mean of 2.14 and a standard deviation of 0.683. Data further indicated that 9 (21.4%) agreed that the community has various levels of volunteerism in the project as strongly agreed so by 9 (21.4%) and 25 (59.5%) who agreed. The statement had a mean of 1.88 and a standard deviation of 0.772. Lastly on the influence of community involvement on the implementation of infrastructure projects, 5 (11.9%) strongly agreed that poor or lack of community participation had led to poor project implementation while 22 (52.4%) agreed to the statement. Pearson's product-moment correlation was used to statistically establish the influence of community involvement and its influence on implementation of infrastructure projects revealed a correlation coefficient,  $r$ , of 0.623, which was statistically significant ( $p = 0.05$ ) hence it was concluded that there was a positive correlation between community involvement and implementation of infrastructure projects.

Findings on the influence of resources availability on implementation of infrastructure projects revealed that majority of the respondents 13 (31%) and 24 (57.1%) strongly agreed and agreed that there was adequate funds for the project. The item had a mean of 2.17 and a standard deviation of 0.73). It was also agreed by 13 (31%) and 22 (52.4%) that the funds allocated for the project were adequate. Only a small percentage (4.8 and 7.1%) disagreed and strongly disagreed respectively that there was adequate funds for the project. The statement had a mean of 1.83 and a standard deviation of 0.621. Findings also revealed that majority 26 (61.9%) agreed that there was timely disbursement of funds for the projects from the county government. In the same item 9 (21.4%) strongly agreed. The data also showed that majority 13 (31.0%) and 28 (66.7%) strongly agreed and disagreed that there is proper management of funds for the projects. Only 1 (2.4%) disagreed to the

statement. The statement had a mean on 1.88 and a standard deviation of 0.772. Majority 26 (61.9%) and 11 (26.2%) agreed and strongly agreed that lack of funds has led to poor implementation of projects in the county. The statement had a mean of 1.86 and a standard deviation of 0.814. Majority of the respondents were of the opinion that availability of resources was a significant factor in the implementation of infrastructural projects in the county. Pearson's product-moment correlation which tested whether there was any relationship between resources availability on implementation of infrastructure projects showed a correlation coefficient,  $r$ , of 0.543, which is statistically significant ( $p = 0.05$ ). The findings indicated that there was a positive correlation between resources availability and implementation of infrastructure projects which was statistically significant.

Findings on the influence of project participants' commitment on the implementation of infrastructure projects revealed that 6 (14.3%) of the project personnel strongly agreed that Members of the community are able to give suggestions on the projects. Majority 31 (73.8%) agreed that members of the community are able to give suggestions on the projects where only a few (9.5%) and 2.4%) respectively disagreed and strongly disagreed that members of the community are able to give suggestions on the projects. The item had a mean of 2.17 and a standard deviation of 0.730 which implied that members of the community were able to give suggestions on the projects. With a mean of 1.83 and a standard deviation of 0.621 project personnel agreed that there was a spirit of volunteer ship for the projects. This was shown by 13 (13.0%) who strongly agreed to the same and a majority 26 (61.9%) who agreed that there was a spirit of volunteer ship for the projects. The project personnel were also in agreement that the project managers were committed to the projects. This was shown by majority 27 (64.3%) who agreed to the statement and a further 13 (31%) who strongly agreed. The statement had a mean of 2.14 and a standard deviation of 0.683. Concerning whether projects participants assess the projects as per the schedules laid down, 11 (26.2%) strongly agreed to the statement while a majority 24 (57.7%) agreed. The statement had a mean on 1.88 and a standard deviation of 0.772. This implied that projects participants assessed the projects as per the schedules laid down. Data on whether poor project commitment has led to failure of the projects, 9 (21.4%) strongly agreed while 22 (52.4%) agreed. Only 7 (16.7%) disagreed and 4 (9.4%) strongly disagreed to the statement.

