

**INFLUENCE OF PROJECT MANAGEMENT COMMITTEE
(PMC) FACTORS ON THE PERFORMANCE OF WATER
PROJECTS IN KENYA: A CASE OF KIBWEZI EAST SUB
COUNTY, MAKUENI COUNTY.**

KAVINDU REDEMPTA

**Research Report Submitted In Partial Fulfilment of the Requirement of
the Award of Masters of Arts Degree in Project Planning and
Management of the University of Nairobi**

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DECLARATION

This research project is my original work and has not been presented for an academic award in any other university.

Signed Date

KAVINDU REDEMPTA

L50/84807/2016

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

Sign Date

DR. REUBEN WAMBUA KIKWATHA

Lecturer

University of Nairobi

DEDICATION

The study is dedicated to my ever-supportive family especially for their prayers and consistent support during the entire period of my master's education, my daughter Joy Pauline for inspiration to work hard every day, to my bosses Prof.Kivutha Kibwana and Adelina Mwau for their motivation to keep learning, to my friends and colleagues for their prayers.

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ABBREVIATIONS AND ACRONYMS

PMC	-Project management committee
NGO	-Non-governmental organization
COK	-Constitution of Kenya (2010)
NG-CDF	-National Government Constituency Development Fund
SPSS	-Statistical Package for social Sciences
NACOSTI	-National Commission for Science, Technology and Innovation
SDU	- Service Delivery Unit established in Makueni
CIDP	-County Integrated Development Plan

ABSTRACT

Governments and non-governmental organizations have promoted interventions aimed at improving water projects' performance in the country. Makueni county government has put in place mechanisms of ensuring that every county funded project has a project management committee competitively elected by the project beneficiaries from amongst themselves to enhance project performance. However, there is a gap in the performance of water projects and there is thus need to look at how project management committee factors influence performance of water projects. The purpose of this study was to investigate the influence of project management committees' factors on performance of water projects in Kibwezi East Sub county, Makueni County. This study's main formation was based on four objectives namely; to establish the extent to which project management committees' human capital influence performance of water projects; to establish the contribution of project management committees' social capital performance of water projects; and to investigate the influence of project management committees' leadership styles on performance of water projects in Kibwezi East Sub county. This study was guided by three theories; Coordination Theory, Transformational leadership Theory and social networks theory. This study employed descriptive survey design with a sample size of 124 members of project committees randomly selected from a population of 240. This sample size was determined through Krecjie & Morgan (1970) calculator. Ten (10) focus group discussions were done reaching to 200 beneficiaries who were randomly sampled. Twelve (12) key informants were interviewed from the four wards. Questionnaires, interview guides together with focus group discussions were employed in the collection of quantitative and qualitative data from the respondents. Reliability of the questionnaires were tested using the split-half method; research assistants were carefully selected and trained to enhance equivalency. Quantitative data collected was analyzed using descriptive and inferential statistics while qualitative data was analyzed using content analysis. The results show that inadequate human capital ($\beta=.353$, $t=5.911$, $p<0.000$), inadequate social capital ($\beta=.153$, $t=2.516$, $p<0.004$), and weak leadership style, ($\beta=.312$, $t=5.169$, $p<0.000$), had a significant negative influence on water projects' performance in Kibwezi East Sub county, Makueni County. The study therefore recommends: The Project Management Committee members should enroll into training and skilling workshops and seminars to help in their acquisition of competence that would serve them in their water projects management. The Project Management Committee members should introduce consistent consultative forums with the beneficiaries of the projects to get the beneficiaries' opinions and offer quality feedback. They should also build their social capital by building a conducive organizational culture that motivates and seeks the best-fit management model for the water projects. They should also employ the use of transformational leadership style that is both charismatic and inspirational to improve their water management and consequently improve the water projects' performance. Finally, the County of Makueni should introduce legal frameworks that strengthen the qualifications of the PMCs and improves the interactions between the PMC and the water projects' beneficiaries. This would help to improve the overall water projects' performance in terms of cost, time of completion and quality of projects.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

There has been a robust impetus globally to usher in community led efforts in the management of water resources and its attendant projects. Scholars agree that project beneficiaries must be involved in the initiation and operations of projects if any meaningful advancement in water management is to be realized (Adan, 2012). The use of project management committees has therefore become a conduit from which demand-based approaches are used to build up the decision-making capabilities of governments towards allocating the facility location, service hours, technology to be utilized and the general nature of the project among other issues (Boonstra, 2013).

As far as efficacy and success indices of water projects are concerned, scholars have different opinions as to the actual measurements for that success. Cheng et al (2013) for instance is a proponent of the traditional Iron Triangle success matrix which is mainly tied to schedule and budget goals and other requirements needed to improve performance. Nevertheless, project management scholars have had a problem with limiting success measurement to three issues only and have advocated for an expansion that look at technical and social viability (Cleland and Ireland, 2013). Kennerly and Neely (2013) on their part have sought to expand the measurement into two-pronged areas; subjective (Budget and schedules) and objective (stakeholder and customer expectation and satisfaction).

The PMI (2015) assumes that the traditional philosophy to any project plan, can lead to success if the philosophy is followed correctly and consistently. This assumption therefore follows naturally in support of the success measures based on the iron triangle (Cheng et al, 2013). Further, there are methods that have been developed to take more into account business strategy software than the traditional planning and documentation aspects (Augustine, Payne, Sencindiver, & Woodcock, 2005). Further, Sauser, Reilly, and Shenhar, (2009) asserted that project success was more than simply the use of PMCs inasmuch as they are needed. What therefore could constitute project success factors remains significantly uninvestigated and how far scholars have used some factors like leadership and human capital to explain project performance remains scanty and sketchy (Doherty, 2011). If individuals within a community do not participate in decision-making, project performance becomes a challenge.

The use of Project Management committees is not new, particularly within the aspect of development and management of community projects. Rodgers and Williams (2015) described a project as either short term or long term effort that is undertaken so as to come up with a unique product, service or result with the use of available resources. Schwartz and Mayne (2015) observed also that in order to ensure that the various projects are delivered according to the standards of time, budget and integration, the management of the said projects must be done efficiently. Thus, Schwartz and Mayne (2015) offered a description of project management by asserting that it is the application of human capital and social capital together with tools for knowledge acquisition and techniques helpful to meet project goals.

Chen et al (2013) had mentioned that generally, project success depends on a host of aspects enacted by committees put in charge to implement them. They mentioned human capital, social capital, leadership ability, management commitment, availability of resources, community participation among other issues. on Community participation, the World Bank (2004) had noted that it contributed to project's success in the Mediterranean countries. A related study conducted in India on management of water resources also observed that public involvement is an important aspect on projects decentralization because it involves different stakeholders (UNESCO, 2015). In Tanzania, a case study on community involvement in the management of water projects; *lessons from Mbuo water project* demonstrated that building effective community management in water projects is not easy but it can be done as demonstrated in half of its villages.

