

**PROJECT MANAGEMENT PRACTICES AND THE IMPLEMENTATION OF WATER  
PROJECTS IN KENYA: A CASE OF MASINGA KITUI WATER SUPPLY AND  
SANITATION PROJECT**

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## DECLARATION


This research proposal is my original work and has not been submitted or any other award in any university

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## **DEDICATION**

This research project is dedicated to my beloved parents Peter Muli and Jacinta Peter and my brother Dr. Adrian Malusi. Your support has been great for sure, you are a gift from God.

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## **ACCRONYMS& ABBREVIATIONS**

**TAWWDA:** Tanathi Water Works Development Agency

**NGO:** Non-Governmental Organization

**PM:** Project Management

**IT:** Information Technology

**DOD:** Department of Defense

**SEC:** Securities and Exchange Commission

**WSP:** Water and Sanitation Projects

**WSS:** Water and Sanitation Services

**UNHDR:** United Nations Human Development Report

**WHO:** World Health Organization

## **ABSTRACT**

This study investigates the impact of record keeping, risk management, M&E, and communication on the execution of water projects in Kenya. It investigates their effect on project execution and the expansion of water availability using a mix of methodologies. The necessity of sound M&E procedures for monitoring progress and guiding choices is highlighted by the findings. Strong recordkeeping improves accountability and transparency. Strategies for risk management reduce disruptions and boost resilience. Collaboration is encouraged by open communication, which also helps project goals fit regional need. The study highlights the need of using these elements to enhance the execution of water projects and support sustainable water access and management in Kenya. To achieve these objectives, a descriptive survey research design was used. 566 people who live in the target area responded. The formulas provided by Krejcie and Morgan (1970) were used to determine the sample size, which was 170. A simple random sampling approach that was stratified was used to select a representative sample for this inquiry. Self-administered questionnaires were employed to gather primary data, and data collection sheets were utilized to gather secondary data. Quantitative data was examined through expressive statistics. Results show that about 58% of the participants agreed to very minimal extent that there was good supervision of events. In conclusion, effective record-keeping, risk management, monitoring, and communication procedures are crucial to the successful implementation of water projects in Kenya, which

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the study**

A project is a unique game plan of motivating actions, with unquestionable beginning and ending points, attempted by a person or group to achieve defined goals within given time, cost, and execution limits. Institute for Project Management (2013). Project implementation, also known as project execution, is the stage where plans and visions are transformed into reality. It is the culmination of the evaluation, decision-making, planning, fund application, and resource acquisition stages. evaluation entails a methodical review of the impact and success of consumer satisfaction activities. Data must be gathered and analyzed in order to ascertain whether these activities have had the desired effects and to pinpoint the key elements that made a difference between success and failure. In terms of customer satisfaction, monitoring and assessment are related since monitoring gives the information required for evaluation. The information gathered through monitoring activities is used to gauge and assess how well consumer satisfaction efforts are working and accomplishing their goals. Customer happiness may directly depend on the company's and its customers' level of communication. Businesses that communicate well with their customers are better able to comprehend their wants and expectations and respond to any problems or concerns as soon as they arise. Clear communication between a business and its customers helps foster trust and establish enduring bonds. When customers' questions or complaints are immediately and satisfactorily resolved, they feel appreciated and heard. strong relationship between risk management and consumer satisfaction. Effective risk management practices help companies identify and mitigate potential risks that could negatively impact their customers. By proactively managing risks, companies can ensure the safety, quality, and reliability of their products or services, leading to increased consumer satisfactionRecord keeping is an essential aspect of maintaining consumer satisfaction. When businesses keep accurate and up-to-date records of customer information, purchases, and interactions, they are better equipped to provide personalized and efficient customer service.

Theory of Constraints (TOC): TOC concentrates on locating and managing inefficiencies or constraints that restrict the effectiveness of the project as a whole. Project managers can develop ways to maximize productivity and outcomes by determining the biggest constraining constraint. The TOC aims to focus resources and attention on tasks that actually affect project success.

Precise procedure that must be followed, be it a social project intended to promote cleanliness or the implementation of a project for delivery of service. To begin the implementation process, the work plan must be ready and comprehensible to all stakeholders involved. Technical, non-technical, and financial needs should be explicitly determined, and the specific project's technical as well as institutional structures should be developed while considering the conditions within a local area.

Water and sanitation projects are complex and may involve various institutional arrangements and diverse time frames. They may include activities such as constructing new infrastructure or approaches of working. Programs in this part address topic like capacity building, strengthening of institutions, delivery of service, technical implementation, promotion of hygiene, social marketing, promotion of sanitation, and environmental implementation. Water scarcity in Africa is due to the underdevelopment of expected water resources and their unequal allocation, together with a high rate of population growth. Zambia's peri-urban areas have varying water supply services from one settlement to another, even within the same town due to poor maintenance of water supply systems by local authorities and ministry departments. Nwasco, (2015). Other countries facing similar water and sanitation problems include Angola, Nigeria, and DRC. Stacey et al, (2015) observe that Tanzania is an East African country with a nearly pure sub-urban community structure, as apparent in places such as Dodoma, Dar es Salaam, and Mwanza. According to AfDB (2014), in April 2013, it was observed that residents of Dar es Salaam who are connected to water supply experienced low supplies due to minimal investment in the last 40 years (Stacey et al, 2015). However, the Dar es Salaam Water Supply and Sanitation Project (DWSSP), funded by the African Development Bank (AfDB), is enabling systematic infrastructure rehabilitation.

### **1.1.1 Communication**

Effective communication is crucial for the successful design of projects where 90% of the time is used by the project manager to communicate with other participants of the project. Although, communication barriers can hinder the transfer of project information, leading to project delays and failures. This review paper identifies the common communication constraints and provides guidance for project managers to overcome them. Additionally, in project management communication management is introduced as a vital aspect as it plays an important

part as one of the key areas of the entire project management scheme. The objective of the communication management plan is to meet the needs of stakeholders by ensuring accurate and efficient allocation and sharing of information about the project among those taking part in it. Barriers to communication can be verbal, emotional, emotional, or interpersonal. To address these barriers, project managers must adopt appropriate communication management strategies that set the path for effective communication. Communication management involves formulating, gathering, distributing, and recovering project information among the participants. It is an essential component of project management that has been widely discussed in studies because of its importance in an approach to sharing information between individuals at various levels.

The planning stage of project communication management is crucial in creating a management approach for communication that helps the project manager in describing the parties involved in establishing the data to be shared and assigning the best communication technique to meet the needs and demands of any client or project. The advancement of technology has greatly improved communication, making it more efficient and effective in developed countries. However, in second-world countries like most African countries, the lack of advanced technology makes communication difficult and slows down project implementation..

### **1.1.2 Monitoring and Evaluation**

The importance of M&E as project management tools cannot be overstated. Monitoring involves collecting and analyzing information about a program or intervention, while evaluation seeks to answer questions about its effectiveness (Dyason, 2010). Adopting proper M&E practices is crucial for sustaining project benefits (Ahsan and Gunawan, 2010). As such, M&E design has become an integral part of project management, helping teams clarify goals, prepare realistic outlines, and allocate resources effectively. Despite the centrality of projects in international development, their performance often disappoints stakeholders and beneficiaries, with project failure rates in Africa surpassing 50% until recently (IFAD, 2012). The reasons for this include poor stakeholder management, organizational flaws, imperfect project design, and delays in project identification and implementation. M&E systems are essential tracking tools that allow project managers to determine how best to allocate resources for optimal results (IFAD, 2012). Project management is, therefore, considered the most effective approach to managing change in projects

### **1.1.3 Risk management**

Risk analysis and risk management are two crucial components of project management. These functions aim to minimize the negative effects of risk factors on cost and schedule. However, risk and opportunity management should cover all aspects of project activities, and it would be beneficial to treat them as a single management exercise. Key business objectives should be the primary focus while formulating a project management philosophy, considering risks and rewards. Evaluation of risks should not only be limited to cost factors and schedule, but it should also extend to the creation and running of a long-term business entity able to realize stakeholders' business goals without neglecting community expectations. Due to outside influences, evolving company goals and ill-defined project planning and execution methodologies, projects frequently experience uncertainty. The complexity of the project and the experience of the team undertaking it are the main causes of the latter, as most projects are one-of-a-kind endeavors. Commercial and competitive pressures, conflicts between social, political, and institutional norms and standards, and changeable expectations of project stakeholders are a few examples of external factors that increase uncertainty.

### **1.1.4 Record Keeping**

Project records and documents are critical components of any project, as they help maintain the traceability of various activities and decisions made during the project lifecycle. Proper management of project records and documents is an essential aspect of project management. Management of records in consonance to ISO 15489-1:2001, involves duties like establishing standards and policies, delegating duties and authority, setting up guidelines and procedures, granting management access and use of records, and incorporating records management into the processes and systems of the business.

While records management can seem daunting due to the many tasks involved, the benefits of proper management outweigh the risks. Several organizations have legally adopted the US Department of Defense (DOD) 5015.2-STD as their own, making it a widely used standard. Securities and Exchange Commission (SEC), one federal agency, has limitations in addition to those set by the federal government. There are numerous state laws and regulations governing record management. Transnational membership organizations exist to offer records management education and support.

