

# Role of Project Management Practices on Performance Outcomes in Post-Disaster Reconstruction in Kenya

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**Abstract:** Drought is a natural phenomenon which often impacts people, the economy and ecosystems. Prolonged droughts reduce food production and water availability and at their worst lead to significant human suffering and loss of life. Project management is one of strategic competency that enables entities to link project outcomes to its particular objective hence the primary objective of this study was to determine the role of project management practices on performance outcomes in post-disaster reconstruction in Kenya. The study was guided by four research objectives namely: to determine the influence of project planning process on performance outcomes; to examine the influence of project execution process on performance outcomes; to investigate the influence of monitoring and controlling of projects on performance outcomes; and to establish the influence of project communication processes on performance outcomes in rural water projects development in Kenya. The research employed cross sectional research design. The study targeted 238 projects heads and major stakeholders. Simple random sampling was used to obtain 204 projects heads and major stakeholders. The data from the field were edited for accuracy, completeness, consistency and analyzed using descriptive statistical tools (Statistical Package for the Social Sciences V.17.0 and Excel). From the findings, 67 % of the respondents indicated that project planning influenced project outcome to a very great extent; 44% of the respondents agreed that project execution influenced project outcome to a very great extent; 75 % of the respondents recommended changes to the project monitoring and control procedures to positively influence project outcome. Also, it was established that 55% of the project outcome was influenced by project management processes. The study concluded that there was a significant relationship between project management processes and project outcome. The findings led to the conclusion that execution had the least influence on the project outcome. It was also concluded that the project closure process had the greatest influence on project outcome. The regression model indicated that the project communication process had the largest magnitude. The study recommended that: effective project planning activities to be applied to projects; emphasis be given to implementation activities that will ensure plans are effectively executed in order to fully meet set objectives; introduction of effective monitoring tools; training of staff on use of monitoring tools; use of effective communication; and improved reporting and documentation. Finally, the study recommended that project outcome should be evaluated from the local acceptance and satisfaction perspective

**Keywords:** Project Management Practices, Project Planning, Project Execution, Monitoring and Controlling, Project Communication, Performance Outcomes.

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## 1. INTRODUCTION

### 1.1 Background of the study

Drought is a natural phenomenon which often impacts people, the economy and ecosystems. Prolonged droughts reduce food production and water availability and at their worst lead to significant human suffering and loss of life. Droughts have a negative impact on ecosystem functions, reduce social, political and economic stability and can increase

vulnerability to other natural disasters, such as heat waves and floods. Climate change is expected to increase the frequency and severity of droughts in large parts of Africa and in the Americas, as well as in southern, central and Eastern Europe, the Middle East, Australia, and Southeast Asia.

The population of the most vulnerable regions, particularly the poorer areas where land and water resources are already limited, need to be better prepared for future droughts by reducing risks and increasing drought resilience. Recent international and regional initiatives have changed the way drought is assessed and managed. Historically, drought was viewed as a natural disaster to which society responds with a reactive crisis management approach that deals only with the symptoms of drought. This approach has proven to be highly inefficient, because it creates a culture of dependency and offers few incentives for changing the ways in which land and water resources are managed to reduce future drought impacts.

Nowadays drought is more often viewed as a natural event that requires society to take a pro-active preparedness approach to reduce societal vulnerability and increase resilience to drought. As with any natural disaster, addressing drought should not be focused solely on managing the crisis, but needs to encompass the full cycle of disaster management. A pro-active approach to increasing drought resilience is centred on better management of land and water resources. Halting land degradation along with protecting and restoring natural capital and ecosystem services through land rehabilitation, ecological restoration and the allocation of water to environmental flows will strengthen ecological, economic and social systems against more severe impacts of drought and increase their ability to recover from disaster. Nature-based solutions to drought management provide many other ecological benefits, including reducing risks from other natural disasters as well as mitigating and adapting to climate change. Pro-active ways to reduce drought risks also include improved drought monitoring, forecasting and early warning systems, along with assessments on drought vulnerability and impact for communities at risk

The capability of management through offering training on project management to the management employees prompts more income, reduced expense and improved firm regulatory environment and health in the sector. Internationally, 80% of management staff trusted that having Project management as a core capability helped them stay focused amid recession. Similarly, Mourshed, Chijioko and Barber (2010) report demonstrated that 58% of 1400 worldwide officials gave priority to strong discipline in project management for future development. Stakeholders are people or firms, such as proprietors, sponsors, organizations that perform, or the general population, who are effectively engaged with the project or whose interests might be emphatically or adversely influenced by the project implementation success. As characterized by Freeman (2015) involvement of stakeholders alludes to joining the interests of proprietors, sponsors, organizations that perform, or the general population, who are effectively engaged with the project or whose interests might be emphatically or contrarily influenced by the project implementation or success. It's key to get the Buy in, sustainability and projects' impact. Studies by Ika et al. (2014) acknowledged the communication role in success of African projects. We are all aware of the issues on management of African project, because number of factors such as Corruption, bad government and inadequate capacity for (project) administration have been described as silent murders of African ventures and development (Collier, 2015; Moyo, 2017). A survey carried out by Price Waterhouse Cooper pointed to fact that 50% of the reasons why projects fail was due to poor practices for managing project. In their findings, the public sector had the lowest project management levels compared to other sectors. Equally, the findings further states that project management practices use increases the likelihood of project success (Price Waterhouse Cooper, 2012). This supports assertion by Martin (2013) that for a product to grow and succeed, one must learn how to make strategies and ideas a reality

## 1.2 Statement of the problem

There is a need for successful project management and implementation in post-disaster reconstruction in drought management ; that is During the drought period (2008-2011) in Kenya, 3.7 million people were in immediate need of food, clean water, and basic sanitation, and urgent short and long-term interventions were needed to save the lives and livelihoods of millions. In response the this, under the auspices of Kenyan Ministry of Finance, a joint assessment team comprised of government line ministry staff, together with the EU, UN, World Bank, and other partners, were mobilized to undertake this project by doing a Post-Disaster Needs Assessment (PDNA). Thus a project to be successful, it must be conducted within the planned budget, meet the planned timelines and have an end product that conforms to the quality and standards established by the procuring entity within the given time duration (World Bank, 2013). This clearly depicts the complexity involved in undertaking government funded projects. Despite the big volume of government funded

projects, there is a lot of challenges that are encountered and that threaten the effectiveness of development projects. The project progressive reports for informing the stakeholders is a challenge due to such project reports lack content to show lessons learnt during previous project. It is at implementation stage that most projects fail, and this has given concern to governments as well as the citizens. Implementation of development projects being the most crucial of all the stages of practice is not devoid of certain factors that influence it, some of these factors are: wrong priorities, shortfalls in resource availability, inadequate assessment of targets, wrong scheduling of time for project completion, inadequate project identification, formulation and design, faulty conceptualization of practice. Meredith and Mantel (2012) found that the most important considerations in planning, monitoring and control are time, cost and scope. The planning, monitoring and control are always a continuous process in a project life cycle and it should be integrated into the project structure. Novo, Landis and Haley (2017) revealed that leadership traits are directly related with the project manager competency. Similarly, the project managers leadership skills and project success is strongly correlated Ocharo, & Kimutai, (2018) The study concluded that most power projects in Kenya are well planned but those plans were not well implemented and did not fully involve all the stakeholders when they were in the project design stage and that project monitoring, assessment; follow up, evaluation and feedback were not adhered to making the project implementation process below expectations. This study therefore was find out the role of project management Practices on performance outcomes in post-disaster reconstruction in Kenya.