In this study, human capital in project management refers to the project management committees' education level, technical orientation and skills to monitor and evaluate projects. Generally, project management committee can offer many positive influences on a project which in turn leads to the success of the project (Stahl et al, 2012). To add to this, committees could support coordination between different functional units in a particular project to ensure well coordination and management. There has been studies that have focused on (IT) departments and has linked the role of project management committees with the coming up of organizational effectiveness (Singh & Nyandemo, 2013; Verma, 2015). However, committees could also have negative effects on project performance by delaying important implementation decisions (Schwartz & Mayne, 2015). However, there

has not been actual research that has addressed the possible PMC dysfunctions and their negative consequences for project performance.

According to Chen et al (2013), social capital is better explained as inherent resources that are exemplified via social interactions that lead to desired action and basically comprise of social networks, shared norms, social perceptions amongst project committee members. Social networks at the project implementation environment have a central purpose in the water projects' performance in any government operation (Schwartz and Mayne, 2015). In order to ensure full benefit from social capital a culture of project ownership, sense of responsibility from each individual and dependency is key to liberating the citizenry from dependency syndrome (Verma, 2015). In a culture where there is prevailing social capital reciprocity, a critical cultural norm which encourages negotiation, bargaining, compromise and pluralistic engagements is often present. Another norm is belief in the equality of citizens, which encourages the formation of cross-cutting groups. Correlates of high levels of social capital include education (Verma, 2015), health (Cohen & Palmer, 2013), confidence in political institutions (Schwartz and Mayne, 2015), and satisfaction with government and political engagement (Chen et al, 2013).

Project leadership in simple words can be described as the act of leading a team towards the attainment of successful completion of a project (PMI, 2015). Everything rises and falls on leadership (Maxwell, 2007). Within the contexts of project management, the success of any project is predicated on many skills including communication skills, time management skills, operational and technical know-how to mention but a few (Graen, 2013). Dignam et al, (2012) however noted that inasmuch as these skills are important, leadership skills

seems to override many of those listed because leadership is the fodder the feeds the others. Ideally, leadership styles in a project management committee may play a big role on the water projects' performance in Makueni County. Transformational, Transactional and autocratic leaders influence project performance differently (Dignam, 2012). A committee's leadership is also dependent on how committee is established or selected from the members of the community.

Challenges facing performance and management of water projects are readily acknowledged in the development world (Doherty, 2011). In 2017, Makueni County Rapid Results Report (CRRIT) (2007) indicated that only 49 % of county funded water projects concluded successfully. Although there is tremendous improvement on the performance currently at 64%, low completion rate continues to be a concern (SDU, 2018). CCRIT reported that nearly half of the projects had negative implications in so far as time, cost and quality was concerned. Consequently, the search for factors influencing the water projects' performance is both necessary and timely particularly to look at the low performance with emphasis on the human and social capital, leadership quality and project management committee goals. Most of studies examining performance factors in the recent past have been mainly focused on operational issues as opposed to strategic issues (Doherty, 2011). Basically, few researchers have examined how project success factors interrelate (Verma, 2015; Cleland & Ireland, 2013).

In Kenya, Section 16(3) of the NG-CDF Regulation 2016 gives the authority to the community to form a project management committee. Government of Makueni County has published a booklet on Project management committees (PMC manual, 2017) on project

management by the public. Further, all projects are run by a project management committee of seven people elected at the project initiation stage. In Makueni, project management committees undergo basic training on what the specific project entails, the scope, the cost, bill of quantities and specifications, contractor details and work plan. The committee is expected to oversee the project through the various project cycle in consultation with county officials. The project management committees must confirm good workmanship by the contractor before clearing them for payment. Despite all these efforts, over 60% of Kibwezi East sub- county's water project have shown management challenges (Makueni M&E report, 2017). From these findings therefore, it is important to note that there is need to appropriately study why despite all the efforts and research there are gaps in project management by committees.

1.2 Statement of problem

For over twenty years Mang'elele water project in Kibwezi East has been receiving funding from government and non-governmental agencies to ensure constant water supply to community. Unfortunately, project management has been a challenge (M&E report 2017). Water, once considered to be a renewable resource, is gradually becoming a non-renewable resource. Hence, current performance of water resources and projects warrant a new and conservative approach (Chen et al, 2013). Why this is so and how PMC set up to monitor these projects, and its factors have influenced the performance of the water projects thus needs investigation.

Institutions, play a crucial role in addressing water performance in general, and groundwater over-exploitation, in particular (Cleland & Ireland, 2013). The Government of Makueni County has invested heavily in community engagement and ensuring that every project has a project Management committee which is trained on basic project management skills. During project inception, a contractor, together with technical team and the county administration are expected to produce the bill of quantities and share the project work plan with the project management committee. Despite all these, the County Government has experienced challenges in project performance. Upon project completion, the County Government completely hands over the project to a management committee, it is however unfortunate that most of the community run water projects rarely meet the expected goals which include project meeting community needs, project completion in time, within budget and community satisfaction.

While investigating challenges influencing project management committees in the implementation of constituency development fund sponsored projects in Bahari constituency of Kilifi District, Mwamachi, (2002) observed that many of the PMC challenges related to leadership related issues, education levels followed at 16% while inadequate knowledge, poor leadership skills, socio-cultural factors resulted to poor workmanship. In a study on factors influencing public engagement in management of infrastructure projects in Narok County, Kenya, Ojango (2014) observed that there was low education level attained by stakeholders and this had a negative influence on their participation in project management, it was further noted that majority of participants

lacked skills to manage projects. However, factors which may have contributed to poor project management by the public were not adequately addressed.

While conducting a study on women involvement in management of community projects in Narok South sub county of Narok, Kenya, Mbogori (2014) observed that many water boreholes sunk were not operational due to lack of ownership, poor leadership, lack of technical and monitoring and evaluation skills. The findings further indicated that these gaps were brought about by inadequate involvement and negative attitude towards women who spent most of their time at these water points. Basically, there is need to look at PMC factors and how they influence management of water projects. This study therefore, sought to establish the influence of project management committees' factors or attributes in water projects' performance in Kibwezi East Sub County, Makueni County.

1.3 Purpose of the Study

The purpose of this study was to establish the role that project management committee factors play in performance of water projects in Kibwezi East Sub County, Makueni County.

1.4 Objectives of the Study Objectives

- i. To establish the extent to which project management committees' human capital influence performance of water projects in Kibwezi East Sub County
- ii. To establish the contribution of project management committees' social capital on water projects' performance in Kibwezi East sub county, Makueni County
- iii. To investigate the influence of project management committees' leadership styles on the water projects' performance in Kibwezi east sub-County Makueni County

1.5 Research Questions

- i. To what extent does project management committee human capital contribute to water projects' performance in Kibwezi East Sub County, Makueni County?
- ii. What is the contribution of project management committee social capital on performance of water projects in Kibwezi East Sub County, Makueni County?
- iii. What is the influence of project management committee Leadership Style on performance of water projects in Kibwezi East Sub County?