In Kenya, the Public Archives and Documentation Service Act, Cap. 19, 1965 (Revised 2003), controls the management of public records. However, the lack of standardized practices and procedures has made the circumstances of records management in the country an issue. As a result, there is a need to come up with a policy for records management to deal with these issues

### **1.1.5 Implementation**

Oliver, (2018) defines Consumer satisfaction refers to the level of satisfaction or contentment that consumers experience after purchasing and using a product or service. It is a measure of how well a product or service meets or exceeds the expectations and needs of consumers. Kotler, P., & Keller, K. L. (2016) Understanding Consumer Needs and Expectations: It is essential to conduct thorough market research and gather feedback from consumers to understand their needs, expectations, and preferences. This can be done through surveys, focus groups, or online reviews. consumer satisfaction is the level of customer service provided. Train employees to deliver exceptional customer service, ensuring that they are knowledgeable, responsive, and empathetic. Implement customer service standards and monitor performance regularly. study and quote gathering: Begin by doing extensive study on the resources required for implementation. This can apply to tools, supplies, software, and labor. To be sure you are getting the greatest deal available, request many quotations from several suppliers and providers. Prioritize expenses: Consider which expenses are absolutely necessary for the implementation and prioritize them accordingly.

Implementation of a water project includes conducting a comprehensive assessment of the water needs and resources in the target area. This includes studying the current water sources, infrastructure, usage patterns, and any existing challenges or issues with such an assessment, the next step is to develop a project plan that outlines the goals, objectives, and activities of the water project. This plan should include a timeline, scope, budget, and resources required for implementation. It is crucial that aspect of the water project is to involve the local community and stakeholders in all stages of planning and implementation. This includes consulting with community members to understand their needs, concerns, and preferences regarding water supply and management



## 1.2 Problem Statement

The execution of projects for sustainable sanitation and water management is multifaceted and necessitates the coordination of diverse institutional arrangements. Water projects comprise various concerns like the implementation of the environment, social development, technical implementation, institutional strengthening, social marketing, service delivery, sanitation promotion, hygiene promotion, and capacity building. The global population's quality of life is at risk, with an estimated 1.4 million deaths from lack of access to safe water for drinking and 3.6 million deaths per annum from waterborne diseases, with 84% of them being young people and 98% residing in developing countries. There is a need to deal with the water crisis since it is a significant issue if people's lives are to be saved from averted illnesses. The United Nations Human Development Report (UNHDR) observes that water crisis claims more lives in the developed world than wars (Water Facts, 2013a). Furthermore, in majority of town areas in Latin America, Asia, and Africa, less than 25% of the residents have access to "good quality sanitation," and over 100 million people living in urban areas around the globe defecate in the open due to a lack of public toilets (WHO and UNICEF, 2013).

To assess and emphasize the state of WSS in slums and other underprivileged areas of the nation, several studies have been undertaken. In Huruma Estate, Nairobi County, unchecked residential developments, Kahariri (2014) examined the factors affecting supply of supply and sanitation and discovered that, among other things, participation, involvement, community training, political goodwill, and, security, infrastructure, and uneven nepotism were problems. Njuguna (2014) investigated the viability of projects funded by donors, emphasized on water and sanitation initiatives in the Eastern part of Laikipia district, Kenya. She identified challenges with human resources, M&E, capital resources, and planning of the project that affect the viability of these donor-funded projects. Mulwa (2013) studied the variables impacting the longevity of projects for water supply in Machakos county, Kenya's central division, and included the concept of the rate of return on the WSS to the findings of the earlier researchers. These studies and others reveal that the implementation of water projects and WSS in Kenya has several factors influencing their success. However, such research has not been conducted in Masinga kitui county, where this research focuses.

Consequently, the target of this analysis is to assess how project management techniques affect the way water projects are carried out in Kenya. This study will look at how risk management, effective communication, participatory monitoring and evaluation, and accurate record-keeping affect how water projects are implemented in the nation. Concerns come to be raised about the gaps in water projects and recipients' perceptions of project management practices that promote the success of the overall project.

By outlining each person's role within the project and specifying each role's responsibilities, poor communication can be prevented before it becomes a failure indicator. Online communication and/or the addition of frequent meetings can both improve effective communication. An indication of potential project failure is the absence of "project plans and business case updates," along with any related plans (Thomsett, 2002). Managers must create a thorough plan (appropriate record keeping) in order to prevent planning issues; if this isn't done right away, it might be helpful to identify actions starting at this particular time. An indication that resources have not been allocated properly is the discovery of unforeseen costs that were not accounted for in preliminary estimates, as well as the finding that particular types of work have not been properly budgeted for. To specify the anticipated outlays and avoid this issue, management might employ "a number of estimation tools on the market" (May 2005). Analyzing projects that are similar can be useful in the absence of tools. Last but not least, allocating a specific fund makes logical.

### **1.3 Objectives.**

The purpose of the study was to examine how project management techniques affect how water projects are implemented in Kenya.

### **1.4 Research Objectives**

The research was informed by the objectives below:

- i). To ascertain the influence of communication on Kenya's water project delivery.
- ii). To ascertain influence of monitoring and assessment affect Kenya's water project implementation.
- iii). To ascertain influence of risk management affects the beginning of water projects in Kenya.
- iv). To establish the influence of record-keeping on the implementation of water projects in Kenya.

## **1.5 Research Questions**

The research sought to find the answers to the questions below:

- i). How does communication influence the implementation of the Masinga Kitui water and sanitation project?
- ii). How does monitoring and evaluation influence the execution of the Masinga Kitui water and sanitation project?
- iii). How significantly does risk management influence the implementation of the Masinga Kitui water and sanitation project?
- iv). How does record-keeping influence the implementation of the Masinga Kitui water and sanitation project?

## **1.6 Significance of the Research**

This research was to figure out the impact of project management practices on the implementation of water projects in Kenya. It aimed at promoting the current knowledge in project management and elevates the standards of performance of professionals in the project management industry as a whole. The study gave relevant data to policymakers and planners in all corporations to prevent duplication of interventions and identify the root cause of in-built problems that may arise during the construction and implementation of water projects. Additionally, proper record-keeping will be enhanced to explore the history of previous water projects and their benefits to society. By examining several project management practices; this study created a foundation for further research to establish additional practices and their influence on project implementation within and outside the study's scope. The data that has been collected from this study enables policymakers, Water ministry, and other government local authorities to assess water supply and sanitation projects' execution objectively and address gaps in their implementation. Furthermore, this research helps policy and decision-makers in adopting sustainable approaches before and throughout the project implementation. Its results contribute to the current body of knowledge and serve as a reference for future researchers in this field.

## **1.7 Delimitation of the Research**

This study's focus was limited to Kenya's implementation of water projects in particular. The study covered a twenty-four week period and concentrated on four study variables that affect

the execution of water projects. The research was carried out in Masinga, found in Machakos County. This particular location was chosen because it hosts a dam that supplies water to both Machakos and Kitui counties.

### **1.8 Study Limitations**

By using a descriptive survey, the respondents felt that they were offering critical and sensitive information, which might expose their organizations' weaknesses. Due to the covid-19 pandemic, there was minimal interaction; the respondents were in fear of handling and disseminating information to curb the spread of the virus. The organization's confidentiality policy limited majority of the respondents who had challenges releasing information due to their confidential nature. This limited the information that was crucial in conducting the research. The research period was short however this was dealt with through the apportionment of more time complete the questionnaires.

### **1.9 Research Assumption**

The researcher assumed that the information-gathering instrument used had plausibility and accurately estimated the expected constructs. The participants were expected to provide honest answers to the questions. The sample inclusion criteria were appropriate and ensured that the participants experienced similar phenomena as those in the study. Participants had a genuine interest in taking part in the study, without any ulterior motives such as seeking additional benefits.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The backdrop and issue, purpose, aims, research strategy, and significance of the study were all described in the first Chapter. The researcher consulted the literature addressing the connection of the project management techniques and the delivery of water projects in Kenya as part of the discussion of the problem's background. It also accounted for past studies and what has been found in the area of study. It reviewed works that focused on the specific and common goals of the research. The literature review in this chapter captured the influence of effective communication, monitoring and evaluation with participation, influence of risk management and proper record-keeping, as part of the management practices on how water projects are executed. Theoretical and conceptual frameworks have also been covered here.

#### **2.2 Communication and implementation of water projects.**

Everything we accomplish revolves around communication, which is also important in our daily lives. Who says what, to whom in what channel with what result is the definition of communication in Lasswell's maxim. Effective communication requires the efficient transfer of information from one project location to another. A key project management tool is communication. It is gaining significance quickly and will eventually serve as the focal point of all management actions. The efficiency of a project's communication network is crucial to its success. On the first day of the project, it gets to work and doesn't stop until the job is done. It offers frequent updates so users are aware of the project's development and potential for performance. Surprisingly, it has been found that most efforts experience communication problems. Project managers are said to spend 90% of their time describing how things will be done. Maintaining informational transparency is the aim of communications management. The process of preparing your communications includes deciding what information you will express, to whom and how, as well as the period it will be issued and administered. 90% of the manager's time is used in communication; therefore, it's crucial to make sure that everyone gets the right information at the right time.

Projects teams can be assembled from anywhere on the planet thanks to contemporary communication techniques. Contemporary meetings may be challenging when those taking part are in other time zones because a majority of individuals are at work during daylight hours.

Latest communication capabilities make it feasible to gather project teams from any location in the world. A variety of media, including official project documents, records, meeting notes, formal meetings, informal talks, and presentations, are used for project communication. For communication to take place or for information to be effectively shared inside projects, media must support and facilitate it (de Carvalho, 2013). These channels are more usually referred to as project communication tools in the context of project management.