### 1.3 Objective of the Study

The Objective of the Study was as follows

#### 1.3.1 General Objective of the Study

The study sought out to determine the role of project management practices on performance outcomes in post-disaster reconstruction in Kenya.

#### 1.3.2 Specific Objectives of the Study

The study sought out to meet the following specific objectives of the study.

1. To determine the role of project planning on performance outcomes in post-disaster reconstruction in Kenya.
2. To examine the role of project execution on performance outcomes in post-disaster reconstruction in Kenya.
3. To assess the role of project monitoring and evaluation on performance outcomes in post-disaster reconstruction in Kenya.
4. To establish the role of Project communication on performance outcomes in post-disaster reconstruction in Kenya.

### 1.4 Research Questions of the Study

1. What is the role of project planning on performance outcomes in post-disaster reconstruction in Kenya?
2. What is the role of project execution on performance outcomes in post-disaster reconstruction in Kenya?
3. What is the role of project monitoring and evaluation on performance outcomes in post-disaster reconstruction in Kenya?
4. What is the role of Project communication on performance outcomes in post-disaster reconstruction in Kenya?

### 1.5 Significance of the Study

This study will consider crucial as it will establish the role of project management practices on performance outcomes in post-disaster reconstruction in Kenya. The knowledge obtained from this study will help the national and county governments, international donors, local agencies and institutions on the importance of project management practices in assuring performance of post-disaster reconstruction in Kenya.. Without this knowledge, project management practices will continue to be ignored in post-disaster reconstruction development projects and programmes. In addition to this, a lot of resources including; personnel, time and money will continue to be invested in project management practices without a justifiable reason to do so. Formative evaluation ensures that relevant project data is collected at the start of water project to inform project start and implementation strategy. Summative evaluation ensures that stakeholders review the achievement of water project objectives at the end of the project period. Financing of project management practices

ensures that project management activities are provided with adequate funding to ensure that they are fully implemented. Participatory data collection ensures that all water project stakeholders contribute useful information and ideas as the water project is implemented. Skilled human resource in project management practices ensures that project management activities are done by project staff with relevant knowledge and experience.

### **1.6 Scope of the study**

This research study is set under certain principles and thresholds as follows.

#### **1.6.1. The larger context of the study**

The theoretical foundation of this research study will be based on the main broad areas of: Project management practices, performance outcomes of post-disaster reconstruction projects, Resource-Based View, Dynamic Capability, Stakeholder Theory And Theory of Constraints by Eliyau Goldratt

#### **1.6.2. Level of participants**

The research will investigate a concept which is very sensitive in nature and every institution closely guards any information related to their innovation activity. This study will require data which can give a meaningful insight into the activities that are happening around the post-disaster reconstruction project management to make it successful and this information can be available only with the government disaster management unit. Sometimes it is only the government disaster management unit who will agree to share the information needed to carry out this research. Given the organizational structure of a National Disaster Management Unit it is more likely that a managing director, CEO or head of the units who is also closely associated with the managing disaster will have a more accurate and reasonable insight into the activities surrounding the post-disaster reconstruction projects.

#### **1.6.3. The size of the post-disaster reconstruction Project**

The sample for the empirical data will be required for this study is provided by the target population in National Disaster Management Unit. This study will focus on influence of project management practices on performance outcomes in post-disaster reconstruction in Kenya in the study area over the last 20 years. The research was carried on the semi-arid areas in Kenya with a case of National Drought Management Authority. Since the National Drought Management Authority Act (2016) mandates the Authority to exercise overall coordination over all matters relating to drought risk management and to establish mechanisms, either on its own or with stakeholders, that will end drought emergencies in Kenya.

#### **1.6.4. Geographic limit**

The sample was drawn from National Drought Management Authority Project in the Kenya

#### **1.6.5. Research methodology and process**

The research adopted a quantitative method and used a survey questionnaire as a data collection tool to collect the primary data. Based on the theoretical framework, a questionnaire was developed and piloted to make any appropriate amendments, to collect the appropriate data from the targeted participants. The primary data was collected from the participants by sending the survey questionnaire through the mail and sending the online

## **2. LITERATURE REVIEW**

### **2.1 Theoretical Review**

A theoretical review refers to the theory that a researcher chooses to guide him/her in his/her research (Cooper & Schindler, 2014). In this study, the theoretical review will consist of theories, which exhibit the role of project management practices on performance outcomes in post-disaster reconstruction in Kenya using four theories namely: Resource-based View Theory, Complexity Theory, stakeholder theory and theory of constraints.

#### **2.1.1 Resource Based View Theory**

To a very large degree, the thinking and approaches to strategic human resource management are underpinned by the resource-based view theory. According to this theory a wider range of resources in a firm, including its human resources produces its unique character and creates the competitive edge. Organization resources can be classified into two: that is tangible which are financial, technological, physical and human while intangible are: brand-name, reputation, and know-

how resources. According to Barney (2000), resources lead to sustainable competitive edge when they are accessible, rare, imitable and non-substitutable.

Pearce and Robinson (2007) argue that the resource-based view theory of a firm helps improve upon the SWOT analysis by examining a variety of different yet specific types of resources and capabilities any firm possess and then evaluating the degree to which they become the basis for sustained competitive advantage based on industry and competitor consideration. Thus, the theoretical work on the resource-based view theory of the firm (Barney, (2000); Pearce & Robinson (2007), supports the notion that Project management may be an important source of competitive advantage

### **2.1.2 Complexity Theory**

One of the main advocates of many-sided quality hypothesis is Stuart Kauffman in the 1950's. An intricate framework is characterized by Thompson (1967) as one in which numerous autonomous specialists collaborate with other in different (now and again unbounded) ways. Simon (1969) depicts an unpredictable framework as one of the huge number of parts which can communicate in a non-basic manner.

As indicated by Lucas (2000), multifaceted nature can be connected more with the busy association structures that connection different projects and not simply the items. He likewise contends that other ventures, specifically, can include a critical number of gatherings and heap interconnections creating multi-faceted nature with defined qualities (Lucas, 2000). The connection amongst execution and unpredictability affirms the non-linearity of venture administration, particularly with respect to socio-authoritative issues, and can be extrapolated to issues of frameworks checking. If the characteristics of complexity are known, it is feasible to establish a means to manage its effects and to this end, a framework was developed and validated by project management practitioners. This will measure the level of monitoring planning implementation of the respective process against each complexity characteristic measurement indicators and by providing a set of actions enables Project Managers and Team Leaders to manage the effects of complex interconnections through project management processes (Perrow, 1967).