1.6 Hypotheses

H₀₁: project management committees' human capital does not have significant influence on performance of water projects in Kibwezi East sub county, Makueni County

H₀₂: project management committees' social capital does not have significant influence on performance of water projects in Kibwezi East sub county, Makueni County

H₀₃: project management committees' leadership style does not have significant influence on performance of water projects in Kibwezi East sub county, Makueni County

1.7 Significance of the Study

This study established how and to what extent PMC educational level, technical orientation, monitoring and evaluation skills influenced performance of water projects in Kibwezi East Sub County, Makueni County. This information is of significance to the Government, Development agencies, the community especially on selection and membership of project management committees. Research Project Management committee social networks, norms and social institutions unearthed challenges around these attributes and how best to address them. Lessons drawn from the study on PMC leadership styles were to inform and improve policy debates on project management committees'

organization and election. Policies may be at the community, organizational or county and National level.

This study is of significance to the community, donors, policy makers, researcher and the government. Findings from this study can be used by CBOs, implementing partners, donors, international NGOs and the government to address sustainability challenges, and in planning better ways of implementing sustainable community projects. This study added to literature on the subject of influence of project management committees' factors on water projects' performance. Academic researchers, scholars, research organizations, County and National may find this study useful as it may provide them with information on water performance, governance, sustainability as well as making recommendations for further studies

1.8 Assumptions of the Study

The researcher assumed that the sample size obtained represented the population of the study were the results were analyzed and recommendations on the weak areas done. The researcher also assumed that the target respondents were familiar with the role that PMC play in the implementation and water projects' performance in Makueni County.

1.9 Operational Definition of Significant Terms

Project Performance: This entails planning, implementation and completion of water projects within the set time and budget, to community satisfaction and project sustainability.

Human Capital: these are the personal attributes or qualities associated with members of project management committees, in this study they include the level of education of the members of the committee, technical orientation, monitoring and evaluation capabilities of the project management committee.

Social capital: these are the social networks, shared norms and values and social perceptions that influence how the society engage.

Leadership style: this is the manner and approach of providing direction, implementing plans and motivating people. In this study leadership styles include transformational leadership style, Transactional leadership style and autocratic leadership style

The project management committee: According to Makueni County Project management committee workbook (2017), these are individuals elected from amongst the project beneficiaries to ensure smooth implementation and sustainability of the project according It also comprises of 7-9 members.

National Government Constituency Fund Regulations 2016, these are individuals given the authority to manage projects on behalf of the larger community.

Factor: This is a characteristic or a quality that defines an individual, in this study factors include human capital, social capital and leadership styles which are unpacked to include education levels, transformative leadership styles among others

Water project: Water projects funded by the county government of Makueni in Kibwezi East Sub County

1.10 Organization of the Study

This research investigation is systematized in five chapters, starting with chapter one that has the background to the study and other epistemological issues like statement of the problem, objectives and hypotheses. Chapter two comprise of literature and the key areas covered include conceptual framework, theoretical reviews, empirical reviews, critical review and summary of existing research gaps filled by this study. Chapter three consists of the methodology employed from design to data analysis where in-between are sample and data collection matters. Chapter four presents the presentational, interpretational and discussion elements with chapter five offering both the research based conclusions and attendant recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter presents a conceptual review of the aspects of the study which are basically human capital, social capital and leadership styles and how they link to water projects performance. It then offers both an empirical review and theoretical review that explains the study proper.

2.2 Performance of Water Projects

In Kenya, it is quite a common phenomenon to observe non-functional water projects that are not operational in most parts of the country (Maimuna, 2017). Maimuna, (2017) observed that among the water project developments in Kenya there has been dismal performance and even most of them becoming un-operational and others needing rehabilitation. However, an observation has been made that if continuous trend of poor water projects' performance is allowed to continue, then a time may come whereby some of these facilities will become dysfunctional and thus decreasing significantly effective coverage. It was established that there was a gap on the quality of water management committees who lacked the necessary training on the particular project. In Kenya, ineffectiveness of project planning and management approaches have been the main impediments in improving water access in rural areas.

Despite the Government and other development practitioners making efforts to develop water projects, it has not been possible to cover majority of the population especially in the rural parts of Kenya, consequently many community water projects are started but do not

meet the objectives as intended and inevitably the projects later collapse (WHO and UNICEF, 2005). Water is scarce and therefore not all people live next to water sources creating a need to bring the water closer to their places of habitation. This leads to development of water projects by governments, NGOs, philanthropists and even the community itself. Human Development Report (UNDP, 2013), recommends that to walk in the human development pathway, people should engage fully in activities that reform the lives and they should be able to participate in policy making process and results. If the community members are given the chance to expertly participate it will influence the performance of water resource projects as noted by Binder (2008), that meaningful management of water projects by community through having water committees that manage and run the water resources, its development and usage. (Nokes and Sean 2007) describe a project as a set of coordinated activities with a specific start and finish time, pursuing a specific goal with constraints on time, scope and resources.

The role played by PMC in the implementation and water projects' performance cannot be downplayed. Previous studies have focused on various aspects of water projects. Kinuthia, Warui and Karanja (2009) did a study in Mbeere on the group-owned water points and the study noted that the management there lacked effective committees. Ali (2015) looked at determinants of community ownership of water projects in central division, Isiolo County and noted that management of water points is an important aspect of sustainable delivery of water resources to both the rural and urban populations in Kenya. Currently, there seem to be low level of community participation of rural water supply in Kenya, leading to low levels of ownership at community level. Water is scarce and therefore not all people live

next to water sources creating a need to bring the water closer to their places of habitation. This leads to formation of community water projects since individuals cannot afford. According to the 2013 Human Development Report (2013), it is recommended that to walk in the human development pathway, people should engage fully in activities that reform the lives and they should be able to participate in policy making process and results. If the community members are given the chance to lead it will influence the sustainability of water resource projects as noted by Binder (2008), that meaningful management of water projects by community through having water committees that manage and run the water resources, its development and usage.

2.3 Project Management Committee Human Capital and Performance of Water projects

In this study, human capital encompasses education level, technical orientation of project management committees and their ability to carry out basic monitoring and evaluation of water projects. Becker and Chiswick also emphasized on human capital as similar to “physical means of production,” for example, factories and machines. It can be described as substitutable but not transferable as land, labor, or fixed capital.

Empirically, Seligman and Csikszentmihalyi, (2010) in an analytical study done in Norway undergirded the concept of human capital in the perspective of positive psychology which believes strongly in human strength. The study notes that from this point of view, the goal is to find things that are working well. Other explanations that can be used to describe human capital is the collection of skills and knowledge which results in the ability to perform desired labor and hence increase economic value. These are the skills and knowledge that a worker gains through education and experience as the study concluded.

To sum it, human capital can be said to be embodied in the knowledge, talent, and experience of employees and can also related to primary component of intellectual capital. Some of the pillars or view points from the study include seeing people as important assets, increase in people's motivation and commitment, and value addition to the stakeholders. However, this study did not link human capital as a management factor to water projects' performance as the present study attempted to do.