#### **5.4 Conclusions of the study**

Based on the findings, it was concluded that there was a strong, positive correlation between project planning and implementation of infrastructure projects. This was shown by Pearson's product-moment correlation of  $r$ , is 0.682, that was statistically significant ( $p= 0.05$ ). Hence it was concluded that implementation of infrastructure projects was influenced by the project planning. The study concluded that project leadership significantly influenced the implementation of infrastructure projects. This was shown by a Pearson's product-moment correlation of  $r$ , of 0.512, and that it was statistically significant ( $p = 0.05$ ). The study also concluded that community involvement influenced the implementation of infrastructure projects. This conclusion was based on a Pearson's product-moment correlation  $r$ , of 0.623, which was statistically significant ( $p = 0.05$ ) hence it was concluded that there was a positive correlation between community involvement and implementation of infrastructure projects. It was further concluded that resources availability influenced the implementation of infrastructure projects. This was based on the Pearson's product-moment correlation which tested whether there was any relationship between resources availability on implementation of infrastructure projects showed a correlation coefficient,  $r$ , of 0.543, which is statistically significant ( $p = 0.05$ ). The results indicated that there was a positive correlation between resources availability and implementation of infrastructure projects which was statistically significant. The study also concluded that project participants' commitment influenced the implementation of infrastructure projects. This conclusion was based a Pearson's product-moment correlation of the influence project participants' commitment on implementation of infrastructure projects which revealed an  $r$ , of 0.732, ( $p = 0.05$ ). This implies that there was a strong, positive correlation between project participants' commitment and implementation of infrastructure projects which was statistically significant.

#### **5.5 Recommendations of the study**

The following were the recommendations for the study

- i. That the county governments of Marsabit and Isiolo should enhance the aspects of project planning as they were significant in the implementation of infrastructure projects.

- ii. That the county governments of Marsabit and Isiolo should focus on project leadership in the training of leaders as this was important in the implementation of infrastructure projects.
- iii. That the county governments of Marsabit and Isiolo should involve the community for better implementation of infrastructure projects.
- iv. That the county governments of Marsabit and Isiolo should avail the required resources for the implementation of infrastructure projects.

## **5.6 Suggestions for further research**

This study was conducted to explore factors determining project design factors on the implementation of infrastructural projects in the county governments of Marsabit and Isiolo. In this regard there is still room for further investigation in this area, more studies should be carried out in other counties and in other projects undertaken in the devolved governments.

The study portrayed that a glaring gap existed between community involvement and the implementation of infrastructure projects. The researcher therefore suggests more exploration on various ways of involving the community members to enhance the implementation of infrastructure development projects.

With the removal of responsibility of developing infrastructure from parent ministries in central government to the county governments there is need for assessment and further studies on the challenges this will pose on the successful implementation of infrastructure projects.

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## APPENDICES

### APPENDIX I

#### LETTER OF INTRODUCTION

Ahmed Abdullahi Abdi  
Department of Open and  
Distance Learning,  
University of Nairobi  
8<sup>th</sup> Oct. 2018

The Manager

\_\_\_\_\_ Project

Dear Sir / Madam,

#### **RE: PERMISSION TO COLLECT DATA**

I am post-graduate student at the University of Nairobi. I am currently carrying out a research as part of my final year thesis project. This research is a requirement of the master's programme. My study is **“Influence of project design factors influencing the implementation of infrastructural projects in devolved governments, a case of Marsabit and Isiolo Counties”** Your project has been selected to participate in this study. I hereby humbly request your office to accord the study any assistance that will make the study a success.

Yours faithfully,

Ahmed Abdullahi Abdi

L50/6057/2017

## APPENDIX II

### QUESTIONNAIRE FOR THE RESPONDENTS

This questionnaire is designed to collect information on “**Influence of project design factors influencing the implementation of infrastructural project in devolved government, a case of Marsabit and Isiolo Counties**”. You are requested to participate in the study by responding to all questions in the questionnaire. All responses will be confidential and will be used by the researcher for academic purpose only. Please tick (✓) where appropriate or fill in the required information.