#### **2.4 Monitoring and evaluation and implementation of water projects**

Project monitoring and evaluation is a method that was primarily developed to evaluate the efficiency and performance of specific projects, programs, or entire organizations. Depending on the scope and use, project employees, consultants, or specialized businesses apply it (Ms. Priti Thapa, 2020). It involves identifying the decision-making areas of concern, choosing the right information, and gathering and evaluating information to produce summary facts that decision-makers can use to make alternative selections. Giving stakeholders and project recipients input on the project's progress is another aspect of monitoring. "Decisions are made using the generated information to improve project performance" (Bartle, 2007). The project manager can anticipate problems, supervise preventative measures, and make sure that no vulnerabilities are missed by providing adequate monitoring and feedback systems. The use of participatory approaches in monitoring and evaluation makes it possible for project stakeholders to promptly participate in decision-making as well as foster an impression of ownership in the M&E findings and suggestions (Global Bank, 2004). Moynihan (2005), Kurze, and Rist (2014) emphasize other supplementary tasks of monitoring and evaluation as they might be employed for accountability objectives. It can be used to demonstrate that a project satisfies the requirements and to show charitable bodies, the general public or donors how efficiently resources have been utilized. By acting as a check and balance mechanism in time of the implementation of projects and programs, monitoring and evaluation (M&E) has expanded in significance as part of worldwide efforts to achieve ecological, economic, and social implementation (OECD, 2012). Implementation standard and measures of M&E are crucial tools for defining, measuring, and describing ecological, social, and economic direction, monitoring progress toward objectives, and determining policy and practices at the national and international levels (United Nations, 2012). M&E is crucial for determining the viability of local practices at the regional and sub-

regional levels, and it can be a useful tool to aid in management planning (Montao, Arce, & Louman, 2006).

## **2.5 Risk management and implementation of water projects**

Risk management is the act of recognizing, evaluating, and responding to any possible risks so as to keep the project on schedule and meet its goals. Project risk identification and management should be part of the planning process rather than just the reaction phase. For different projects, risk management may involve various things. According to Stephanie Ray, positive risks or chances are the occurrences you wish to take advantage of to have a net positive affect on your project (2021). To increase the likelihood that a project will succeed, the company must be aware of potential risks, assess them objectively and methodically, determine their likely causes, and then select the best plan of action. Parker & Mobey (2002). The process of risk management needs to be expressly incorporated into the process of decision making so as to make certain that any potential risks are appropriately managed. Management of risk is therefore an important practice for handling such crucial hazards in projects. It accomplishes this through evaluating the project's viability, analyzing and managing risks to minimize loss, mitigating risks through careful planning, averting unsatisfactory initiatives, and eventually raising profit margins.

Lam and Partners (2007). Prospect theory is based on making decisions under risky conditions, and since risk management involves decision-making, it is mostly employed in decision-making. By Tversky and Kahneman (2015). A struggle over value trade-offs arises during decision-making. This theory seeks to more fully explain, foresee, and characterize the choices that the average individual makes in an unpredictably changing environment. The theory investigates the presentation and evaluation of these choices during the decision-making process. The utility curves in the gain and loss domains differ from one another, according to prospect theory. The theory is meant to explain ordinary pattern of choice. The framing or editing, phase and the evaluation phase are the two stages of decision-making that are examined by prospect theory.

## **2.6.0 Record-keeping and implementation of water projects**

According to Jason Gordon (2021), the contingency theory of the structure of the organization today serves as a crucial foundation for the research on design of the organization Donaldson, (1995a, 2001). It establishes a framework for managing project activities and processes, opens up opportunities for analysis and historical reviews, and according to Eric McConnell (2011) and Veal (2001), the consensus view at the moment is that we have moved from the paperless office to the less-paper office. Unless there are new technical developments that will help the records management process, the less-paper workplace may be the best we can do. In the construction business, where contractors typically appreciate a system that helps capture and manage vast amounts of project-based information, experiencing the benefits of IT is vital. Mark (2001). The records management community, according to Morelli (2007), has largely overlooked electronic documents, in part because they believe that only official or declared records need to be managed and that these records are frequently kept in hard copy format. This change to electronic records management is being embraced by numerous water project construction companies. Effective record management benefits all organizations and the parties involved. It is a crucial element of corporate operations that makes sure timely and accurate information is shared both inside and outside of facility management, allowing for quick access to the data that is needed. Without trustworthy and genuine documented evidence supporting all crucial accountability processes, organizations cannot ensure openness, guarantee accountability, or permit the practice of good governance, as stated correctly by Obura (2012). Researchers like Külcü (2009) and Tagbotor et al. (2015), among others, have come to the conclusion that managers must have the necessary cognate skills, including the capacity to maintain and manage accurate records in order to improve project implementation, in order to successfully manage the activities of firms.

### **2.6.1 Evaluation of current systems in use within the water projects construction management**

An IT-integrated water project construction industry's primary goal is to streamline the processes for recording information created during a project's life cycle, Froese & Rankin (2002). This goal will aid in lowering the high amounts of waste that are typically brought on by information that is insufficient, inappropriate, inconsistent, late, or a combination of these, on water-building projects. Stewart, (2007) several water project construction companies make



significant investments in IT systems because they see them as a way to increase efficiency. Mak, (2011). Online collaboration tools, according to Nikas et al. (2007), can not only make managing the construction of water projects easier, but they can also improve access to and interchange of project records, saving time and money and streamlining the entire construction process.

## **2.7 Theoretical Framework**

This is the kind of framework that a research study's theory can rely on. The theoretical framework outlines each theory's applicability to this study as well as how it explains why the research problem under examination is what it is.

### **2.7.1 The Situational Leadership Theory and Styles.**

The Situational Approach was developed on the premise that all management is basically situational, also referred to as the Contingency Approach. All managerial decisions will be influenced by, if not controlled by, the specific situational factors. According to William Richard Scott from the 1970s, "depending on the characteristics of the environment to which the organization must interact, contingency theory is the optimum approach to organize." According to Jason Gordon (2021), a key foundation for the study of organizational design is currently provided by the contingency theory of organizational structure. Donaldson, (1995a, 2001). (1995a, 2001). It takes into account the connection between leadership style and situational favorability. The Least Preferred Co-worker is a metric that Fielder created to assess a leader's management style. They are asked to rate 16–22 items on a scale of one–8, while recalling a coworker they had the greatest trouble getting along with. A high score reveals the test-relational taker's style, whereas a low score reveals their task-oriented type. Some of these macro-environmental elements, or contingencies, are acknowledged by the contingency approach and should be taken into account. Mintzberg (2010) identified 11 contingency elements, of which 4 related to the complexity, stability, environment, diversity, and antagonism. If management is adaptable, it will be able to consider each of these aspects and take appropriate action. The four variables selected for this study have something to do with the contingency method. Depending on their configuration, companies use this for monitoring and evaluation. Managers can utilize a variety of monitoring and feedback techniques, including top-down or bottom-up procedures. In some businesses, feedback and monitoring can be automated. Furthermore, businesses employ various monitoring and assessment technologies at various points throughout a project's life

cycle. The organization uses record-keeping in many ways. Various organizations manage their records in various ways, whether totally automated, partially automated, or using both. It follows that it is expected that an organization will use the type of record management that best satisfies its operational requirements and yields the desired results.

Depending on the type of company, each has a unique communication strategy. The success of a project initiative for an organization depends on how well it influences communication for the accomplishment of its objectives. The organization's success is heavily dependent on how it manages risk. The impact depends on whether the risks are good or negative. Impact evaluation is therefore crucial in this situation to assure the project's success or execution.

### **2.7.2 Prospect Theory**

Prospect theory aids in decision-making under risky circumstances, according to Tversky and Kahneman (1979). Internal disputes regarding value trade-offs can arise during decision-making. This idea is to help to comprehend, justify, and predict decisions in an uncertain environment. During the decision-making process, the idea makes clear how these possibilities are presented and weighed. According to Tversky (1967), the characteristics of prospect theory are both descriptive and empirical. The framing and evaluation stages of the decision-making process are the main. The framing phase illustrates how the way a decision is presented to a decision maker can affect the decision's impact. The evaluation phase comprises of the weighting function and the value function. Gains and losses in relation to the reference point are used to define the value function. The evaluation phase includes the value function and the weighing function. The value function is defined in terms of gains and losses relative to the reference point. The evaluation phase includes the value function and the weighing function. The value function is defined in terms of gains and losses relative to the reference point. The value of each outcome is twofold by the decision weight according to the prospect theory, claim Tversky & Kahneman in 1979. On the basis of empirical research, decision weights are used as both visual representations of how people arrive at their perception of likelihood and. Risk is the potential for experiencing a gain, loss, or delay in terms of money or other resources due to the degree of variability surrounding a specific approach. The right data must be accessible to allow for statistical assessment when assessing risks in a project; otherwise, decision-makers will use their experience and expertise to determine the likelihood of an unfavorable happening. Project

risks have a significant impact on the budgeted costs, the caliber of work, and the anticipated project results. The prospect theory that talks about how options are assessed during the process of decision-making lends credence to this (Gitau, 2015).