On a descriptive study done in Pakistan looking at human capital and its influence on performance of government projects in the area Khan noted certain salient issues. The study that targeted over 100 staffers of government projects and a study that used both descriptive and inferential statistics noted that human capital investigations have significantly been tied to an individual or team perspective. At the individual level, this theme has been approached from the angle of empowerment and commitment. The study also noted succinctly that community-based management of projects presented opportunity for better maintenance of the said projects as compared to local-government managed projects. The study finally noted that education levels, training and skills were important elements for a positive progress of government projects. However, how far this is true for water projects in Kenya remains significantly uninvestigated.

Narayan (2013) analyzed lessons from 121 rural water-supply projects funded by different agencies in 49 developing countries in Africa, Asia and Latin America. He found that community involvement was the most significant factor contributing to project performance. Basically, the essence of water based projects is to empower the community both economically and ensure improved welfare. A critical aspect of the facilitation of the

water projects is the project management committee's human capital. Instances of having highly educated persons who are knowledgeable about the emerging trends and local needs is key to programs actualization. However, this study and other notable studies have not sufficiently shown how other factors other than community participation influence water projects' performance.

Adan (2012) carried out a descriptive survey study in Guatemala that showed that the presence of highly educated persons overseeing government projects was a sure way to enhance both the efficacy and efficiency of the said projects. The success of the projects was attributed to the ability of the committee members to positively engage the target beneficiary groups pro-actively and have them buy the vision of the projects. These minimized instances of strife and misgivings attributed to lack of clear understanding of the activities at hand. It also reduced instances of failure to understand the essence of the projects. These brought to the fore enhanced capacities of the individuals tasked with the mandate of project administration as an attribute which heavily swayed in the direction of the projects' completion and accountability to the end users.

Boateng, (2013) in his Ghanaian study on human capital and performance of projects noted that the management of projects was crucial for the overall running of projects. He argued that however, political machinations had a huge role to play as far as determining who was elected in project management committees was concerned. He noted that this then affected, often negatively, who was employed to the committees, often without regard for professional qualifications. Having the wrong person in the committees had a negative

impact on the performance of projects. This appears to be true for Ghana but there is need to domesticate a study in Kenya hence the need for the present study.

2.4 Project Management Committees' Social Capital and Performance of Water

Projects

Social capital is defined as the networks of relationships among people who live and work in a particular society, enabling that society to function effectively (Eschura, 2009). Having projects carried out on the ground brings about the practice of expeditious decision making by virtue of centralized planning, budgeting and decision making on the ground, (Eschura, 2009). This gives an assurance of having the programs liberated from any external influence that then impact a project by unbearable local considerations. It gives the autonomous unit the liberty to run its affairs without undue influence from the central government. This enables expeditious service delivery, realization of the local community interests and greater achievements without being bogged down by slow bureaucratic processes from the central government.

Huugu, (2010) in a study of social capital and its relationship to performance of projects in Zambia noted that competence in the local knowledge and the information residing in the minds of the local officials gives legitimacy to local considerations in decision making. Local participation by project management committee lends accuracy to the development. Further, the study noted that the local population is always at hand to input ideas and feelings as regards projects and what impact they have on their lives as a populace and the overall prioritization of needs with regard to service delivery. The risk of failure is curtailed

and minimized because the local population works hard to ensure that the projects are successful. It also infuses a sense of ownership of programs and the capacity to successfully implement them. How this is true for the Kenya set up remains significantly uninvestigated and hence the need for the present study.

IFAD (2009) on their part via a content analysis study also considered the essential dimensions in performance of projects and noted that they were institutional sustainability; household and community resilience to anticipate and adapt to change through clear decision-making processes, collaboration, and management of resources both internal and external to the community, environmental sustainability to maintain a stable resource base, avoidance of overexploitation of renewable resources and preserve biodiversity; and structural change and dimensions of poverty to be addressed through the empowerment of poor and marginalized rural households. They also defined social capital as those resources inherent in social relations which facilitate collective action. Some of the resources cited in Social capital include social networks, shared norms, and social networks of association that represent any group of people who gathers with a common purpose goal. A norm of a culture high in social capital is reciprocity, which encourages bargaining, compromise, and pluralistic politics. Another norm is belief in the equality of citizens, which encourages the formation of cross-cutting groups.

Cleland and Ireland (2013) in their seminal work done in Canada that looked at social capital and its correlation power to project management noted that many developed countries were attuned to social capital as a means to improve project performance. They

noted succinctly that a positive attitude combined with positive feedback among management committees was often the panacea to effective project success. They however noted that in the event this was lacking, it would almost inevitably lead to poor project performance. The extent to which this is true for the Kenyan water projects situation remains significantly uninvestigated and hence the need for the present study.

Many traditional governments believe that social capital is soft management that is undesirable as compared to the hard management that is human capital. Chen et al (2013) in a survey study to examine the link between management factors and project performance found out that many developing countries were more concerned with human capital issues at the expense of social capital to improve project performance. They noted that this was empirically unproductive as one could not do without them. The study noted that from reviews of empirical literature done in many part of Africa, lack of social capital was a major hindrance to project performance across the board. How this is true in Kenya needs thorough investigation and is the reason for the present study.

2.5 Project Management Committee Leadership and Performance of Water Projects

Bass (1985) in his seminal work on leadership in politics is considered to be one of the fathers of leadership conceptualization particularly after he famously defined a leader as someone who motivates others to do more than they initially thought possible. He further asserted that leaders clearly understand and contrive a paradigm of awareness that permits followers to be empowered with necessary resources that leads to desirable results and equips them with the mechanism to attain goals. He noted that without proper leadership,

organizational or even project success would be a pipe dream. There is however need to link leadership style with project performance.

Van Bogaert et al, (2014) on his part noted succinctly that leadership is about exerting positive influence on people from whom an implementation of a particular task is desired. It is important to note that, hitherto, confusion regarding the dissimilarity between leaders and managers has persisted. However, recently scholar have syncretized the two issues with a helpful observation that one who is effectively a leader is one who operationally has a managerial part in any entity (Van Bogaert et al, 2014; Dignam et al, 2012).

Bushra et al (2011) explored the manner in which efficacious leadership skills could be used to get up performance of projects. Firstly, they said that, proper leadership would work to improve staff agility which is about the speed with which staff are able to change and conform to different organizational situations. This would in turn reduce costs and hindrances that confront projects over time. The agile mind is important because it builds confidence and assurance of staff about their capability to perform at their peak. Then, leadership skills that are proper enhance decision-making which is necessary for the proper development of projects. Employees always need to feel empowered and that their best efforts are both seen and rewarded. Thirdly, leadership skills help in talent retention and succession planning; twin aspects that when effectively employed improves performance of projects.

Cummings and Stafford, (2010) went a step further and argued that only transformational leadership can help in improving projects and enhancing the overall wellbeing of project performance in terms of cost and schedules and the quality of works. Theories have been adduced on leadership with behavioral, trait and contingency theory being currently considered as traditional and which put the behavior and the situational elements confronting a leader at the helm of leadership conceptualization. However, Avolio and Bass (1998) postulated the tenets of transformational leadership and noted that its inspirational and motivational nature is what is needed in the present leadership dispensation.