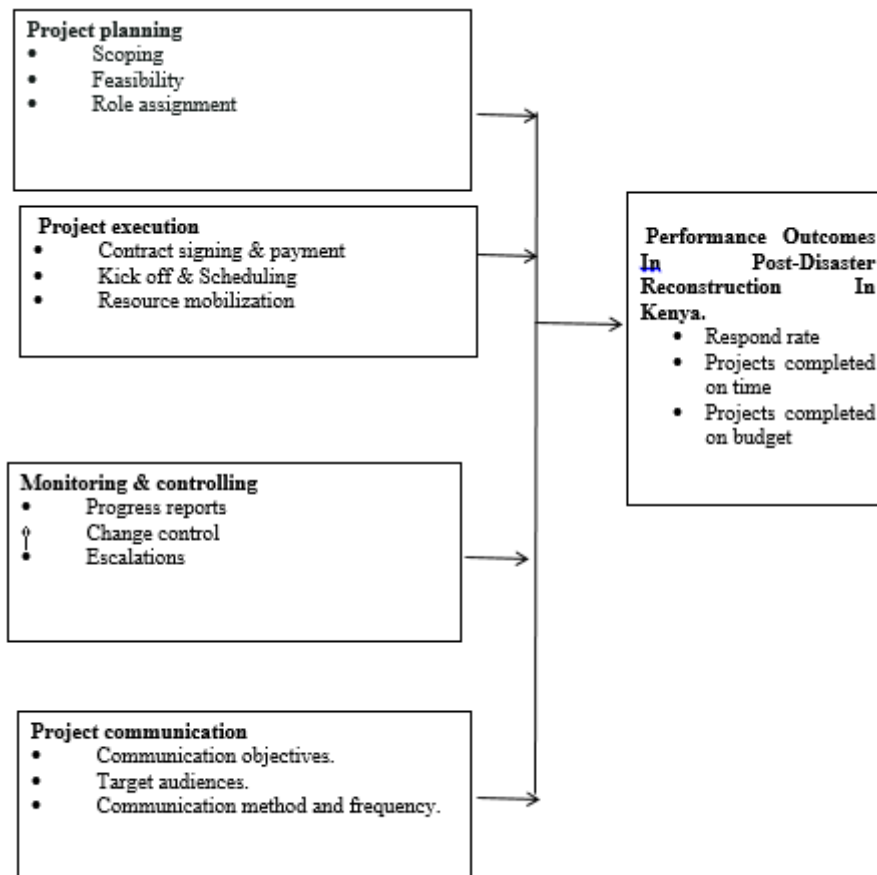
### **2.1.3 Stakeholder Theory**

Stakeholder Theory by Freeman (2004), identifies and models the groups which are stakeholders of a corporation, and describes and recommends methods by which management can give due regard to the interests of those groups. The theory suggest that the success of a company lies in satisfying all its stakeholders not only those who might profit from its stock. The central idea is that an organization's success is dependent on how well it manages the relationships with stakeholders. Stakeholders may include customers, employees, suppliers, communities, financiers, and others that can affect the realization of the organization's goals (Freeman & Phillips, 2002). Patton (2008) points out that the stakeholder model entails all people with legitimate interest to participate in an enterprise and many do so to obtain benefits of some kind. The overall purpose of stakeholder theory is to enable the managers to understand Stakeholder's role and contribution and strategically manage them (Patton, 2012). The theory puts a responsibility on the management to ensure efficiency in the use of resources, environmental protection, business morality and development of backward areas. The relationship of the stakeholder with the management is vital to ensure survival and success of the organization. This theory supports the variable project identification and initiation.

### **2.1.4 Theory of Constraints**

According to Jacob and McClelland (2001), most projects are difficult to manage because they involve uncertainty and involve three different and opposing commitments namely due date, budget, and scope. Managing these triple constraints in project management has been accepted as a measure of project success. This theory has been applied to production planning, production control, project management, performance measurement as well as in not-for-profit facilities (Blackstone, 2010). Theory of constraints is based on the fact that there is most often only one aspect of that system that is limiting its ability to achieve more of its goals. This theory is based on five steps which include identify the constraint of the system; decide how to exploit the system constraints; subordinate everything else to the above decision; elevate the system constraints; and if in the previous steps a constraint has been broken, go back to the first step, and do not allow inertia to cause a system's constraint (Rand, 2000). The theory of constraints as a process of continual improvement encourages project managers to identify constraints at each stage of the project and implement measures to address these constraints (Parker, Parsons, & Isharyanto, 2015). Theory of constraints supports all the variables initiation, planning, execution and closure and their influence on the success of the post-disaster reconstruction projects in Kenya.

## 2.2 Conceptual Framework



## 2.3. Review of the Vairables

### 2.3.1 Role of project planning on performance outcomes

Project planning is the process in which schedules, workforce, milestones, equipment, as well as budget estimates are specified otherwise estimating the time, cost, effort and employees' resources required in the execution of the project (Chatzoglou & Macaulay 2009; Slevin & Pinto, 2006). It is the project resources systematic arrangement in the best way to attain objective of the project (Faniran et al., 2000; Hore et al., 2007). It can also be described as one of the essential tools that stakeholders utilize to make sure that projects are successful (Naoum et al. 2004) 6 It also refers to the process of defining suitable approaches for the accomplishment of predefined project objectives (Faniran, Oluwoye and Lenard, 2008). It can as well be described as the process in which project objectives are defined, project framework determined, while methods, tactics, targets strategies, and deadlines are set to attain the set objectives while communicating the same to the relevant stakeholders. Projects normally have a diversity of objectives, involve many external and internal players, and cut across different activity sectors. Since 1980, lots of practitioners as well as academics have approved that human resource management (HRM) planning practices, time management practices, material usage planning practices and financial planning practices are the most vital elements of the success of an organization (Dvir, Raz & Shenhar, 2003). Nowadays, Human Resource Management Practices (HRMP) is being renewed within organizations and steadily affirming its strategic role. HRMP are one area, which influences intention of employees to leave, job satisfaction levels and organizational commitment hence affecting the performance of a project (Huang, 2009). A project's human resource management practices contribute to increased performance and therefore help it to grow as well as gain sustainable competitive advantage. Project time planning practices includes all planning procedures necessary for timely project completion. According to PMBOK (2004) the planning processes in time knowledge area are activity definition, activity sequencing, schedule development, activity duration estimating and resource estimating of the activity. One of the most important plans in the project is the time plan. Previously developed work-breakdown structure (WBS) guide the development of time schedules. According to Antvik & Sjöholm (2007) activities must be sequenced accurately to

develop realistic as well as achievable schedules. The process of activity resource estimation encompasses determination of what resources are needed as well as the quantity of each resource that will be used in the project. Needed resources may be material, equipment and personnel hence material planning practices. The process as well includes determination of when each resource will be available to the project especially the material used in the project (PMBOK, 2004). Generally, there are two resource estimation methods; bottom-up and top-down. In instances of constrained information, the top-down strategy is frequently utilized.

The projects' higher management conducts it and it is founded on experience from projects, which are similar. The bottom-up method, which involves each definite work classification in the process, is also called qualitative based estimations.

### **2.3.2 Role Of Project Execution On Project Outcome**

The execution stage involves the implementation of project activities. Thus, it is the process of leading and performing work as described in the management plan and effecting changes approved to realize the set objectives. This stage is characterized by continuous performance of project activities, change requests, monitoring and control, risk, quality, communication and stakeholder management (Desmond, 2004). In a typical telecommunication environment, the execution involves signing of service contracts, down payment, holding internal and external kick off meetings, and initiating the procurement processes.

During implementation, a number of factors affect the direction of the project. The PMI (2013) outlines the key aspects in this phase. First, the inputs in this stage include the plan, the change requests, business environmental aspects and organizational policies and assets. Secondly, the available tools and techniques applied during execution influence the progress of the project. These include the project management information systems, stakeholder and project team meetings, communication channels and monitoring and control activities. In the course of execution, deliverables are assessed and measured; change requests are effected and documented; project documents are updated to reflect progress and change requests. The project team directs the project activities and manages the various organizational and technical interfaces existing within the project. Successful project execution is an organizational priority. Various researchers have shown that several project success factors can impact a project at all phases. In the execution phase, project success is related to the project's timely completion, on budget and within agreed quality (Kerzner, 2003). However, the understanding of project success has been altered to include limitation to minimum changes in the scope of the activities, shift in the corporate culture and acceptance of project results by clients (Alexandrova, 2012). Shenhar, Levy, & Dvir (1997) postulated that project success is measured in four dimensions, one of which is project efficiency during execution and immediately after completion. The researchers pointed out that shorter product life cycle and time-to-market increased an organization's competitive advantage. Further, they affirmed that impact of project management on the performance of an organization can be viewed in two broad dimensions of the commercial success of projects and the future potential created.