### **2.7.3 Theory of constraints**

Eliyahu Goldratt developed a set of management techniques known as the theory of limits in 1984. Project management and performance evaluation are only a couple of the many fields where the idea is useful (Blackstone, 2010). The idea aids organizations in locating the key limitations or bottlenecks in their systems and processes so that they can address them and boost performance. According to Goldratt (2004) limitations in procedures and systems are what determine how well an organization performs. Goldratt (2004) maintains constraints are limitations that making it impossible for firms to perform to their full potential and realizing their goals and objectives. The theory is based on five steps: identifying the constraints within the system that are impeding progress toward the goal; exploitation of the most significant constraint; supervision of the system's resources, procedures, and policies to support the decision; raising the constraint by increasing capacity or altering the status of the initial resources to increase the productivity of the constraining piece of work; and ultimately removal of the remaining constraints (St. Management can maintain focus on the most important constraints in a system with the use of the five procedures used to execute the theory of constraints. The principle of limits can affect several aspects of project management. Monitoring and assessing each stage of the theory of limitations is required. so as to keep track of the development of the constraint management. In order to evaluate results and establish whether project goals and objectives are being met, the filth step of the theory of constraints includes feedback (Steyn, 2002). Steyn (2002) believes that project risk may already be a constraint or may evolve into one. Events that could be dangerous but weren't first considered to be such are commonly disregarded. As a result, risk events that were earlier considered to be less important frequently end up being the most significant shortcoming. The moment a risk event has been classified as significant, the goal is to either completely eradicate it or minimize the likelihood that it will occur or have a significant impact to the point where it is no longer crucial (Steyn, 2002). In order to implement the idea of limits, project leadership is essential. In order to accomplish projects on schedule, within the intended scope, and within the allocated budget, project

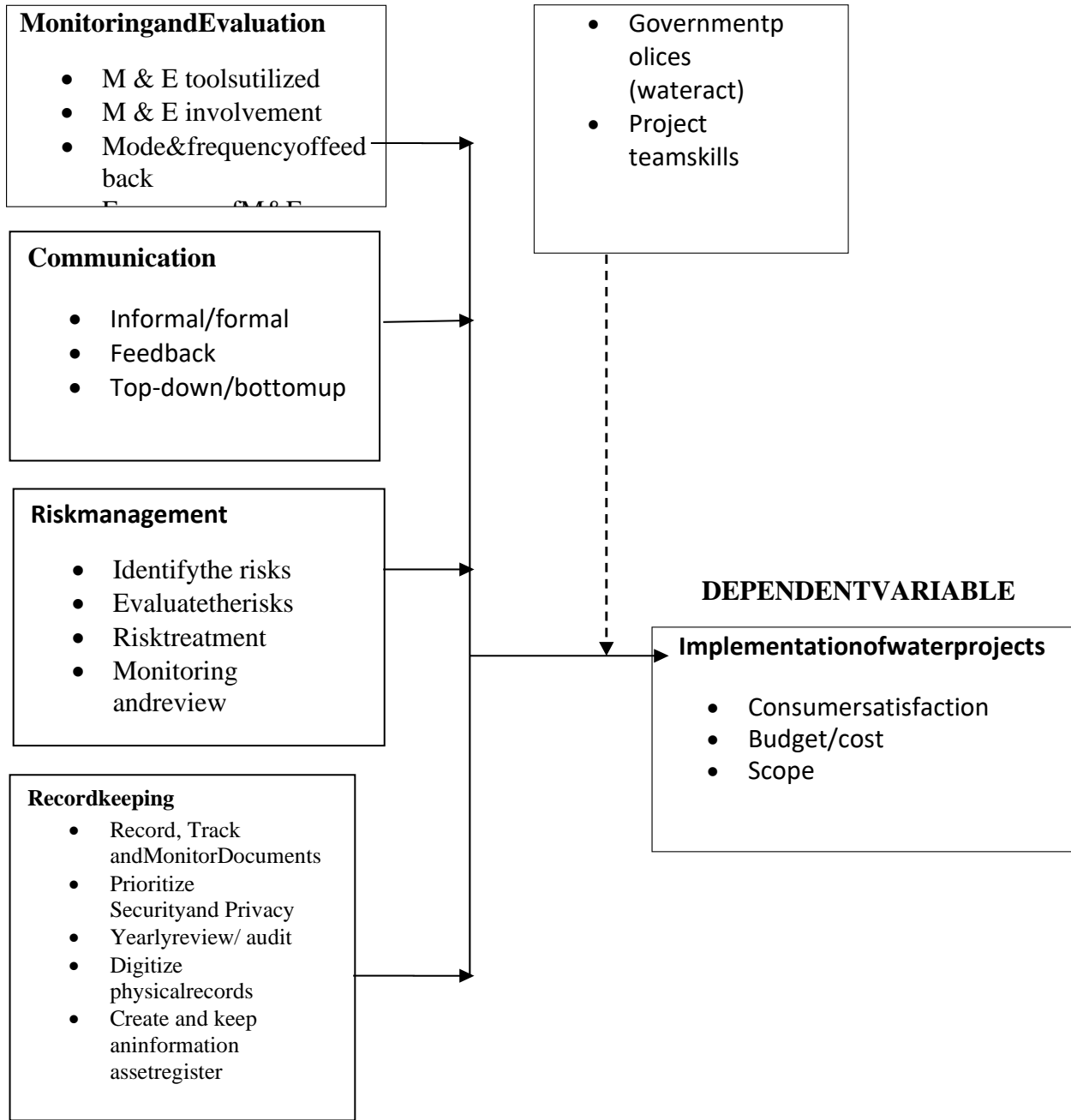
schedules must be managed (IMA, 1999). In order to effectively minimize the consequences of restrictions, project leaders must coordinate their project teams. Any initiative or organization that involves stakeholders benefits from their input on decision-making to improve the caliber of their goods and services. Stakeholder needs are likely to vary while a project is carried out, which results in modifications to the project's scope (Steyn, 2002). This might turn into a limitation that needs to be handled in order to accomplish goals. Depending on how quickly the process must be completed, some scope adjustments may occasionally be limited. This is especially true for the mobile money sector, where future product generations may be able to handle shifting market demands or technological advancements (Steyn, 2002).

## **2.8 Conceptual framework**

The conceptual framework illustrates the connections between the study's variables. The launch of water projects, whose primary indicators include customer satisfaction, budget/cost, scope, and schedule constraints, as well as guaranteeing required quality, constitute the dependent variable. Risk management, monitoring and evaluation, record keeping, and communication, as well as how they affect the implementation of water projects, are the independent factors that will be examined to find out the level to which they impact the dependent variable. The two moderating variables are also displayed.

**INDIPENDENTVARIABLE**

**MODERATINGVARIABLES**



Independent variable

Moderator

variable

Dependent variable

**Figure1: Conceptual framework**

## 2.9 Knowledge Gaps

The level, period, and length of financial aid had a significant impact on project practices, or rather the execution of activities, according to research done by Tot (2013). The researcher will select additional variables and describe their potential impact on project implementation. However, there is little data from the research included in the literature study about how much monitoring and assessment affect project implementation. Finally, it is clear that few businesses have a complete understanding of how to use technology to manage projects. Table 1 displays the research gaps:

**Table 1. Gaps**

Variable	Author/Year	Focus of study	Research Design	Findings	Research Gaps	The focus of the current study
<b>Communication</b>	Afroze and Khan (2017)	communication practices and project complexity	Qualitative	significant and impact on project performance	performance of international projects	The study seeks intervention on the implementation of water projects both nationally and internationally
<b>Monitoring and evaluation</b>	UNICEF (2012)	A 2011–2012 study on improvements to Sri Lanka, the Philippines, India, and		It concluded that there should be a connection between the implementation of these water	For sustained WSS in these countries' peri-urban areas, where over half of the population	This study makes sure that M & E begins at the project's planning stage because it is an

		Indonesia's sanitation and drinking water.		projects and the policies governing the water sector.	lives in conditions akin to slums, conditions, there needs to be well-trained personnel for the ongoing monitoring of the project's success, ongoing timely evaluations and reporting, enough funding allotted for the M&E, and policies that are clearly stated to make M&E processes a part of the project's operations.	essential development and management tool. Any project that aims to address development-related challenges must have a solid M&E system in place to support effective service delivery with the long-term objective of implementation of the project benefits, and policy implementation, which is the study's main focus.
<b>Risk</b>	Sary	Project	Qualitati	This danger	The majority	This study

<b>management</b>	Regev, Avraham Shfub, and Yakov Ben-Haim (2006)	management methodologies attempt to manage the risk .	ve research	is caused by ignorance and the uncertainty that results from it. Many technology initiatives have created, reduction, sharing, and control of risks.	of these tools (such as the central limit theorem) are based on statistical theory. Unfortunately, a statistical theory may not apply to tasks involving technology for which very little or no prior knowledge is necessary. The study was limited to how risk management influences the implementation of projects.	addressed how risk management influences the implementation of water projects.
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## **2.9 Summary on literature review**

This study used the Masinga Kitui water and sanitation project as a case study to determine the extent to which project management practices have an impact on the execution of water projects in Kenya. The study's four primary project management approaches served as the study's independent variables. Three theories that are pertinent to the topic and that can be used to better understand the correlations between the research variables were examined in the study. Contingency leadership theories are those that are founded on the idea that a leader's capacity to use the best leadership style for a particular occurrence determines the leader's effectiveness and success. The theories also accept that the suitability and implementation of a leadership style, rather than any one theory being better than another, is what matters. Organizations and individuals can better understand and justify actions in an uncertain world with the aid of prospect theory. It aids in ensuring that project goals are met within their limitations.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The discussion of methodology in this part covered the following subjects Target population, sample size, research design, and sampling methods; data collecting tools; data collection processes; techniques for data analysis, moral questions, and operational definitions of the variables

#### **3.2 Research Design**

The framework that a researcher will use employs to arrange their utilization of various research methodologies and procedures is referred to as research design, according to Edu (2020). This investigation employed a descriptive study approach. The researcher thoroughly examined and characterized the situation or case in their study materials by conducting descriptive research. The researcher collected data, carried out analysis, prepared it, and then effectively explained the findings in this type of study design. The most adaptable technique is the research design approach. This research's primary research question, which is how management practices affect the implementation of water projects, was addressed by the study design because it allowed for comprehensive examination of a particular group or organization, with conclusions and advice supplied in a clear manner. An efficient method for descriptive research and data analysis, a case study on Masinga Kitui using a variety of data sources. In addition to the benefit of carefully analyzing a unit or organization, it also assisted the researcher in keeping up with a subject that is changing quickly Dubé&Paré (2003). Because there are so many different types of water projects, it was therefore chosen to adopt a descriptive design in this study.