Hargis et al (2011) noted that transactional leadership is about influencing followers based mainly on the offering of rewards and the meting out of punishment. It is supervisory in nature and performance oriented and significantly lacks in motivation, passion and inspiration. On the other hand, the much-recommended transformational leadership is concerned with inspiration and motivation of people to accomplish tasks and change the situation. This in itself is important because how far transformational leadership has been used to influence project performance remains significantly unknown and research on the matter remains very scanty. The present study will be useful to ascertain how far transformational leadership has been used and how far it has helped improve water projects performance.

2.6 Theoretical Framework

Coordination theory, Transformational leadership theory and social networks theory are the three theories applied in this study as they related to the philosophy of project performance and management.

2.6.1 Coordination Theory

Coordination theory is one model that was significantly espoused by Crowston, (1997) and which proposed that organizational hindrances can be understood if all the unit forces and obstacles to goals are considered. The theory argues that there must always be a system where all organizational resources are harnessed efficiently to work out organizational problems in a collaborative and interactive way. Crowston, (1997) basically described coordination theory as a set of principles regarding the actions and actors who are instrumental in the progress of goals in a harmonious way.

In trying to expand this theory, Espinoza, Lerch, and Kraut (2004) tacitly noted that shared knowledge is an integral part of this theory as it formulates a mechanism that can be used to build coordination. Kotlarsky, vanFenema, and Willcocks (2008) on their part asserted that the use of organizational designs and structures, social and human capital mechanisms and operational methods would enhance coordination. Also, that a culture of project ownership, sense of responsibility from each individual and dependency is key to liberating the citizenry from dependency syndrome (Verma, 2015). In a culture where there is prevailing social capital reciprocity, a critical cultural norm which encourages negotiation, bargaining, compromise and pluralistic engagements is often present.

This theory becomes relevant to the study because, the elements of human capital are predicated on resources that can be harnessed harmoniously so that the proper management of a project can be actualized. The issues of training and skills among others are important forces that when synchronized could build a good framework for progress.

2.6.2 Transformational Leadership Theory

This study also anchored its variables to transformational leadership as postulated by Avolio and Bass (1998). The theory is concerned with inspiration and motivation of people to accomplish tasks and change the situation. Transformational leadership is anchored on charisma of the leader to inspire the people he/she influences to do the best they can with the available resources within their disposal. This theory is an improvement to a host of other leadership theories that include contingency theory, trait theory, behavioral leadership theories and the transactional leadership theory.

Hargis et al (2011) noted that transformational leadership is particularly divested from transactional leadership which is about influencing followers based mainly on the offering of rewards and the meting out of punishment. It is supervisory in nature and performance oriented and significantly lacks in motivation, passion and inspiration. Clearly, and based on research, transactional leadership seems not to work anymore and hence the recommendation for transformational leadership. Also, the elucidation of the leadership theories has confirmed that times really do change based on the changing innovations, business environment and knowledge among other factors. This means also that the way a manager should interact with staff has also changed from simply rewarding and punishing to inspiring and motivating if project performance is to be realized. Wilcox (2012) almost

in summary noted that leadership styles seem to be an overriding aspect among management skills on offer. It is about exerting positive influence on people from whom an implementation of a particular task is desired. Consequently, getting proper skilling in leadership lends sufficient management capital that could be used to improve organizational or project performance.

Bearing in mind that one of the central variables of the present study is on leadership styles, the reviewed theory becomes directly relevant to the study. If project management committee members are to be instrumental in the success of water projects, they would need to both interact with and implement transformational leadership.

2.6.3 Social Network Theory

Social network theory is simply about the interrelations that constitute social links and norms that play out among people within a community or organism called organization. According to Wasserman and Faust (1999) it is not merely one that seeks to identify one social construct but one that links all aspects of the social wellbeing of persons working to achieve a certain goal. Across social network studies, the actors or the nodes have been variously defined as individuals, groups, companies, or even countries. The relationship or tie is a flow of resources that can be material or non-material (Wasserman & Faust 1999, p. 4). The resources might include social support, emotional support, companionship, time, information, expertise, money, business transactions, shared activity, and so on.

Wellman, Carrington, and Hall (1988) characterized social network theory not so much as competing directly with other approaches to identifying causality as reformulating basic questions but one that is anchored on the need to improve performance within social networks.

The social networks theory is relevant to the present study considering that social capital of the PMC is one of the study's variables. The fact that the members have inherent social status and that they live within social norms and contexts makes social networks theory a stable theory to espouse the tenets of the present review.