### **2.3.3 Role of Project Monitoring and Controlling on Project Outcome**

Project monitoring is the systematic and regular collection and analysis of data over a period of time to identify and measure changes. Monitoring involves the collection of data prior to and during project implementation (United Nations Environment Programme, 2008). The primary purpose of monitoring is to document the implementation process, facilitate decision making, and provide feedback for plan review and lessons learnt. According to PRINCE 2, project control is project management function that comprises of monitoring, evaluating and comparing actual versus planned results (ILX Group, 2015). It tracks the project progress towards achieving the stated objectives within project constraints; identifies deviations; evaluates alternative courses of action and takes remedial actions (Larson & Gray, 2011). Together, monitoring and control form the project control cycle of Action-Plan-Monitor-Compare; and then re-plan as necessary. Project monitoring and control have increasingly become key functions of project management as projects grow bigger and more complex. It is the process of tracking, analysing and reporting progress with respect to objectives. This task helps stakeholders to understand the current state of the project, activities undertaken, the budget, schedule and scope forecasts. Monitoring and control cycle consists of: making a plan; implementing the plan; monitoring and recording the actual output; report the actual output, the planned parameters and the variations and finally; take corrective action on the variations (Shrenash, Pimplikar, & Sawant, 2013). This phase of the project provides an understanding of the project's progress so that appropriate corrective action can be taken when the project's performance deviates significantly from the

plan. In traditional project management, control would involve identification of deviations from the project plan and put things back on track. However, the adaptive project management approach identifies changes in the business environment and adjusts the plans accordingly. This task is carried out throughout the life of the project by taking measurements that help the project team understand progress. This stage has an impact on the business objectives and acceptance of the eventual project outcome in terms of quality. By applying the Deming cycle or the Plan-Do-Check-Act cycle philosophy (American Society of Quality, 2015) to this project stage, the project team ensures project specifications and constraints are adhered to as closely as possible. Indeed, this philosophy is affirmed by the theory of constraints (TOC) as applied by organizations and project managers, who work towards continually improving their ability to meet project commitments of budget, time and quality through the nature of project planning, project scheduling, project visibility and control, resource behaviour and multiple project synchronization (Avraham Goldratt Institute, 2009). The TOC contribution requires a project manager to understand the system process and the organization's goal (Gupta & Boyd, 2008). The performance of an organization requires that improvement is seen as a long term and continuous process to improve and sustain high quality project results and therefore ensure project success in all dimensions

### 2.3.4 Role of Project communication on performance outcomes

Communication in projects occur in various formats; these include presentations, formal meetings, informal discussions, formal project documents, records and meeting memorandums. For communication to take place or for information to be shared effectively within projects, communication needs to be facilitated and supported by some form of media (de Carvalho, 2013). These media are more commonly known as project communication tools within the project management environment. Tools used in project communication includes among others: intranet (project databases), internet, (e-mail, chat, skype), telephones, videoconferencing, VOIP and face-to-face. Projects by nature are complex, and may involve cross-functional and intercontinental collaboration with delivery or implementations spread across multiple client sites. Over and above this, one must consider the complex stakeholder relationships that must be managed. It is therefore imperative that communication be efficient and effective to foster a successful project environment. Young (1995) assesses the importance of face-to face communication versus the use of electronic communication tools. He concluded that face-to-face communication indeed serves as the most effective medium for project engagement, as it allows the project manager to gauge the customer's and/ or team's mood. It also enablesthe project manager to assessthe body language of the particularstakeholder while listening to the tone of the voice to determine their level ofsatisfaction with the status or project progress (Schwalbe, 2016). Today face-to-face communication also takes place via modern technology especially when the different parties are not at the same physical location. Skype is one such technology medium used to conduct professional face-to-face meetings through video conference calls and serves as a cost effective method of communication (Baruah, 2012; Lustenberger, 2013). There are also other non-direct forms of communications which occur in project management. Projects rely extensively on non-direct forms of communication tools, which include among otherstelephone calls, internet (chats, e-mails), intranet (project databases) and paper-based manuals (Harley, 2011; Ziek & Anderson, 2015).

These indirect methods of communication are equally as important as direct communication methods, and some projects may use one form more than the other form, depending on the specific objective or outcome that needs to be achieved. Non-direct communication is very important as it provides a means of transmitting information extracted from the intranet tools for distribution via the internet (de Carvalho, 2013). The benefit of this method of communication is that it provides project stakeholders with an audit trail of the communication and they then have the ability to revert to the audit trail when needed. This is a preferred method of communication as opposed to an informal face-to-face discussion where verbal conversations are not recorded. The drawback to this is that whenever technology is involved, there is always a risk of the technology failing and a back-up method (usually paper-based) becomes the fallback. It must be noted that the method of communication used for project communication has a major impact on the outcomes achieved. Today, WhatsApp is also commonly used as a tool which serves as both a direct and indirect project communications tool.

### 2.4 Empirical Framework

Previous studies by Müller, and Jugdev (2012) argued that a project is said to be successful if it is completed on time, within budget, achieves all project goals and end users are satisfied with the project. The issues on life cycle management, time management, conflict resolution and management, networking, contracts management, project choice and project quality are key factors that contribute to project success (Idoro, 2014).



Project management is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring, controlling, and closing. Every project differentiates itself by its uniqueness and the purpose of its existence. Davis (2014) studies project management success in literature from 1970s to present, classifying the evolution of success factors into decades. According to Davis (2014), success factors evolved from focusing on the operation level of a project in 1970s to embracing a stakeholder focused approach after 2000s. As a result of the numerous studies that approached the topic of project success, several lists of success factors exist.

Besteiro, de Souza Pinto, and Novaski (2015) represents a reference point by establishing a list of ten success factors, recognized by other authors as accurate (Turner & Müller, 2005). These success factors are client consultation, project mission, top management support, communication schedule and plans, personnel, technical tasks, client acceptance, monitoring and feedback and troubleshooting. Davis (2014) adopted a set of nine themes that describe success factors of projects. These were: cooperation and communication, timing, agreeing objectives, identifying objectives, stakeholder satisfaction, budget aspects, acceptance and use of final products, cost, competencies of the project manager, strategic benefits of the project and top management support. Triple constraints (quality, scope, and cost) refer to three most important elements that must be maintained to measure project success. They constrain to each other because the relationship between them is mutual in a sense that if there is any change on one of them, the rest will be affected (Shirazi, Kazemipoor and Tavakkoli-Moghaddam, 2017)

Toor et al., (2009) examined construction professionals' perception of critical success factors for large scale construction projects. They administered 80 questionnaires targeting project managers and deputy project managers in 45 large scale construction projects. Participants were asked to rate each success factor based on their frequency of occurrence according to their professional judgment on a given five-point Likert-type rating scale. Nearly all the respondents gave same ratings to the success factors. Effective planning and control, availability of sufficient resources, clarity and details of the written contract and competence of the project manager were highly rated. Inadequate planning will lead to project operating behind schedule and with delays. Furthermore, unless the project team knows exactly where they are heading, it will be difficult to get there. Therefore, setting very clear, realistic, identifiable goals by all stakeholders is important for project success (Lim & Mohamed, 1999).