#### **3.3 Target Population**

A sampling strategy was chosen by researchers along with the target population from which they sought to gather data. In addition, the population consisted of all individuals or things (analytic unit) having the desired attributes. A person, group, firm, nation, thing, or any other item from which you intend to derive scientific conclusions may serve as the unit of analysis (Bhattacharjee, 2012).

**Table 2: Target Population**

Position in the organization	Population
Executive directors	<b>93</b>
Project directors	<b>173</b>
Program officers	<b>300</b>
Total	<b>566</b>

### 3.4 Sampling approach

A census is a study done on the entire collection of objects under observation and associated with a particular group. It is a comprehensive count of all population units according to predetermined features (UNECE, 2000). "If the group is not large, a census may be preferred since it may be crucial to sample a considerable portion of the group in order to approximate with small sampling error" (Statistics Canada, 2010). According to Kothari (2004), the best level of accuracy is attained when all items are covered, eliminating all elements of chance. The respondents were chosen on purpose from 160 Program Officers, 90 project directors and 50 executive directors who serve as the primary information custodians for their businesses.

$$n = \frac{z^2 \cdot N \cdot \hat{p}^2}{(N - 1)e^2 + z^2 \hat{p}^2}$$

If  $n$  = Sample size,

$N$  = Population size (566),

$e$  = Error accepted (0.05),

$\hat{p}$  = Population standard deviation (0.5),

$Z$  = Standard variance (1.96 at a confidence level of 95%).

**Table 3: Sample Size**

Level in the organization	Population	Sample percent	Sample size
Executive directors	<b>93</b>	<b>0.3</b>	<b>28</b>
Project directors	<b>173</b>	<b>0.3</b>	<b>52</b>
Program officers	<b>300</b>	<b>0.3</b>	<b>90</b>
Total	<b>566</b>		<b>170</b>

### **3.6 Collection of Data**

Data that was gathered using a Questionnaire. It was created with components that support the accomplishment of the study's objectives. It had questions that are closed and open-ended on the survey. Closed questions had a predetermined set of questions that respondents had to answer in a specific order and with predetermined response alternatives. Respondents didn't feel constrained by open-ended inquiries. There were five sections in the questionnaire. The first portion sought to ask respondents to provide information on themselves as well as the organizations, while the variables in the next four sections are those that the researcher investigated. The use of a self-administered questionnaire, was be sent by email and was filled via Google forms.it was used so that the researcher can conduct research and have more time to gather information, speak with others, and carefully evaluate responses. The cost of filling out the questionnaire i.e as internet expenses was covered by the researcher. Alternately, the researcher also had to distribute the questionnaire and then pick up the completed forms.

### **3.7 Efficacy of the instrument**

This is the extent in which outcomes derived from the data analysis illustrate the occurrence under research (Mugenda & Mugenda, 2003). The degree of systematic or inherent error in a measurement is known as validity. The study supervisor's assessment of the questionnaire's validity was used by the researcher, along with a controlled test to gauge the soundness of its content. It answered queries like: will the survey measure the things it claims to measure? Is it a true reflection of the content? Does it match the population or sample? Does the tool have the feel of a survey? Is the questionnaire adequately complete to gather the required data to fulfill the

research objectives? The questionnaire was prepared for a pilot test when the researcher has answered the aforementioned queries and made any necessary adjustments based on the results of a field test and the supervisor's assessment.

### **3.8 Reliability of the instrument**

This is the precondition that, at least theoretically, a different investigator, or the same one on a different situation, can recreate the initial piece of study and produce similar results or evidence, with the same or similar population under study (Boit et al., 2019). Consistency in the outcomes' production is a concern with reliability. If a measurement device yields dependable data every time, Kothari, (2016). (2016). The researcher used a half-split to evaluate the survey's validity.

### **3.9. Ethical considerations.**

The researcher promised to handle and manage the data with the utmost discretion. The identity of the respondent was not indicated on the study questionnaire. Before starting the process of collecting data, the investigator described the objective of the research. All respondents were given the utmost respect and consideration. The investigator disclosed to the respondents that there was to be no financial benefit from taking part in the study and that the findings were to be made public once they were complete.

### **3.10 Data Analysis.**

Methodologies for assessing Data from both quantitative and qualitative sources were used to collected data. The quantitative approach involved inferential and descriptive analysis. Using descriptive analysis like percentages, graphs and tables were used to display quantitative data. Statistical Package for Social Science (SPSS V 18.0) was used to code the data gotten from the questionnaires. For a simple descriptive analysis and data status reports, both of the closed-ended questions must be filled out. Descriptive statistics make use of relative and absolute (%) frequencies as well as measures of central tendency. The study will include intense evaluation of content. to examine open-ended inquiries.

### 3.11 Operationalization of Variables

**Table 4:**

Objectives	Variable	Indicators	Measurement scale	Data collection method	Data analysis technique
Effects of M & E on the implementation of water projects in Kenya.	Monitoring and evaluation	<ul style="list-style-type: none"> <li>• M&amp;E tools used</li> <li>• Participation in M&amp;E</li> <li>• Frequency &amp; mode of feedback</li> <li>• Frequency of M&amp;E</li> </ul>	Ordinal	<ul style="list-style-type: none"> <li>• Questionnaire</li> <li>• Interviews</li> </ul>	Descriptive statistics  Regression analysis  Correlation analysis
To determine the impact of communication on the implementation of water projects in Kenya.	Communication	<ul style="list-style-type: none"> <li>• Informal/formal</li> <li>• Feedback</li> <li>• Top-down/bottom up</li> </ul>	Ordinal	<ul style="list-style-type: none"> <li>• Questionnaire</li> <li>• Interviews</li> </ul>	Descriptive statistics  Regression analysis  Correlation analysis

<p>To determine the influence of risk management on the implementation of water projects in Kenya.</p>	<p>Risk management</p>	<ul style="list-style-type: none"> <li>• Identify the risks</li> <li>• Evaluate the risks</li> <li>• Risk treatment</li> <li>• Monitoring and review</li> </ul>	<p>Ordinal</p>	<ul style="list-style-type: none"> <li>• Questionnaire</li> <li>• Interviews</li> </ul>	<p>Descriptive statistics</p> <p>Regression analysis</p> <p>Correlation analysis</p>
<p>record-keeping on the implementation of water projects in Kenya</p>	<p>Record keeping</p>	<ul style="list-style-type: none"> <li>• Prioritize Security and Privacy</li> <li>• Record, Track, and Monitor Documents</li> <li>• Annually review/audit</li> <li>• Digitize physical records</li> </ul>	<p>Ordinal</p>	<ul style="list-style-type: none"> <li>• Questionnaire</li> <li>• Interviews</li> </ul>	<p>Descriptive statistics</p> <p>Regression analysis</p> <p>Correlation analysis</p>

## **CHAPTER FOUR**

### **DATA PRESENTATION, DATA ANALYSIS, RESULTS AND DISCUSSION**

#### **4.1 Introduction**

Data analysis, output of the results and a thorough explanation of the results were all presented in this chapter. Each section explains the findings for all of the study's aims, and the results were in line with those goals. The main sections cover the following topics: a discussion of the response rate to the questionnaire, a description of the demographic profiles of the data and respondents who were taken into account and participated in this study, a discussion of how to check the data set for statistical assumptions, and an analysis of the data in accordance with the study's objectives.

#### **4.2 Questionnaire Return Rate**

This shows the response at which persons actually responded to the questionnaires in comparison to the study's defined target participants. It is critical because the response rate offers enough information for a study to produce valid results (Kikwatha, 2018). Mugenda (2012) holds that a 50% or less response rate is enough for data assessment and reporting, while a response rate of 60% or above is preferable. A return rate of more than 70%, on the other hand, is considered excellent for analyzing results and drawing conclusions. In this research 139 out of 170 questionnaires issued were done successfully and delivered which translated to a rate of 81.8%.

#### **4.3 Demographic Information and Respondent's Profiles**

Overall, demographic information was based on the gender, age and academic qualification. However, since this study involved different groups or levels of the respondents, that is the directors, technical monitoring and evaluation, local community and local leadership it was important that their demographic profiles were also analyzed. The individual group profiles analyses their age, gender, academic qualification. Frequencies of each group for each category and their respective percentages based on the sample size were used.



### 4.3.1 Participants Distribution in Terms of Gender

The gender variable was measured based on two levels that is male and female for all the groups sampled in this study. Overall distribution by gender was checked and the individual analysis of the gender distribution by gender was done to identify any disparities that may arise were caused majorly by which group.

**Table 4.1: Distribution Gender**

Gender	Frequency	% Frequency
Male	90	64.7
Female	49	35.3
Total	139	100

These data show the gender distribution of a group of 139 individuals. There were 90 males in the group, which is 64.7% of the total. There were 49 females in the group, which is 35.3% of the total. The cummulatively number of individuals in the group is 139, and the sum of the percentages of males and females is 100%. based on the above data it is evident that male gender within Masinga Kitui were more Responsive this is indicator that males are inclined to discuss key intervention practices that influence society upliftment.

### 4.3.2 Respondents Distribution in terms of Age

**Table4.2: Distribution by Age**

Age	Frequency	Percentage
<b>Below 25 years age</b>	22	15.8
<b>26-35 years age</b>	62	44.6
<b>36-45years age</b>	21	15.1
<b>45yrs and above</b>	34	24.5
Total	<b>139</b>	<b>100.0</b>

This table shows the age distribution of a group of 139 individuals. There were 22 individuals in the group who were below 25 years old, which is 15.8% of the total. There were 62 individuals in the group who were between 26 and 35 years old, which is 44.6% of the total. There were 21 individuals in the group who were between 36 and 45 years old, which is 15.1% of the total. There were 34 individuals in the group who were 45 years old and above, which is

24.5% of the total. Ages between 26-35 years were highly responsive to the questionnaire questions, considering they constitute the larger population within Masinga Kitui project their response signifies the true image and Recommendations from the working team.