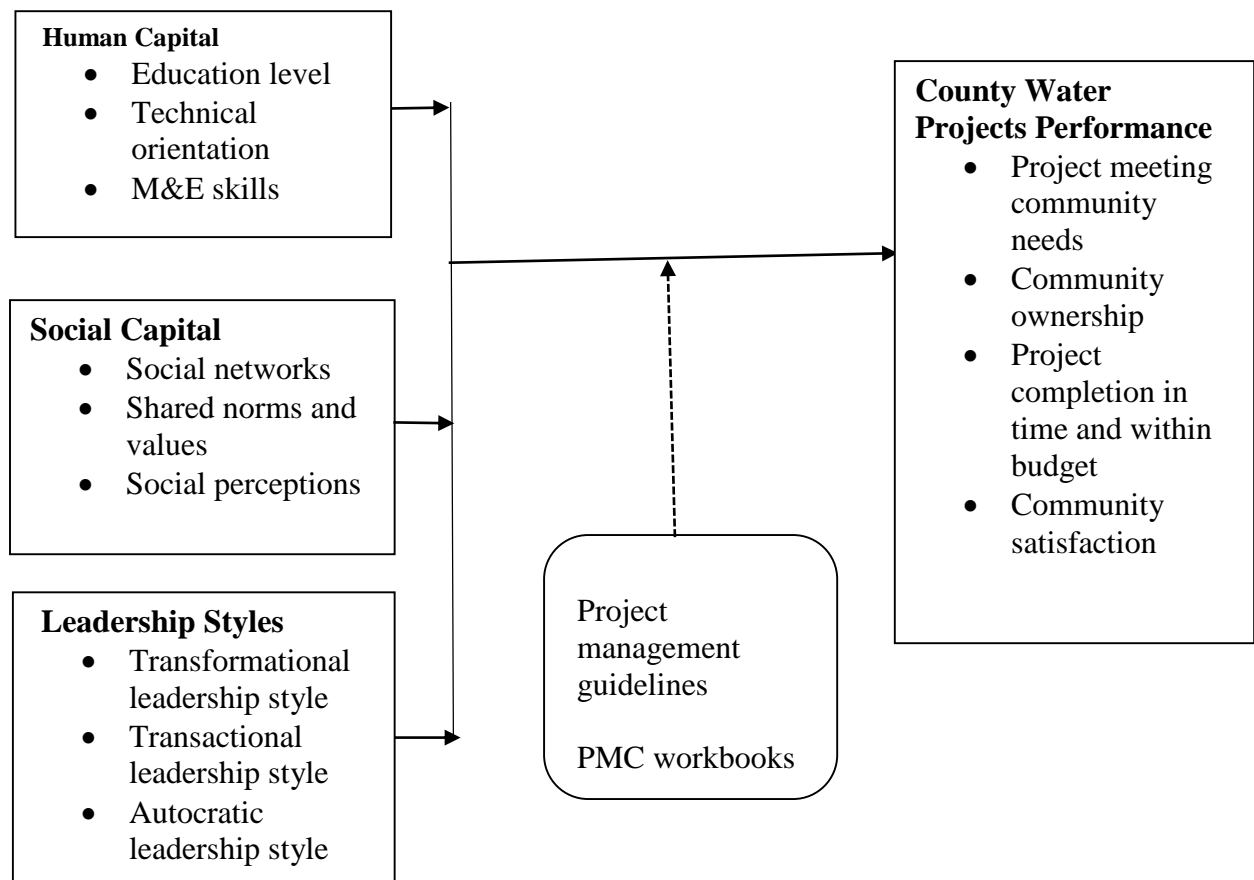
2.7 Conceptual Framework

The research relates the involvement of project management committees' factors (Human capital, Social capital and leadership styles) (*Independent variables*) with performance of water projects (*dependent variable*). The conceptual framework highlights the link between human capital, social capital and leadership styles and how they could have either a positive or negative influence on performance of water projects.

Independent Variables

Dependent

Variables



Moderating Variables

Figure 2.1: Conceptual Framework

2.8 Summary of Literature Reviewed.

Project management research is still in its early stages. While much research has been devoted to critical success factors, not many studies have been focused on finding alternative frameworks that allow us to understand why projects fail and what can be done about it (Sausser et al, 2009). Chen et al (2013) had mentioned that generally, project success depends on a host of aspects enacted by committees put in charge to implement them. They mentioned human capital, social capital, leadership ability, management commitment,

availability of resources, community participation among other issues. on Community participation, the World Bank (2004) had noted that it contributed to project's success in the Mediterranean countries. A related study conducted in India on management of water resources also observed that public involvement is an important aspect on projects decentralization because it involves different stakeholders (UNESCO, 2015).

2.9 The Study Knowledge Gaps

Table 2.1 The Summary of The Knowledge gaps in Research

Author	Focus of the Study	Methodology used	Findings	Gap in Knowledge	Focus of current Study
Khan (2014)	<i>A Guidebook on Results Based Monitoring and Evaluation: Key Concepts, Issues and Applications</i>	Descriptive survey, regression and correlation	Middle level governments were not involved in management commitments due to lack of competence, corruption and sufficient resources.	1. The study did not consider other important aspects like leadership style and social capital	1. This study considered all the aspects of leadership style and social capital
Cohen and Palmer (2013)	<i>Project risk identification and management</i>	Descriptive, Correlational design using regression and correlations	Project Training, cost and time were important components for the successful implementation of projects	1. Aspects salient like leadership style and social capital missing	1. offered the link between the said factors and water projects performance
Cheng et al (2013)	Implementing a new Performance Management System within a Project-based Organization	Descriptive and inferential methods	There were efficiency problems occasioned by lack of human capital and low budgetary allocation	1. The study did not however consider social capital 2. It was done in in a more urbanized area	1. The study considered social capital 2. It looked at the semi-urban Context
Mbogori (2014)	women involvement in management of community projects	Descriptive survey	The need to involve stakeholders in all participation aspects	1. The study did not look at other aspects 2. The study was only descriptive survey	1. This study looked at 3 more aspects

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter specified the nature of the research design and the population to be studied. It covers the research design, population, sampling frame, sample and sampling techniques, instruments, data collection procedure and data processing and analysis. The critical population in this study will be the project management committees, however in order to enhance this study, water project beneficiaries will be interviewed using interview guides. Questionnaires, interview guides and focus group discussions were used for data collection.

3.2 Research Design

This study adopted a descriptive research design. Bryman and Bell (2003) asserted that descriptive design intends to acquire sufficient information from respondents predicated on their attitudes and perceptions about the issues under study. Research design is the general plan of how one goes about answering the research questions (Creswell, 2003). This design is analytical and often singles out a particular subject and goes into detail in describing them. This research design helped in gaining information about the influence that PMC factors have in the County funded water projects in Kibwezi East, Makueni County. It determined the relationship between the variables; human capital, social capital, leadership styles and water projects' performance in Kibwezi East, Makueni County.

3.3 Target Population

Kothari (2004) described population as the entire group of individuals or items under consideration in any field of inquiry and have a common attribute. Kibwezi East had a total population of 131,720 persons (KNBS,1999) and water project population of 80 (2013-17) County funded water projects, every water project had seven (7) project management committees. The target population for this study was 452 members constituting 240 water project management committee members, 200 representatives of water project beneficiaries from across the four wards in the sub county, 10 county government officials and 2 non-governmental organizations.

3.4 Sample and Sampling Procedure

A sample constitutes a category of respondents derived from a study target population and the consequent selection via scientific means of this sample is what sampling procedure is about (Mugenda and Mugenda, 2006).

3.4.1. Sample Size

An optimum sample is one that is neither excessively large nor too small and which fulfills the requirements of efficiency, representativeness, reliability and flexibility (Kothari,2004, p.56). A proportionate sample size of respondents was selected using a stratified random sampling technique from the identified sample. According to Morgan and Krejcie (1970) chart, a sample size of 124 PMC respondents was targeted. On the 200 beneficiaries, there were 10 focus discussion groups of 20 each bringing the total to 200 beneficiary representatives. 10 County government officials and 2 non-governmental organizations were purposively selected to enrich this study.

Table 3.1: Sample Size

Category	Population	Sample Size Determination	Sample Size
PMC	240	Krejcie & Morgan (1970) calculator	124
Beneficiaries	200	10 FGD groups of 20 each	200
Key Informants	12	100%	12
Total	452		336

3.4.2 Sampling Procedure

The study used both random and purposive sampling methods. This is because the study population was not homogenous as it comprised of water projects from various wards. This helped in identifying sub-groups in the target population and as a result the researcher studied the properties of each sub-group with ease. Information was sought from two non-governmental organizations that work in the region which was also purposively selected. County government administration and water officers were also interviewed.

3.5 Research Instruments

The instruments used in this study included questionnaires, interview guides, and focus group discussions. Primary data was collected by the use of questionnaires, interview guides and focus group discussions. Personal interviews were used because they allowed for face-to-face contact with the respondents thus enabling provision of in-depth data. The questionnaires and interview guides had sections consisting of questions on demographic characteristics, human capital, social capital and leadership styles together with water project performance.