Paulo et al., (2014) undertook a study on the energy sector in Brazil to identify critical success factors in project management. They administered a questionnaire to 320 project managers involved in major projects in the company with 900 projects. The Likert type scale of 1-5 was used to attribute assertion regarding the particular CSF. The study findings identified upper management support, involvement and commitment of stakeholders, clear and realistic objectives and control of changes, transparent and well defined hiring process, and effective communication channels as CSF contributing to the projects effectiveness. They further identified clearly defined scope, project monitoring and control, experienced and competent project manager and sufficient and well allocated resources as CSF for project efficiency. Dvir and Lechler (2004) examined the relationship between planning and project performance. Using a multivariate analyses, they determined that planning was significantly and positively related to efficiency and customer satisfaction.

Sudhakar (2012) notes that user involvement; proper planning, realistic expectations, top management support and clear requirements are the top five project success factors. In a study of success factors and criteria in the management of International development projects funded by European Union in Ethiopia, Getachew and Kahsay (2016) interviewed 160 project managers and project team members. Based on responses in the questionnaire, they concluded that there are five most important factors of project success, which can be considered as critical. They identified clear policy; local ownership of project; consultations during planning; high motivation and interest of project team; and compatible rules and procedures as critical to project success. This study failed to consider project management as a critical project success factor. In their study of CSF for International Development projects in Maldives, Yamin and Sim (2016) received 41 responses to a questionnaire by local project team members of international development projects in Maldives. They observed that coordination; monitoring; project design; institutional environment; and training were ranked as the most important project CSFs. Their study identified monitoring and environmental factors hence supporting the current study, but failed to consider stakeholder support and acceptance by beneficiaries. Its main focus was only on organizational internal factors thus ignoring CSF associated with factors external to the organization.

Studies on project success indicate that several factors are determinants of project success and these factors operate in matrix. Projects differ in nature, size, uniqueness and complexity, thus the criteria for measuring success vary from

project to project (Muller & Turner, 2007) making it unlikely that a universal set of project success criteria will be agreed on (Davis, 2014). Previous studies carried out on project success indicate that until now, there has been no consensus among researchers regarding a standard definition of project success or standard criteria for measuring it (McLeod, Doolin and MacDonell, 2012). For instance, a project may be considered successful by a client, whereas an end user or contractor may perceive it as unsuccessful (Toor & Ogunlana, 2010). However, there is general agreement that project success involves both efficiency and effectiveness.

Ashley, Laurie and Jaselskis (2011) defined project success as “results much better than expected or normally observed in terms of costs, schedule, quality, safety and participants satisfaction”. Thus, from all of these definitions, there is agreement among researchers that project success involves participants’ satisfaction and meeting the project goals. Therefore, the criteria for measuring project success go beyond the traditional measures of time, cost, and quality. Other criteria have also been used: end user satisfaction, client satisfaction, environmental impact of the project, and so on.

Toor and Ogunlana (2009) suggest the following criteria for measuring success should be adopted in most projects: project completion on time, within budget and to specified quality, efficiency, effectiveness, safety, free from defect, meets stakeholders’ expectations, and minimal construction disputes and conflicts. (McLeod et al., 2012) proposes that project success can be measured using the criteria of client satisfaction, product use and client benefits as well.

## 2.5 Critique of Existing Literature Related to the Study

Various studies have been conducted globally and locally on the factors influencing projects’ success. In Romania, Beleiu, Crisan and Nistor (2015) carried out a study on the main factors influencing project success. The study reviewed empirical literature of other studies conducted on the subject. The results indicated that success factors of projects include cooperation and communication, timing, identifying objectives, agreeing objectives, stakeholder satisfaction, acceptance and use of final products, cost, budget aspects, competencies of the project manager, strategic benefits of the project and top management support. Having been conducted in Romania, the findings of this study cannot be generalized to post-disaster reconstruction in Kenya.

Chan, Scott and Chan (2004) as cited by Adabre, and Chan (2019) carried out a study on the factors affecting the success of a construction project in Hong Kong. Seven major journals in the construction field were chosen to review the previous works on project success. Five major groups of independent variables, namely project-related factors, project procedures, project management actions, human related factors, and external environment were identified as crucial to project success. The study used empirical review of literature only and hence no primary data was used.

In Nigeria, Ogwueleka (2011) conducted a study on the critical success factors influencing project performance. Twenty-two success factors were selected from the literature for the research with sample size of 188 professionals. From the results objective management, technical factors, management of design, top management support and risk management were selected as the most critical success factors in project performance. The study was limited Nigeria and hence its findings cannot be generalized to Kenya. In addition, the study focused on critical success factors, which is different from antecedents of project success.

In Kenya, Kagendo (2013) carried out a study on the factors affecting successful implementation of projects in non-governmental organizations. The study was done within urban Slums in Kenya limited to one NGO specifically Children of Kibera Foundation. As such the findings may not apply to CDF construction projects in Kenya. This study adopted a descriptive research design. The results indicated that funding, organizational structure and stakeholder relationships had an influence on project success.

In Bomet East Sub-County, Langat (2015) carried out a study on factors influencing completion of construction projects in public secondary schools. The study employed a descriptive study design with qualitative and quantitative methodologies used in data collection. The results indicated that inadequate funding, procurement bureaucracy, source of funding and misappropriations of project funds were found to lead to delay in construction completion of projects. The study was conducted in secondary schools and due to difference in organizational structures and extent of the projects in terms of size, the findings of this study cannot be generalized to post-disaster reconstruction Project in Kenya

In Egerton University, Saisi, Ngahu and Kalio (2015) conducted a study on the financial factors influencing successful completion of construction projects. Descriptive survey research design was employed. The study established that the relationship between access to infrastructure capital and successful completion of construction projects was positive and

very strong. The study was limited to one public university and hence its findings cannot be generalized to all CDF construction projects in Kenya. In addition, the study was limited to financial factors only, which are internal factors.

Otonde and Yusuf (2015) conducted a study on the factors influencing project performance among Kenyan universities in Kisumu County. The study used a combination of cross-sectional and descriptive survey. In this particular study the population was made up of 12 project managers and 124 employees. The study found that human capital, planning, management support, communication and monitoring evaluation have a positive and significant effect on project performance. The study only focused on post-disaster reconstruction Project in Kenya.

## 2.6 Research Gaps

### 2.6.1 Geographical Gaps

Beleiu, Crisan and Nistor (2015) carried out a study on the main factors influencing project success in Romania; Chan, Scott and Chan (2004) carried out a study on the factors affecting the success of a construction project in Hong Kong; and Ogwueleka (2011) conducted a study on the critical success factors influencing project performance in Nigeria. Due to differences in economic environment, legal framework governing projects, the findings of these studies cannot be generalized to post-disaster reconstruction Project in Kenya..