### 4.3.3 Distributions of Participants in terms of Academic Qualification

The academic qualification variable was evaluated based on four levels that is master’s level, bachelor’s level, diploma level and certificate level. These levels are ordinal levels with highest level of academic qualification taken as masters. These levels have also been used in study by Musau and Migosi (2015) in their study.

**Table 4:3 Distributions by academic qualification**

Age	Frequency	Percentage
Masters	5	3.6
Bachelors	32	23.0
Diploma	47	33.8
Certificate	55	39.6
Total	139	100.0

This table shows the educational attainment of a group of 139 individuals. There were 5 individuals in the group who have a master's degree, which is 3.6% of the total. There were 32 individuals in the group who have a bachelor's degree, which is 23.0% of the total. There were 47 individuals in the group who have a diploma, which is 33.8% of the total. There were 55 individuals in the group who have a certificate, which is 39.6% of the total, and the sum of the percentages of all the educational attainment categories is 100%. Higher response rates were witnessed by individuals with diploma qualification who largely constitute the large workforce this is an indication of their strive and willingness to improve their work place practices through research findings.

### 4.4 Analysis of Likert-scale Data Type

Likert-scale is used mostly where the researcher wants to evaluate opinions and attitudes (Croasmun & Ostrom, 2011). The attitudes are measured in a certain order on a scale (Creswell, 2013). It shows the intensity to which the attitude of the respondents can reach. Statements regarding a particular issue of interest are posed to the respondent and for each statement they

are asked to give their opinion on how they feel about the statement then this feeling are rated on a Likert scale (Joshi *et al.*, 2015). The scales are of different types however the basic knowledge is that the strong negative feelings are rated low on the scale that is they are given a one which for instance could represent strongly disagree or Very Minimal extent, while the highest positive feeling or attitude is given the score five which for instance may represent strongly agree (Chyunget *al.*, 2017). According to Burke (2013) data that is of Likert type follows the assumption of being equidistant to allow using the parametric tests for analysis. The likert scale tabulation was as follow 1, Strongly Agree, 2. Agree, 3. Neutral, 4. Disagree, 5. Strongly disagree

#### 4.5.1 Communication and the execution of Masinga Kitui water prioject.

The research objective was to determine the manner in which communication practices influenced the Masinga Kitui water and sanitation project's implementation. The respondents were given a questionnaire to complete, and table 4.5 presents their answers as shown.

**Table 4.4: Communication practice**

Item	SD	D	N	A	SA	M	S.D
	%	%	%	%	%		
<b>Communication Practice</b>							
The nature of communication in the organization i.e. formal or informal influences project implementation	1.4	10.1	44.6	43.2	0.7	3.32	0.723
The communication medium used in the organization is highly effective and enhances project implementation (meetings, telephone calls, surveys, nonverbal, etc.)	1.4	3.6	34.5	57.6	2.9	3.57	0.682
Advancement in technology has highly enhanced communication on in implementing projects	1.4	5.0	33.8	54.0	5.8	3.58	0.742
Total Scores						3.22	0.506
N = 139, Composite Mean = 3.22 , Standard Deviation = 0.506							

From the table 4.4, the statement that the nature of communication in the organization.

formal or informal affects project implementation 44.6% of the participants were neutral to the statement with a standard error of 0.061 and a mean of 3.32 which is a low standard error showing that the mean was a true estimate of the population mean and the standard deviation was 0.723. On the statement that the communication medium used in the organization is highly effective and enhances project implementation (meetings, telephone calls, surveys, etc.), most of the participants concurred with the statement at 57.6%. The mean for this statement response was 3.57, while its standard error was 0.058 and the standard deviation was 0.682. On the statement that advancement in technology has highly enhanced communication on in implementing projects, 54.0% agreed with the statement. From the results above Communication management would impact on implementation of water and their rate of completion in masinga kitui water project.

#### **4.5.2 Monitoring and evaluation and the execution of Masinga kitui water project**

This is a presentation and discussion of descriptive statistics on how monitoring and assessment affect Masinga kitui water project implementation. Data from key informant talks and interviews was evaluated, and the findings were verified against those from self-administered questionnaires. The self-administered questionnaire contained four (4) items, each of which asked respondents to rate their level of agreement with a series of assertions. The responses are displayed in percentages (%), means (M), and standard deviations (SD) in Table 4.5.

**Table 4.5 Monitoring and evaluation**

Item	SD	D	N	A	SA	M	S.D
	%	%	%	%	%		
The monitoring and evaluation plan put in place is followed to the latter.	7 5.0	27 19.4	79 56.8	25 18.0	1 0.7	2.90 0.066	0.774
The monitoring and evaluation is carried out often	4 2.9	22 15.8	82 59.0	29 20.9	2 1.4	3.02 0.063	0.737
The efficiency of the organizations monitoring plan and tools is critical for implementation of projects	3 2.2	24 17.3	93 66.9	19 13.7	0 0	2.92 0.053	0.626
The monitoring and evaluation framework used is critical for implementation of the project	20 14.4	36 25.9	50 36.0	33 23.7	0 0	2.69 0.084	0.992
Total Scores						2.89	0.483
N = 139, Composite Mean = 2.89, Standard Deviation = 0.483							

The aim of item 8a was to establish how closely the monitoring and evaluation plan in place is being adhered to. The findings reveal that 106 (76.3%) of the respondents at least somewhat affirm with this item, indicating that it was followed. The mean score (M) and standard deviation (SD) for this item were 2.90 and 0.774, respectively. The objective of item 8b was to find out how frequently monitoring and assessment were conducted. According to the findings, 104 (74.8%) of them agreed with this statement just somewhat or not at all. A minority 31(22.3%) agreed with the statement to a great extent while 4(2.9%) agreed to no extent at all. The mean score for this item was 3.02 and a mathematical deviation of 0.737. Item 8c aimed on determining the degree to which the efficiency of the organizations monitoring plan and tools is critical for implementation of projects. Results indicate that majority 117(84.2%) of the participants agreed to very minimal degree that the efficiency of the organizations monitoring plan and tools is critical for implementation of projects. Only a minority 19 (13.7%) of the

respondents agreed that the efficiency of the organizations monitoring plan and tools is critical for implementation of projects. The mean score for this item was 3.2.92 with a standard deviation was 0.626.

Item 8 aimed to determine the degree to which the monitoring and evaluation structure use discritical for execution of the project. The result indicates that majority 86 (61.9%) of the participants concurred with this item to a very minimal degree. The mean, (M) for this item was 2.69 with a standard deviation (SD) of 0.992.from the data above Monitoring and evaluation increases the rate at which implementation of water projects in Masinga kitui Kenya is effected

### 4.5.3 Risk management and the execution of masinga kitui water project

In this section, descriptive and inferential statistics on the degree to which risk management influence the implementation of Masinga project were analyzed and presented.

**Table 4.6 Risk management**

Risk management	SD	D	N	A	SA	M	S.D
	%	%	%	%	%		
The business manages its biggest risks	11.5	64.0	22.3	2.2	0	3.25	0.636
Risk reporting from the organization management and the board the details they require about the major risks and the manner in which they can addressed	3.6	10.8	66.9	18.0	0.7	3.01	0.681
The company articulates its risk appetite and definition of risk tolerances	3.6	15.8	50.4	28.1	2.2	3.09	0.816
There is accuracy in the evaluation of the biggest risks by the company	5.8	19.4	58.3	15.8	0.7	2.86	0.773
Total Scores						2.75	0.4124

N = 139, Composite Mean = 2.75 and Standard Deviation = 0.4124

Item sought to establish whether the business manages its big risks. Results indicate that 81.3% of the respondents agreed with this item, meaning the business manages its biggest risks and it performs a critical role on the implementation of Masinga project. The mean score (M) was 2.87 and the standard deviation (SD) was 0.788. Item 7b planned on determining the degree to which risk reporting from the organization affect the implementation of Masinga projects. Results show that 86.3% of the respondents agreed with this item. A minority 2.2% disagreed with the statement to a large degree while 11.5% agreed to no extent at all. This attest to the fact that, there is minimal risk reporting from the organization on most of the Masinga projects since there are no clear guidelines from ministry of water in the county government as well as in the national government on how to collect data before and after such a project. The mean score for this item was 3.25 and a standard deviation of 0.636. Item 7c planned on determining the degree to which the company articulates its risk appetite and definition of influence implementation of Masinga project. Results show that about 81.3% of the participants agreed to very minimal extent that there was good supervision of events. Only a minority 18.7% of the respondents agreed that there was risk appetite and definition of tolerances. From the discussion above prudent and on time risk management practice has had an impact to the rate at which implementation of water project will be effected and the duration of time taken.

#### **4.5.4 Record keeping and the execution of masinga kitui water project**

The goal of the research was done to ascertain the impact of record keeping. The variable record keeping was measured by calculating the average of the total responses from each respondent on a five-point Likert scale. The table below presents the descriptive characteristics of the items for record keeping.