The questionnaire used open and close ended questions in likert scale which was instrumental in getting the perceptions and attitudes of the respondents in line with the research design. The questionnaires and interview guides had sections consisting of questions on demographic characteristics, aspects of human capital, social capital and leadership styles. Secondary data was obtained from literature sources or data collected by other people for some other purposes. Review of published literature such as journals articles, published theses and textbooks was very useful. These sources were reviewed to give insight in the search for primary information.

3.5.1 Piloting the Research Instruments

The pilot sample consisted of 3 project management committees' members of 2 water projects. Mugenda and Mugenda suggest that the piloting sample should be 1 to 10% of study sample depending on the study sample size. (Mugenda and Mugenda, 1999). The piloting was done in Ivingoni/Nzambani ward, one of the wards in the sub county, for project management committees of major water projects in the town and government officials including technical staff and administration who are stakeholders in the project management process. Piloting was necessary to remove vague and repetitive questions in an elaborate and orderly manner (Mugenda and Mugenda,1999).

3.6. Validity of the Instruments

The construct of validity is about the level or extent in which the measuring instruments (questionnaires) ascertain in measurement the exact and intended designations in the variables (Kothari, 2014). For the purposes of the present study, Content validity, is best as it shows the suitability of the samples in the instruments and considers the actual aspects

that need to be measured in the present study. To therefore ascertain content validity, the research supervisor was used to check the instruments and advised on suitability or validity of the said instruments and feedback was used to revise the instruments accordingly.

3.7. Reliability of Research Instruments

Here, Reliability is about the extent to which the measuring instruments (questionnaires) that measure the variables offer results that are repeatable and dependable (Kothari, 2014). To calculate reliability coefficient (Pearson Correlation Coefficient), on this scale, a correlation of 0.9 (90%) would indicate a very high correlation (good reliability) and a value of 0.7 < 0.8 and above constitute acceptable reliability (Nachmias and Nachmias 1996). Based on the results a reliability score of 0.788 was realized marking an acceptable reliability score. Reliability was enhanced through split half method where half of the respondents were taken through the instruments.

3.8 Data Collection Procedure

The researcher sought authority from NACOSTI after the proposal approval and an introductory letter from the University of Nairobi department of Extramural Studies. The researcher with the assistance of research assistants then, booked appointments with the key informants, beneficiaries and PMC members and gave the questionnaires to them.

3.9 Data Analysis Techniques

Data collected was analyzed using both quantitative and qualitative methods with the help of (SPSS). Data processing was carried out through editing, coding and classification. Content analysis was employed to analyze the qualitative data whereas simple statistical

methods, regression and correlation analysis were utilized to analyze the quantitative data by aid of SPSS Software. The Pearson correlation and regression analysis were applied to establish the relationship of the variables at 5% level of significance.

Hypothesis H₁: project management committees' human capital does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County

Water projects' performance = f (project management committees' human capital)

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Hypothesis H₂: project management committees' social capital does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County

Water projects' performance = f (project management committees' social capital)

$$Y = \beta_0 + \beta_2 X_2 + \varepsilon$$

Hypothesis H₁: project management committees' leadership style does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County

Water projects' performance = f (project management committees' leadership style)

$$Y = \beta_0 + \beta_3 X_3 + \varepsilon$$

3.10 Ethical Considerations of the study

This research made certain that all ethical considerations were followed. They included seeking permission from respondents, maintaining confidentiality, integrity and anonymity. The study also made certain that data was only used for academic purposes.

3.11 Operationalization of Variables

Table 3.2: Operationalization of Variables

Research Objectives	Variable	Indicators	Data Collection	Scale	Level of Analysis
To establish the extent to which project management committees' human capital influence water projects' performance in Kibwezi East Sub County	Human Capital	<ul style="list-style-type: none"> • Level of education • Technical issues • M&E skills 	Questionnaires, Interviews and FGD	<ul style="list-style-type: none"> • Nominal • Ordinal • Ratio 	<ul style="list-style-type: none"> • Frequencies • Percentages • Regression • Correlation analysis
To establish the extent to which project management committees' social capital influence water projects' performance	Social Capital	<ul style="list-style-type: none"> • Social Network • Social norm and values • Perception 	Questionnaires, Interviews and FGD	<ul style="list-style-type: none"> • Nominal • Ordinal • Ratio 	<ul style="list-style-type: none"> • Frequencies • Percentages • Regression • Correlation analysis

in Kibwezi East Sub County					
To establish the extent to which project management committees' leadership style influence water projects' performance in Kibwezi East Sub County	Leadership style	<ul style="list-style-type: none"> • transformational • transactional • autocratic 	Questionnaires, Interviews and FGD	<ul style="list-style-type: none"> • Nominal • Ordinal • Ratio 	<ul style="list-style-type: none"> • Frequencies • Percentages • Regression • Correlation analysis
Water projects' performance in Kibwezi West.	Performance	<ul style="list-style-type: none"> • Time • Quality • Cost 	Questionnaires, Interviews and FGD	<ul style="list-style-type: none"> • Nominal • Ordinal • Ratio 	<ul style="list-style-type: none"> • Frequencies • Percentages • Regression • Correlation analysis

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.0. Introduction

This section offers an elaborate presentation of the data analysis, findings of the study, and providing interpretation and discussion of the findings. The chapter presents the questionnaire return rate, findings, interpretation, and discussion on the demographic information and respondents profiles. The chapter also includes findings, interpretation, and discussion on the four objectives; the extent to which project management committees' human capital influence water projects' performance; The contribution of project management committees' social capital on water projects' performance; and the influence of project management committees' leadership styles on the water projects' performance

4.1 Questionnaire return rate

During the study a total of 124 questionnaires were administered to project management committees and all questionnaires were returned. This represents a 100% return rate which is acceptable according to Kothari (2004) who mentioned that it is ideal to get all sampled respondents for greater reliability and credibility of the study. Also, all the 12 key informants, and the 200 beneficiaries from the 10 focused group discussions were acquired and responses received from them.

4.2. Administrative units

The respondents resided in various wards and sub wards as shown in tables 4. 1 & 4.2.

Table 4.1: Respondents residency by ward

Ward	Frequency	Percent
Thange	31	25.0
Masongaleni	33	26.6
Ivi/Nzambani	30	24.2
Mtito Andei	30	24.2
Total	124	100.0

From the results from Table 4.1 it is clearly evident that more respondents at 26.6% were from Masongaleni followed by 25.0% from Thange and the rest at 24.2% a piece from Ivi/Nzambani and Mtito Andei. This implies that the study managed to get a substantial number of PMC officials from all the wards and this is important as it improves the reliability of the results considering that water projects are strewn across all the wards and their input is important. Also, the result suggests that there was no opportunity for bias considering all the wards were substantively represented.

Table 4.2: Respondents residency by sub ward

Sub ward	Frequency	Percent
Kinyambu	11	8.9
Utithi	20	16.1
Kyumani	6	4.8
Mukaange	27	21.8
Nzambani	20	16.1
Nthongoni	10	8.1
Kambu	14	11.3
Mtito Andei	16	12.9
Total	124	100.0

From Table 4.2 it is clearly evident that the respondents were well represented in all the sub wards with a significant percentage at 21.8% coming from Mukaange sub ward and the rest strewn across the whole expanse of the sub wards. This implies again that the results are reliable and free from bias considering that all sub wards were represented.