### 2.6.2 Contextual and Conceptual Gaps

Saisi, Ngahu and Kalio (2015) conducted a study on the financial factors influencing successful completion of construction projects in Egerton University. Kagendo (2013) carried out a study on the factors affecting successful implementation of projects in non-governmental organizations. Langat (2015) carried out a study on factors influencing completion of construction projects in public secondary schools. Otonde and Yusuf (2015) conducted a study on the factors influencing project performance among Kenyan universities in Kisumu County. These studies were limited to specific institutions and regions and hence their findings cannot be generalized to post-disaster reconstruction Project in Kenya. Given the existing gaps in the available studies, there was need to undertake the study to inform the antecedents of project life cycle activities on the success of post-disaster reconstruction Project in Kenya

## 3. RESEARCH METHODOLOGY

### 3.1 Research Design

The study adopted a cross sectional research design. The survey may use qualitative or quantitative. According to Mugenda and Mugenda (2010) the advantages of this design are: First, it is an efficient way to collect information about a large group of people. Secondly, it is flexible medium that is standardized, so less susceptible to error, easy to administer and finally it can be tailored exactly to the phenomena the researcher wish to study.

### 3.2 Target Population

A target population is that population to which a researcher wants to generalize the findings of the study. In this study, the study participants was drawn from 238 project manager, project officer, assistant project officer and technical officers in National Drought Management Authority in the 23 arid and semi-arid lands (ASAL) counties as listed in the human resources department. This was because the reliability of the interviews depended on the under stability of the participants of the study.

### 3.3 Sampling Frame

According to Mugenda and Mugenda (2010), a sampling frame is a list of sampling units for a study. A sampling frame is a list or device used to define the population targeted for a study. The sampling frame defines a set of elements from which a sample for a study can be selected from the target population (Brace, 2012). According to Bacon-Shone (2015), a sample is the respondents carefully selected from population of study, so as to be a representative of the whole population with the relevant characteristics and sampling as the process of selecting a number of individuals in such a way that they represent the large group from which they were selected. Greenfield & Greener (2016) describes sampling frame as the total number of all the population intended to be selected for study out of which the sample was selected as representative of total population. The sample frame for this study consisted of a list of the project manager, project officer, assistant project officer and technical officers in National Drought Management Authority in the 23 arid and semi-arid lands (ASAL) counties.

### 3.4 Sampling Technique and Sample Size

#### 3.4.1 Sampling Technique

To produce a detailed statistical description for a large population, probability sampling is performed. According to Brace (2012), probabilistic sampling involves deciding on the population of interest, or the population under research, and then establishing a frame. A probabilistic approach is then used to select a sample from this frame. It's worth noting that each element of the frame has a known probability of being chosen, and that the probability of choosing the study sample can be estimated. Non-probabilistic sampling, on the other hand, does not utilize a "randomization distribution" to determine the sample's outcomes. Instead of using the probability model, assumptions are made. Because the population was homogeneous, a stratified random sample procedure will be adopted in this study. Stratified random sample has the least bias and often the most generalizability (BaconShone (2015). In a stratified random sample of a given size, all such subsets of the frame are given an equal probability. Each element has an equal probability of selection. A sample size must be large enough to adequately represent the significant characteristics of the reachable population (Mugenda&Mugenda, 2013).

#### 3.4.2 Sample Size

The number of observations used to calculate population estimates is referred to as a sample size (Smith, 2014). It represents the total number of people needed for the study's final analysis. According to Mugo (2012), sample size is determined by the nature of the analysis to be performed, the required precision of the estimations, and the kind and quantity of variables to be studied at the same time. Slovin's formula was used to pick people from the target population. Sloven's formula is used to calculate the sample size (n) given the population size (N) and a margin of error (e). It's a random sampling technique formula to estimate sampling size e. It is computed as

$n = N/(1+Ne^2)$ . With  $N=238$  and  $e=0.05$ , then  $n=149$ ; then  $149/238= 62.6\%$ . The study sampled 62.6%. of every stratum and the selection was done as indicated in Table 3.1.

Respondents	Target population	Sample Size 62.6. %.
Project Manager	26	16
Project Officer	37	23
Assistant Project Officer	54	34
Technical Officers	121	76
Major Stateholders	110	55
<b>Total</b>	<b>238</b>	<b>204</b>

### 3.5 Data Collection Instruments

According to Mugenda and Mugenda (2010), primary data are those items that are original to the problem underway. Primary data was gathered using structured and semi-structured questionnaires. In this study the main data collection instrument was questionnaires. Questionnaires are regarded as effective data collection instruments that allowed respondents to give much of their opinions pertaining to the research problem. The questionnaire was designed to address specific objectives, research question(s) or test hypothesis.

Questionnaires are economical to administer in terms of time and cost to a large number of respondents (Denscombe, 2014). They will also ensure anonymity as questions have no room for researcher's biases. The choice of the semi-structured questionnaire was to allow the researcher to collect quantitative data on closed-ended questionnaires as well as allowing the researcher a room for a few questions to collect data that may generate unexpected insights not available from structured quantitative data.

Secondary information sources are data neither collected directly by the user nor specifically for the user. Secondary data means data that are already available (Kothari, and Garg, 2014). It involves gathering data that already has been collected by someone else. This involves the collection and analysis of published material and information from internal sources. Secondary data collection was conducted by collecting information from a diverse source of documents or electronically stored information. This is often referred to as desk research

### 3.6 Pilot Test

Before the actual data collection, the pilot test was done. In accordance with (Kothari and Garg 2014) at least 10% of the sample consisted of the pilot test. In this study, the questionnaire was pre-tested using a representative sample identical to, but not those to be included in the actual study, before administering it to respondents in a field setting. Such pre-testing is important as it may uncover ambiguity, lack of clarity or biases in questions wording, which was eliminated before administering to the intended sample. The pilot test helped in detecting potential problems in research design and instrumentation as well as helping to check whether the questions asked are intelligible to the targeted sample and ensure that the measurement instruments used in the study will be reliable and valid measures of the constructs of interest (Orodho, 2008). The suitability of the questionnaires of this study was pre-tested by first administering it to about 38 respondents (10% of the sample size).

### 3.7 Data Analysis and Presentation

Data analysis refers to examining the coded data critically and making inferences. The presentation of data refers to ways of arranging data to make it clearly understood. Data will be analyzed using both descriptive and inferential statistics. This is because descriptive statistics helps to describe the data collected and aim to summarize a sample while inferential statistics was used to interpret the meaning of descriptive statistics besides making propositions about population and will help in drawing conclusions. The SPSS Version 23 was used because it is favored for it will give quantitative results.

## 4. DATA ANALYSIS, PRESENTATION AND INTERPRETATION

### 4.1 Introduction

This section presents data analysis, presentation and interpretation of finding. The data presented in this chapter were processed using Statistical Package for Social Sciences (SPSS). The themes answering the research questions were presented and analyzed. The analyzed data was presented in both tables and narrative explained.

### 4.2 Questionnaire response rate

This was the proportion of the questionnaires returned after they have been issued to the respondents. The study revealed that, out of 204 questionnaires the drought Committees sampled in the study, 100% were filled and returned questionnaires for data analysis. According to Mugenda and Mugenda (1999), a response rate of 50% is adequate for analysis therefore; this response rate was excellent for analysis and reporting. Therefore the return rate for the questionnaire was admissible.

### 4.3 Pilot Study Results

#### 4.3.1 Reliability Results

Cronbach's Alpha was used to test the reliability of the questionnaire. Since the research instrument yielded reliability coefficient of more than 0.7 on project planning, project execution, project monitoring and evaluation and Project communication. It can be concluded that the research instrument was adequate for subsequent analysis.