**Table 4.7: Record keeping**

Item	SD	D	N	A	SA	M	S.D
	%	%	%	%	%		
We digitize our records	4.3	62.6	5.0	23.7	4.3	2.61	1.032
We keep maintenance of records fostering categorization of people and widening gaps	3.6	69.1	5.8	16.5	5.04	2.5	0.981
We do records and management exist primarily for mutual self-preservation	5.8	29.5	7.2	51.8	5.8	3.22	1.110
It is sufficient to state that the data gathered through records is evidence-based	36.7	43.2	1.4	15.8	2.9	3.22	1.110
The service become more burdensome as records requirements become more uniform	10.1	68.3	5.8	10.1	5.8	2.33	0.988
<b>Total Scores</b>						<b>2.46</b>	<b>0.698</b>

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**N = 139, Composite Mean = 2.46, Standard Deviation = 0.698**

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From the table 4.7, the composite mean was 2.46 with a standard error of 0.059. This was a low standard error showing that the mean was a true estimate of the population mean. The composite standard deviation was 0.698, which was also a small value hence there was less variations in the responses. Results from the table show that majority of the respondents 62.6% and 69.1% indicated that the statements that we digitize our records and that we keep maintenance of records fostering categorization of people and widening gaps between disciplines ensure implementation at very minimal extent with a standard deviation of 1.032 and 0.981 respectively. This is also reflected in the mean which was 3.22 and a standard deviation of 1.119 for the statement that we do records and management exist primarily for mutual self-preservation and 3.22 mean with a standard deviation of 1.119 for the statement that it is sufficient to state that data gathered through records is evidence-based. 68.3% of the respondents said that the service become more burdensome as records. From the above discussion Practices for preserving records



made it easier for Kenya to execute more water projects. Prudent record keeping would encourage water companies to develop and operationalise water projects at a faster rate.

#### 4.6 Regression analysis

Regression analysis was used to evaluate the study's premise and determine whether project management techniques improve the execution of water projects in Kenya. a case of Masinga Kitui water supply and sanitation project. To test these hypotheses this, research conducted a linear regression  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$ . Table 4.9, Table 4.10, and Table 4.11 show the results.

**Table 4.8 Model Summary**

<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
0.58	0.57	.25890

From table 4.8 the values of the adjusted R- square were 0.58. This value shows that there is a strong relationship between Inventory control, payables control, receivables control, and cash control and financial performance of public universities in Kenya. This indicates that working capital management cause a variation of 0.58% on financial performance comprising an inventory management account, a payables management account, a cash management account, etc. The four variables Inventory management, payables management, receivables management, and cash management accounts can be used to account for or explain the 0.58% variances in the financial performance of the management of inventory, payables, and receivables. Other variables not taken into account in this study could account for the remaining 8.2%..

**Table 4.9: Analysis of Variance (ANOVA)**

Model	Sum of Squares	Df	Mean Square	F	Sign.
Regression	10.315	4	2.579	12.291	.000 <sup>b</sup>
Residual	28.112	135	.210		
Total	38.427	139			

The results in Table 4.9 indicates that the overall models was a good fit since the variables; cash management account, receivables management account, payables management, inventory management were found to have a value of F-statistic of 12.291 and the p-value was found to be 0.000 which is less than the critical value of 0.000. This means the explanatory variables considered together in the model were found to be relevant in explaining the financial performance of public universities.

**Table 4.10: Regression Coefficient**

model	Coefficients	Std. Error	T	Sig
<b>Constant</b>	1.984	0.303	6.540	0.000
Record keeping practices	0.138	0.040	3.476	0.001
Communication management	0.576	0.115	4.995	0.000
Risk management	0.214	0.099	2.161	0.025
Monitoring and evaluation	0.051	0.018	2.833	0.006

From the table the model was significant and therefore,  $y = 1.984 + 0.138X1 + 0.576X2 + 0.214X3 + 0.051X4$  is the prediction model

#### 4.6.1 Record keeping practices and implementation of water projects

From table 4.10, Record keeping techniques' regression coefficient was determined to be 0.138. This value demonstrates that, while other model variables are held constant, an increase in record keeping procedures of one unit results in a 0.138 unit decrease in the execution of water projects in Kenya. The positive effect showed that there was a positive association between Record

keeping practices and implementation of water projects in Kenya. The coefficient was statistically significant with a t-statistic value of 3.476. The p-value, which indicated the probability of getting a t-statistic value bigger than 3.476, was found to be 0.000. The result of the hypothesis testing;  $H_1$  Record keeping practices has no significant effect on financial performance of public universities in Kenya was supported by the ( $\beta = 0.138$ ,  $P < 0.00$ ). The first hypothesis  $H_1$  was rejected, implying that the  $\beta$  coefficient was significantly different from zero, that is, Record keeping practices was a significant determinant of implementation of water projects in Kenya.

#### **4.6.2 Communication management and implementation of water projects**

From table 4.10, communication management regression coefficient was found to be 0.576. This value demonstrates that, while maintaining other model variables constant, a one-unit increase in communication management results in a 0.576-unit drop in the implementation of water projects in Kenya. The beneficial result demonstrated a favorable relationship between communication management and the execution of water projects in Kenya. The coefficient's t-statistic value of 4.995 indicated that it was statistically significant. The probability of attaining a t-statistic value greater than 4.995, or the p-value, was discovered to be 0.000. The result of the hypothesis testing;  $H_2$  Communication management has no significant effect on implementation of water projects in Kenya was supported by the ( $\beta = 0.576$ ,  $P < 0.000$ ). The first hypothesis  $H_2$  was rejected, implying that the  $\beta$  coefficient was significantly different from zero, that is, Communication management was a significant determinant of implementation of water projects in Kenya.

#### **4.6.3 Risk management and implementation of water projects**

From table 4.10, risk management's regression coefficient was discovered to be 0.214. This data demonstrates that an increase in risk management of one unit results in a 0.214 unit decrease in the implementation of water projects in Kenya, while holding other variables in the model constant. The beneficial result demonstrated a good relationship between risk management and the execution of water projects in Kenya. The coefficient's t-statistic value of 2.161 indicated that it was statistically significant. The p-value, which represented the likelihood of obtaining a t-statistic greater than 2.161, was discovered to be 0.025. The results of the hypothesis testing show

that the implementation of water projects is not significantly impacted by H3 risk management. in kenya was supported by the ( $\beta = 0.214$ ,  $P < 0.025$ ). The first hypothesis  $H_{01}$  was rejected, implying that the  $\beta$  coefficient was significantly different from zero, that is, risk management was a significant determinant of implementation of water projects in kenya.

#### **4.6.4 Monitoring and Evaluation and implementation of water projects**

From table 4.10, Monitoring and evaluation's regression coefficient was determined to be 0.051. This value shows that, while other model variables are held constant, a one-unit increase in monitoring and assessment results in a 0.051-unit drop in the execution of water projects in Kenya. The beneficial result demonstrated a good relationship between Kenyan water project monitoring, evaluation, and execution. With a statistical value of 2.833, the coefficient was statistically significant.. The p-value, which represented the likelihood of obtaining a t-statistic greater than 2.833, was discovered to be 0.006. The ( $\alpha = 0.051$ ,  $P 0.006$ ) confirmed the hypothesis testing finding that H4 monitoring and evaluation has no appreciable impact on the execution of water projects in Kenya.

## **CHAPTER FIVE**

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

#### **5.1 Introduction**

The research findings have been compiled in this chapter as well as conclusions and recommendations. The findings for each of the four objectives are discussed in detail based on the answers obtained from this study. The findings-based conclusions are explored, and the research contribution to the body of knowledge is determined. Recommendations are then highlighted in the last section. Moreover, suggestions for further research are recommended.

#### **5.2 Study of Findings**

##### **5.2.1 Communication management and implementation of water projects**

The contrive were discovered to be highly reliable, enabling the researcher to move through with the actual data gathering, qualitative analysis, and inferential analysis. All the measurers of Communication management were found to have effect on the implementation of water projects in Kenya as shown by the various responses from the respondents that were presented using table. This variable was found to have a positive effect. This meant that increase in Communication management facilitated the increase in implementation of water projects in Kenya.

The regression coefficient was found to be significant, this coefficient meant that a unit increase in Communication management would cause the rate of implementation of water projects in Kenya to increase. This coefficient was also found to be statistically significant. The t-statistic value was found to be significant, a value that was less than the critical value of 0.05. The findings therefore showed that for implementation of water projects in Kenya to perform better, they ought to enhance communication management.

##### **5.2.2 Monitoring and evaluation and implementation of water projects**

The constructs' high reliability was established, enabling the to the actual data gathering, qualitative analysis, and inferential analysis by the researcher. According to the many responses

from the respondents that were displayed using a table, it was discovered that all of the monitoring and evaluation measurers had an impact on the implementation of water projects in Kenya. This variable was found to have a positive. This meant that increase in Monitoring and evaluation facilitated the increase in implementation of water projects in Kenya.

The regression coefficient was significant This coefficient meant that a unit increase in Monitoring and evaluation would cause the rate of implementation of water projects in Kenya to increase. This coefficient was also found to be statistically significant. The t-statistic value was found to be significant, a denotation that was less than the critical value of 0.05. The findings therefore showed that for implementation of water projects in Kenya to perform better they are imperative to improve their Monitoring and evaluation

### **5.2.3 Risk management and implementation of water projects**

The researcher was able proceed on to the actual data collecting, qualitative analysis, and inferential analysis because it was determined that the constructs had good dependability. All the measurers of Risk management were found to have effect on the implementation of water projects in Kenya as shown by the various samples from the respondents that were presented using table. This variable was found to have a favorable effect. This meant that increase in risk management facilitated the increase in implementation water projects in Kenya.

Determined that the regression coefficient was significant. This metric implied that a unit risk top level employees would cause the rate of implementation of water projects in Kenya to increase. This coefficient was also established to be statistically significant. The t-statistic value was found to be significant, a value that was less than the critical value of 0.05. The findings therefore showed that for implementation of water projects in Kenya to perform better they should butteres their Risk management practise.

### **5.2.4 Record keeping practices and implementation of water projects**

The researcher was capable of to move through the entry of data collected, qualitative analysis, and inferential analysis because the constructs were found to have good dependability. All the measurers of Record keeping practices were found to have inclination on the implementation of water projects in Kenya as shown by the various replys from the respondents that were presented using tabular formats. This variable was found to have a meritious effect.