#### Section A: Demographic Information

1. Indicate your gender?  Male  Female

2. What is your age?

Below 30 years  31-40 years

41–50 years  51 and above

3. What is your highest professional qualification?

Certificate  Diploma

Under graduate  Masters

Any other (specify).....

4. For how long have you served in this project?

Below 1 year  1-2years  3-4 years  4-5 years

#### Section B: Influence of project planning influence the implementation of infrastructure project

In a scale of 1 to 4 where 4 is strongly agree and 1 is strongly disagree, indicate the extent to which you agree or disagree with the following statements concerning diversity and project performance

**Key 4 – Strongly agree; 3 Agree; 2 Disagree; 1 strongly disagree**

	Statement	1	2	3	4
1	There is always a stakeholder engagement before the commencing of the project				
2	Good project planning benefits mapping for the project				

3	There is risk assessment before the commencement of the project				
4	The projects have actual plan which are discussed before the project start				
5	Poor project planning have affected most of the projects				

**Section C: Influence of project leadership influence the implementation of infrastructure projects**

In a scale of 1 to 4 where 4 is strongly agree and 1 is strongly disagree, indicate the extent to which you agree or disagree with the following statements concerning employee recognition and project performance

**Key 4 – Strongly agree; 3 Agree; 2 Disagree; 1 strongly disagree**

	Statement	1	2	3	4
1	There is community inclusion in the project leadership				
2	There has been community receptivity in the project leadership				
3	Project leaders involve all stakeholders in decision making pertaining the project				
4	The leadership of the project ensure collaborative participation of all stakeholders				
5	Poor leadership has affected the implementation of the projects				

**Section D: Influence of community involvement influence the implementation of infrastructure projects**

In a scale of 1 to 4 where 4 is strongly agree and 1 is strongly disagree, indicate the extent to which you agree or disagree with the following statements concerning leadership and project performance

**Key 4 – Strongly agree; 3 Agree; 2 Disagree; 1 strongly disagree**

	Statement	1	2	3	4
1	The community has participatory monitoring and evaluation of				

	the project				
2	There is active participant commitment by the members of the community				
3	The community members are allowed to voice their opinions and suggestions				
4	The community has various level of volunteerism in the project				
5	Poor of lack of community participation has led to poor project implementation				

**Section E: Influence of resources availability influence the implementation of infrastructure projects**

In a scale of 1 to 4 where 4 is strongly agree and 1 is strongly disagree, indicate the extent to which you agree or disagree with the following statements concerning communication and project performance

**Key 4 – Strongly agree; 3 Agree; 2 Disagree; 1 strongly disagree**

	Statement	1	2	3	4
1	There is adequate funds to for the project				
2	The funds allocated for the project are adequate				
3	There is timely disbursement funds for the projects from the county government				
4	There is proper management of funds for the projects				
5	Lack of funds has led to poor implementation of projects in the county				

**Section F: Influence of commitment of project participants influence the implementation of infrastructure projects**

In a scale of 1 to 4 where 4 is strongly agree and 1 is strongly disagree, indicate the extent to which you agree or disagree with the following statements concerning communication and project performance

**Key 4 – Strongly agree; 3 Agree; 2 Disagree; 1 strongly disagree**

	Statement	1	2	3	4
1	Members of the community are able to give suggestions on the projects				
2	There is a spirit of volunteer ship for the project				

3	The project managers are committed to the projects				
4	The project participants assess the projects as per the schedules laid down				
5	Poor project commitment has led to failure of the projects				

## **APPENDIX III**

### **INTERVIEW SCHEDULE FOR THE HOUSEHOLD HEADS**

- i. How does project planning influence the implementation of infrastructure projects?
- ii. How does project leadership influence the implementation of infrastructure projects?
- iii. In what ways does community involvement influence the implementation of infrastructure projects?
- iv. How does resources availability influence the implementation of infrastructure projects?
- v. How does commitment of project participants influence the implementation of infrastructure projects?