**Table 4.1 Cronbach Alpha for Reliability Assessment**

Variables	Cronbach Alpha	Remarks
project planning,	0.70	Accepted
project execution,	0.73	Accepted
project monitoring and evaluation	0.72	Accepted
Project communication	0.74	Accepted

#### 4.3.2 Validity Results

Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) and Bartlett's test of sphericity were applied to test whether the correlation between the study variables exist as shown in Table 4.2. The Kaiser-Meyer-Olkin measures of sampling adequacy show the value of test statistic as 0.634 and p-value <0.05. Bartlett's test of sphericity had a chi-square value of 9606.959 p value of 0.000. Since the p value is less than 0.05 then it implies that there exist a relationship among the study variables therefore providing a ground for further statistical analysis to be conducted.

**Table 4.2 KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.634
<b>Bartlett's Test of Sphericity Approx.</b>	<b>Chi-Square</b>	<b>9606.959</b>
	<b>Df</b>	<b>300</b>
	Sig	.000

#### 4.4 Social-economic factors

Social economic status as defined by demographic factors was important in this research to understand the gender of the respondents, education level, average household income and the occupation of the community.

##### 4.4.1 Gender of respondents

The research sought to know the gender of the respondents as shown in Table 4.1. This was important for this study to show the presentation of male and female in the study and also to indicate their opinion regarding gender roles in community participation in the rural water projects in the study area as presented in Table 4.1.

**Table 4.3 Gender of respondents**

	Frequency	Percentage
Male	84	41
Female	120	59
<b>Total</b>	<b>204</b>	<b>100</b>

##### 4.4.2 Distribution of the Respondents by Age Categories

The researcher sought to establish the age of respondents. This was aimed at ensuring that the respondents were adults as planned. The results of the sampled beneficiary responses are presented in Table 4.5.

**Table 4.5: Distribution of the Beneficiary Respondents by Age Categories**

Age Categories In Years	Frequency ( <i>f</i> )	Percent (%)
<b>Below 21 years</b>	<b>0</b>	<b>0.0</b>
<b>21-35</b>	<b>95</b>	<b>46.57</b>
<b>36-45</b>	<b>49</b>	<b>21.7</b>
<b>46-55</b>	<b>28</b>	<b>12.4</b>
<b>56 and Above</b>	<b>32</b>	<b>14.2</b>
Total	204	100.0

##### 4.4.3 Marital Status of the Respondents

The researcher sought to establish the marital status of the respondents. The results of the sampled beneficiary responses are presented in Table 4.6

**Table 4.6 Marital Status of the Respondent Beneficiaries**

Marital Status	Frequency ( <i>f</i> )	Percent (%)
Single	86	38.1
Married	118	57.8
<b>Total</b>	<b>204</b>	<b>100.0</b>

#### 4.4.4 Education Level of the Respondents

**Table 4.7: Respondents Beneficiaries' Level of Education**

	Highest level of education attained	Frequency (f)	Percent (%)
	Not attended School	6	2.7
	Primary	43	19.0
	Secondary	114	55.8
	Tertiary	41	18.1
	<b>Total</b>	<b>204</b>	<b>100.0</b>

Most of the sampled beneficiaries (55.8%) had completed secondary school, 19.0% had completed primary, 18.1% had completed tertiary level and 2.1% had not attended school. This implies that most of the respondent understood the questions with little or no need for extra clarifications.

Majority of the sampled water project committee members had completed secondary education (83.3%); the rest has completed tertiary education (16.7%). This implies that most water committee members understood to read and write.

#### 4.5 Descriptive Analysis of the Study Variables

The purpose of descriptive statistics is to enable the researcher, to meaningfully describe a distribution of scores or measurements using indices or statistics. The type of statistics or indices used depends on the types of variables in the study and the scale of measurements. The study used mean average; percentages and deviations to present the study findings

##### 4.5.1 Influence of Project Planning on Project Outcome

**Table 4.11 Project Planning on Project Outcome**

Statement	Mean	Std Dev.
Pre-project meeting with client is held to scope client specifications	1.57	0.604
Project analysis is done to determine commercial and technical terms	1.57	0.606
Business case is determined and technical feasibility evaluated	1.49	0.558
Project plan outlines all projects stages up to closure	1.99	1.014
Deliverables and milestones are reasonable and attainable	2.10	0.843
Required project resources are identified and committed	1.99	0.807
A contract outlining responsibilities of all key stakeholders is signed	2.06	0.931
Down payment is made before a project commences	2.23	1.038
Individual responsibilities and performance standards are well known	2.33	1.053
Standards and goals for measuring performance are clear and attainable	2.44	1.072
Testing and acceptance parameters are defined in advance	2.70	1.298

##### 4.5.2 Influence of Project Execution and Project Outcome

**Table 4.12: Project Execution on Project Outcome**

Statement	Mean	Std Dev.
Activities are carried out in accordance with an execution plan	2.07	0.922
Responsibility for each task is clearly defined	1.91	0.794
Supervision roles and reporting structures are well defined	2.19	0.952
Project progress is monitored and compared with the project plan	2.50	1.087
Project activities are monitored to ensure compliance	2.36	1.077
Appropriate tools required for project tasks are availed	2.39	1.101
Regular meetings are held to review project progress	2.34	1.141
Communication methods and escalations are adequate	2.16	1.163
Project changes follow formulated procedures for review and approval	2.60	1.267

#### 4.5.3 Influence of Project Monitoring and Controlling on Project Outcome

**Table 4.13: Project Monitoring and Controlling on Project Outcome**

Statement	Mean	Std Dev.
Effective project monitoring processes exist	2.33	1.032
Project monitoring tools are effective	2.51	1.139
Individual assessment on performance is regularly conducted	2.50	1.213
Progress is monitored and compared with the project specifications	2.16	1.044
Status reports are regular and stakeholders are informed	2.23	1.169
Change control procedures are well defined at the start	2.39	1.219
Authority and responsibility for change requests is defined in advance	2.38	1.279
Changes in scope include risk and impact analysis	2.29	1.092
Project changes follow formulated procedures for review and approval	2.36	1.204
Decisions to approve or reject changes are well documented	2.80	1.368

#### 4.5.4 Influence of Project communication on project outcome

**Table 4.14 Influence of Project communication on project outcome**

Statement	Mean	Standard Deviation
Project communication with the group has improved due to use of phones and local libraries	4.26	.902
Locals experience communication problems when using mobile phones due to network breakdown and lack of electrical power to charge the phones	3.13	1.316
Inter-team communication can occur both through meetings as well as reporting to seniors through emails, etc.	2.12	1.107
For meetings, managers always select the venue and timings that remain suitable to all the team members.	3.58	1.472
Members of the project group have required skills of using modern information gadgets like computers to get marketing Information	2.40	1.335
Project managers have ways of making their produce known to buyers through putting adverts about their produce in near centers or advertise by radio	2.12	1.107
Locals sell their products locally to middle men due to lack of clear marketing information	3.58	1.472
Effective communication with senior managers is not a one-off effort by an individual project manager	2.12	1.107
Projects managers must provide inter-team communication as well as a stakeholder communication schedule during the Project Planning Phase	3.58	1.472
<b>Aggregate</b>	<b>3.098</b>	<b>1.226</b>

#### 4.6 Inferential Statistics

According to Mugenda & Mugenda, (2003) Inferential statistics deal with inferences about the population based on the results obtained from the sample. The more representative the sample is, the more generalizable the results will be to the population. This section presents the inferential findings for the study. Pearson's moment of correlation is presented first then regression analysis follows.