This implies that increase in Record keeping practices aided in the growth of implementation of water projects in Kenya.

Findings of the regression coefficient to be significant. Prudent record keeping would influence on the rate of implementation of water projects in Kenya to increase. This coefficient was also found to be statistically significant. The t-statistic value was found to be significant, a value that was less than the critical value of 0.05. The Results therefore showed that for implementation of water projects in Kenya to score better they should improve their Record keeping practices.

### **5.3 Conclusion**

#### **5.3.1 Communication management and implementation of water projects**

Communication management has a big impact on how water projects are implemented. The company must therefore ensure that communication management techniques are appropriately integrated. In this study, it was determined how to operate water projects sustainably in Kenya's Masinga kitui county. The following findings were drawn based on the empirical data gathered during this study; In Masinga kitui county, Kenya, communication management methods have a significant impact on the implementation of water projects. Communication management on performance have a favorable impact on the viability of water projects in Kenya's Masinga kitui county. The highest score for this attribute indicates that the influence of these projects' implementation is given more weight. In Masinga kitui county, Kenya, Communication management have a significant impact on the longevity of water projects. Good Communication management contribute to the implementation of water projects in Masinga kitui county, Kenya..

#### **5.3.2 Monitoring and evaluation and implementation of water projects**

Monitoring and assessment play a vital role in the execution of water projects. The company must therefore ensure that monitoring and evaluation techniques are appropriately integrated. In this study, it was determined how to operate water projects sustainably in Kenya's

Masinga kitui county. The following findings were drawn based on the empirical data gathered during this study; In Masinga kitui county, Kenya, communication management methods have a significant impact on the implementation of water projects. Management techniques for monitoring and evaluating performance have a favorable impact on the viability of water projects in Kenya's Masinga kitui county. The highest score for this attribute indicates that the influence of these projects' implementation is given more weight. In Masinga kitui county, Kenya, Monitoring and evaluation have a significant impact on the longevity of water projects. Good record-keeping procedures contribute to the implementation of water projects in Masinga kitui county, Kenya

### **5.3.3 Risk management and implementation of water projects**

Risk management has a big impact on how water projects are implemented. Masinga water company should therefore ensure that risk management techniques are appropriately integrated. In this study, it was determined how to operate water projects sustainably in Kenya's Masinga kitui county. The following findings were drawn based on the empirical data gathered during this study; In Masinga kitui county, Kenya, communication management methods have a significant impact on the implementation of water projects. Risk management performance have a favorable impact on the viability of water projects in Kenya's Masinga kitui county. The highest score for this attribute indicates that the influence of these projects' implementation is given more weight. In Masinga kitui county, Kenya, Risk management have a significant impact on the longevity of water projects. Good record-keeping procedures contribute to the implementation of water projects in Masinga kitui county, Kenya.

### **5.3.4 Record keeping practices and implementation of water projects**

Water project implementation is substantially impacted by record-keeping procedures. As a result, the business must make sure that Record keeping practices methods are properly integrated. In this study, it was determined how to operate water projects sustainably in Kenya's Masinga kitui county. The following findings were drawn based on the empirical data gathered during this study; In Masinga kitui county, Kenya, communication management methods have a significant impact on the implementation of water projects. Record keeping practices on performance have a favorable impact on the viability of water projects in Kenya's Masinga kitui county. The highest score for this attribute indicates that the influence of these projects'



implementation is given more weight. In Masinga kitui county, Kenya, Record keeping practices have a significant impact on the longevity of water projects. Good record-keeping procedures contribute to the implementation of water projects in Masinga kitui county, Kenya

## **5.4 Recommendations**

### **5.4.1 Communication Management and implementation of water projects**

The setting up of water project initiatives in Kenya ought to maintain focused on enhancing Communication management since this variable was discovered to be an essential aspect of project management practices. The county governments and national government should therefore improvise way with more innovative ways of enhancing their communication management. Since the outcome showed that Record keeping practices facilitated the tendency for the building up of water projects in Kenya to improve, these governments should come up with ways of Communication management. The person in positions of authorities should come up with proper ways of promoting project management practices and the implementation of water projects in Kenya is efficient

### **5.4.2 Monitoring and Evaluation and implementation of water projects**

The development of water projects in Kenya should keep a close watch on enhancing Monitoring and evaluation, as this variable was determined to be a crucial factor. The county governments and national government need to come up with more better ways of enhancing their Monitoring and evaluation. Results showed that monitoring and evaluation facilitated the sequences for the implementation of water projects in Kenya to improve, these governments should innovate ways of Monitoring and evaluation. The government authorities should come up with suitable methods for ensuring that the implementation, monitoring, and evaluation of water projects in Kenya is efficient

### **5.4.3 Risk management and implementation of water projects**

The realization of water projects in Kenya should keep a close eye on enhancing risk management because this variable was proven to be a critical determinant of risk management. The county governments and national government should therefore come up with more innovative ways of promoting their Risk management. Results showed that Risk management practices facilitated the tendency for the implementation of water projects in Kenya to improve, these governments should come up with ways of Risk management. The persons in positions of authorities should come up with better ways of ensuring that the project management acts and the implementation is efficient.

### **5.4.4 Record keeping practices and implementation of water projects**

Improvements in record-keeping procedures should be made to project management procedures and the execution of water projects in Kenya because this variable was proven to be a significant factor in project management practices. The county governments and national government should therefore bring up more innovative ways of enhancing their Record keeping practices. Results showed that Record keeping practices facilitated the tendency for the actualization of water projects in Kenya to improve, these governments should come up with ways of managing records. The persons in authorities should come up with proper ways of enabling the actualization project management practices and the implementation of water projects in Kenya is efficient

### **5.5 Suggestions for further studies**

This research was delimited to communication practices, monitoring and evaluation practices, risk management practices and record keeping practices and implementation of water projects in Masinga kitui county, Kenya. Therefore, it is crucial to look into the same factors in national government. This will make it possible to compare the results of the current study with those of subsequent ones. In addition, at national government, the projects are mega and their challenges could be different from those in county level which was the focus of this study. It is proposed that another study of a similar nature be conducted at that level in order to compare the results.

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## APPENDICES

### APPENDIX I: SURVEY INSTRUMENT (QUESTIONNAIRE)

This research is being conducted by a University of Nairobi Master's student studying project planning and management, and it will be kept completely confidential. Examining how management techniques impact the implementation of water projects in Kenya is the study's main objective. Please offer accurate and helpful information and fill it out as reasonably directed. This survey is available as a word document that may be printed, filled out, and submitted, or it can be filled out electronically and returned by email. Please ensure that the researcher receives the questionnaire no later than September 30, 2021. Please get in touch with the researcher, Henry Malusi, at 0704605984 or henry.malusi@gmail.com if you need more time or information to finish the questionnaire.

#### Section 1: General Information

Please make tick mark in check boxes for selection of options. i.e [ ]

##### A. Biodata

1. Name (optional)\_\_\_\_\_
2. Level of Education: [] Initial [] Primary [] Degree [] Post graduate graduate
3. Gender: [] Male [] Female
4. Please specify your age group. [] 20-30 years [] 31-40 years [] 41 to 50 [] above 50 years
5. Role within the company CEO/Executive Director [] Project Director [] Officer of Programs  
[ ]

#### Section 2: Project Implementation

##### B.Communication

Please check the statements below to indicate how much you agree or disagree with them.

1, Strongly Agree, 2. Agree, 3. Neutral, 4. Disagree, 5. Strongly disagree

STATEMENT	1	2	3	4	5
The nature of communication in the organization i.e. formal or informal affects project implementation.					
The communication medium used in the organization is highly effective and enhances project implementation (meetings, telephone calls, surveys, nonverbal, etc.)					
Advancement in technology has highly enhanced communication on in implementing projects					

C. Monitoring and Evaluation

To what level do you agree with the statements below about the impact of monitoring and evaluation on the launch of the Masinga Kitui water and sanitation project?

Using Likert scale 1-5 provided, give your response.

1, Strongly Agree, 2. Agree, 3. Neutral, 4. Disagree, 5. Strongly disagree

STATEMENT	1	2	3	4	5
The monitoring and evaluation plan put in place is followed to the latter.					
The monitoring and evaluation is carried out oftenly?					
The efficiency of the organizations monitoring plan and tools is critical for implementation of projects.					
The monitoring and evaluation framework used is critical for implementation of the project.					

The monitoring and evaluation system tracks and effectively supports the policy reform process					
The opinion of the monitoring and evaluation interviewees in the implementation of the project very essential.					

#### D. Management of Risk

Which of the following assertions regarding how risk management affected the start of the Masinga Kitui water and sanitation project do you agree with?

Using Likert scale 1-5 provided, give your answer,

1, Strongly Agree, 2. Agree, 3. Neutral, 4. Disagree, 5. Strongly disagree

Risk management	SD	D	N	A	SA
The business manages its biggest risks					
Risk reporting from the organization management and the board the details they require about the major risks and the manner in which they can addressed					
The company articulates its risk appetite and definition of risk tolerances					
There is accuracy in the evaluation of the biggest risks by the company					

#### E. Record Keeping

What percentage do you agree with the following assertions about how the Masinga Kitui water and sanitation project will be launched as a result of record keeping?

Using Likert scale 1-5 provided, give your response

1, Strongly Agree, 2. Agree, 3. Neutral, 4. Disagree, 5. Strongly disagree

STATEMENT	1	2	3	4	5
The maintenance of records foster categorization of people and widening gaps between disciplines					
The data gathered through records is "evidence-based"					
Do records and management exist primarily for mutual self-preservation?					
Is the service become more burdensome as records requirements become more uniform?					

**We appreciate you for taking the time to read the questions and answer them**



Appendix II: KREJCIE AND MORGAN TABLE

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