##### 4.6.1 Correlation Analysis of Independent and Dependent Variables

**Table 4.15: Correlation Analysis**

		Planning	Execution	Monitoring	Project communication	Outcome
	Pearson Correlation	1	.810**	.672**	.514**	.453**
<b>Planning</b>	Sig. (2-tailed)		.000	.000	.000	.000
	N	204	204	204	204	204



	Pearson Correlation	.810**	1	.817**	.619**	.534**
<b>Execution</b>	Sig. (2-tailed)	.000		.000	.000	.000
	N	204	204	204	204	204
	Pearson Correlation	.672**	.817**	1	.704**	.607**
<b>Monitoring</b>	Sig. (2-tailed)	.000	.000		.000	.000
	N	204	204	204	204	204
	Pearson Correlation	.514**	.619**	.704**	1	.732**
<b>Project communication</b>	Sig. (2-tailed)	.000	.000	.000		.000
	N	204	204	204	204	204
	Pearson Correlation	.453**	.534**	.607**	.732**	1
<b>Outcome</b>	Sig. (2-tailed)	.000	.000	.000	.000	
	N	204	204	204	204	204

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

#### 4.6.2 Regression Analysis

**Table 4.16: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.744 <sup>a</sup>	.553	.525	.346

a. Predictors: (Constant), communication, Planning, Monitoring, Execution

**Table 4.17: ANOVA Results**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.608	6	1.601	40.7379	.000 <sup>b</sup>
	Residual	7.772	198	.0393		
	Total	17.379	204			
<b>a. Dependent Variable: Outcome</b>						
<b>b. Predictors: (Constant), communication, Planning, Monitoring, Execution</b>						

The probability of 0.000 indicates that the model is significant in predicting the influence of the project management processes on project outcome. The critical F-value is 40.7379 at 99% level of confidence.

**Table 4.18: Regression Coefficients**

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.798	.167		4.784	.000
	Planning	.029	.125	.032	.229	.820
	Execution	.007	.120	.010	.055	.956
	Monitoring	.091	.093	.155	.970	.336
	Communication	.375	.073	.599	5.101	.000
<b>a. Dependent Variable: Outcome</b>						
<b>b. Predictors: (Constant), communication, Planning, Monitoring, Execution</b>						

## 5. SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

### 5.1 Summary of Findings

In this section, summary of findings follow the order of research objectives and data as presented in chapter four. The purpose of the study is to assess the influence of project management processes on the project outcome in post-disaster reconstruction in Kenya.

#### 5.1.1 The Influence of Project Planning on Project Outcome.

The study established that pre-sales meetings are held with clients to scope client needs and analysis is done to determine commercial and technical specifications as well as feasibility. The standard deviations of 0.604, 0.606 and 0.558 were the lowest of all the statements. The majority of the respondents agreed that project stages are outlined through closure, though with an observable wide variance of 1.014 about the mean. The respondents indicated that deliverables and milestones are reasonable and attainable. On whether resources are identified and committed, the respondents agreed. The study also showed that contracts outlining responsibilities for each stakeholder are signed and down payment paid. The study findings also show that performance standards, goals, are well known and attainable. The respondents are equally in agreement on testing and acceptance parameters are usually known in advance. There was a notable variation in the level of agreement with significant standard deviation of 1.053, 1.072 and 1.298. When asked to indicate the extent to which planning and initiation influenced project outcome; 67% answered to very great extent, 22% answered to great extent, while 10% indicated to a moderate extent.

#### 5.1.2 The Influence of Project Execution on Project Outcome.

When respondents were asked about the extent to which execution influences project outcome, 44% said to very great extent; 39% said to great extent; 14% to moderate extent and 3% to little extent. Therefore, a higher proportion of respondents indicated that project planning and initiation has greater influence on project outcome than execution. With respect to the influence of project execution on project outcome, the respondents indicated that project activities are carried out in accordance to project plans. They agreed that responsibilities for each tasks, supervision roles and reporting structures are well defined. The findings also showed that project progress is monitored and compared with the project plan and to ensure full compliance. The respondents agreed that required tools are availed for project activities. The results also indicate that progress review meetings are held to address emerging issues. On communications, the findings show that channels and escalation matrices exists and are effective. In regard to project changes, the respondents agreed that reviews and approvals follow formulated procedures.

#### 5.1.3 The Influence of Monitoring and Control on Project Outcome.

The study sought to gauge the existence of effective project monitoring processes to which responded affirmatively. Asked whether individual assessment on performance is regularly conducted, they generally agreed with a varied level. On whether progress is review and status reports are shared with stakeholders, the respondents agreed. The findings also indicated that change control procedures, authority and responsibility are outlined well in advance. The results of the study also established that risk and impact analysis is of changes is conducted; that it is procedural and all decisions are well documented. The study also asked the respondents to propose changes to the monitoring and control processes. Their recommendations were broadly categorised into five. First, 17% suggested introduction of more effective tools; 18% were of the opinion that the existing tools were effective; 4% suggested training of staff on the effective use of monitoring tools; 16% asserted that effective communication with all stakeholders was key; 18% recommended improving reporting and documentation of project activities

#### 5.1.4 The Influence of Project communication on Project Outcome.

The fourth objective sought to examine how Project Communication influences the project outcome of rural water projects development in Kenya. The objective when considered jointly through multiple regressions established that project communication had significant influence on performance of rural water projects development in Kenya. The study, therefore, confirms the expectation that project communication influenced project performance in Kenya. The hypothesis was significant meaning communication is important in the whole process of project management.

## 5.2 Conclusions of the Study

On the basis of the study findings, the following conclusions were arrived at proposing the adoption and application of modern project management practices. The results indicate significant relationship between project management processes and project outcome. The nature of rural water projects development in Kenya whose end user level of satisfaction is high requires effective and efficient project processes. Therefore, project planning influences project outcome.

From the study findings, it can be concluded that the execution process impacts the outcome of the project. It was established that execution activities are conducted according to the project plan. Of the 4 stages, the findings indicated that execution had the least influence on the project outcome.

The research results showed that monitoring and control has a significant influence on project outcome according to the regression model. The respondents further suggested the strengthening the existing tools to achieve desired project outcome. On this basis, the study concludes that monitoring and control influences project outcome to a large extent. Finally, the study concludes that the project communication process have the greatest influence on project outcome. The study established that perceived indicators of positive project indicators include project communication process. The respondents strongly agreed that customer acceptance and satisfaction and settlement of final account is a strong measure of positive project outcome. The regression model indicated that the communication process had the largest magnitude.

## 5.3 Recommendations of the Study

This study makes the following recommendations.

The study recommends that effective project planning activities be applied to all projects. This can be achieved by adopting and continuously enforcing project management best practices across the organization. This study also recommends that emphasis be given to implementation activities that will ensure plans are effectively executed in order to fully meet set objectives.

The study suggests the introduction of effective monitoring tools; training of staff on use of monitoring tools; use of effective communication and improved reporting and documentation in order to improve the monitoring and control process.

Project communication process have the greatest influence on project outcome according to the regression model. The study recommends that proper communication channel should be used to enable local acceptance and satisfaction perspective as well as that of the project objectives.

## 5.4 Suggestions for Further Studies

This report recommends that further research should be carried out to establish the other factors that are attributed to influencing 45% of the project outcome; according to the regression model.

The study on role of project management practices on performance outcomes in post-disaster reconstruction in Kenya in rural water projects development in Kenya. It is recommended that this topic can be investigated more on performance outcomes in post-disaster reconstruction in Kenya

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