4.3. Demographic information and respondents profile

The demographic information of the respondents was based on age, gender, level of education, duration of being a resident of the area, respondent’s position on the water committee.

4.3.1. Age Results

The results based on age were received and are as recorded in table 4.3.

Table 4.3 Age Results

Age bracket	Frequency	Percent
30-39	4	3.2
40-49	40	32.3
50 and above	79	63.7
No response	1	0.8
Total	124	100.0

Table 4.3 indicates that out of 124 respondents 79 (63.7%) were 50 years and above, 40 (32.3%) were 40-49 years, 4 (3.2%) ranged from 30-39 years whereas 1 (0.8%) respondent did not disclose their age. The results indicate that a majority of the respondents aged above 40 years thus the data was collected from people with a vast knowledge and experience base. This result is also important as Cheng et al (2013) had noted that the credibility of

any information about management constructs require that the respondents be mature enough in terms of age to comprehend succinctly the issues involved.

4.3.2. The Dispersal of respondents by gender

Results on the gender of the respondents were as shown in table 4.4.

Table 4.4 Distribution of Respondents by Gender

Gender	Frequency	Percent
Male	74	59.7
Female	50	40.3
Total	124	100.0

Table 4.4 indicates that majority of the respondents 74 (59.7%) were male while 50 (40.3%) were female. Most of the project management committees are men, majority of those who showed up were also men. This is in line with the assertions by Mbogori (2014) that most county government projects management are dominated by men and that this should not necessarily be the case considering the constitutions mandate for a balanced managerial place for both genders.

4.3.3. Respondents level of education

Respondents were asked to indicate the level of education that they had achieved and the responses were as recorded in table 4.5.

Table 4.5: Education level of the respondents

Education Level	Frequency	Percent
Diploma	5	4.0
Masters	9	7.3
PhD	1	0.8
Secondary/Primary/None	109	87.9
Total	124	100.0

From table 4.6, results show that majority of the respondents 109 (87.9%) had only attained secondary level, primary school or had no formal education. 9 (7.3%) of the respondents had attained a master’s degree while 5 (4.0%) had pursued a diploma and 1 (0.8%) respondent had attained a PhD degree. The higher percentage of respondents had no tertiary level education this could be attributed to the fact that there is no minimum qualification for project management committees. The level of education here is also in line with reviewed literature that showed that most PMCs are not sufficiently educated and could present the implication that the negative water projects’ performance could be attributed to the low level of education by PMCs (Mbogori, 2014; Chen et al, 2013).

4.3.4. Duration of residence

From the study, respondents’ duration as residence of Kibwezi east sub-county was as indicated in table 4.6.

Table 4.6: Respondents duration of residence

Residency in years	Frequency	Percent
3- 4 years	2	1.6
4-5 years	7	5.6
5 and above years	115	92.7
Total	124	100.0

Table 4.6 summarizes how long the respondents have been living in the study area. 115 (92.7%) of the respondents have been residents for 5 years and above, 7 (5.6%) have lived in the study area for 4-5 years while 2 (1.6%) have been residents for 3-4 years. Since a majority of the respondents have lived in Kibwezi east for a long period of time, the residents were knowledgeable about the water projects' performance within the study area.

4.3.5. Duration of existence of the water committee

Given the various water committees in the study area, the respondents were asked how old their respective water committees were and responded as indicated in table 4.7.

Table 4.7: How old is the water committee

Length in years	Frequency	Percent
1-2 years	2	1.6
3-4 years	49	39.5
4-5 years	73	58.9
Total	124	100.0

Based on the various water committees within Kibwezi East sub county, table 4.8 shows how long they have existed. For 73 (58.9%) respondents, their respective water committees have been existing for 4-5 years, 49 (39.5%) have been in existence for 3-4 years and 2 (1.6%) respondents their respective water committees are 1-2 years old. This implies that the water committees had been in existence for a significant number of years enough to offer the study both credible and in-depth information relevant to fully understand the performance of those projects. Cleland and Ireland (2013) had mentioned that the credibility and trustworthiness of any review depends largely on the respondents' experience with the aspects of the said review. This result clearly shows that factors as spoken by Cleland and Ireland (2013) in their seminal work on project management.

4.3.6. Respondents position on the water committee

This section presents the position held by respondents within various water committees as per various water projects. See the actual results as presented in table 4.8.

Table 4.8: Respondents position on the water committee

Position	Frequency	Percent
Chairperson	1	0.8
Treasurer	1	0.8
Vice chairperson	26	21.0
Vice secretary	22	17.7
Member	73	58.9
No response	1	0.8
Total	124	100.0

Table 4.8 shows the various positions held by the respondents in their respective water committees. Out of 124 respondents, 73 (58.9%) were members, 26 (21.0%) held the vice chairperson position, 22 (17.7%) served as vice secretaries, 1 (0.8%) as a treasurer, 1 (0.8%) was a chairperson while 1 (0.8%) did not respond to the question. This was important in studying leadership aspects of the project management committee. The results show that the study captured all the leadership positions of the PMC and thus speaks to the leadership style employed and the credibility of the results particularly when speaking to the leadership style and how it has influenced water projects' performance in the sub county.

4.3.7. Respondent service term in respective water committee position

This section shows results on how long respondents served in their respective water committee positions as presented in table 4.9.

Table 4.9: Length of service in the water committee

Length of service in years	Frequency	Percent
1-2 years	2	1.6
3-4 years	44	35.5
4-5 years	71	57.3
5 and above years	3	2.4
No response	4	3.2
Total	124	100.0

Table 4.10 presents that 71 (57.3%) have served for 4-5 years, 44 (35.5%) have served in the committee for 3-4 years, 2 (1.6%) have been in the committee for 1-2 years while 3 (2.4%) have served for 5 and above years. 4 (3.2%) did not respond. This shows that most of the respondents were familiar with the project depending on the number of years they were in the committee.

4.4 County water project performance

County water project performance was the dependent variable in this study. Based on existing literature and theories, the following indicators were considered to measure the performance of county water project; extent to which the project meeting community needs, community ownership of the project, completion of the project and community satisfaction. To measure the performance of county water project, a self-administered questionnaire with eight (8) items based on the above indicators was subjected to the respondents. The questionnaires focused on a five-point likert scale ranging from Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly Disagree (SD). Table 4.10 shows the Frequencies (F), Percentages (%), Mean (M) and Standard Deviation (SD) for county water project performance.

Table 4.10 Water projects' performance

Parameter	S.A F %	A F %	N F %	D F %	S.D F %	M	S.D
Project meeting community needs							
10a The project has shortened distance to nearest water source	69 (55.6)	38 (30.6)	11 (8.9)	6 (4.8)	(0)	4.37	0.841
10b The project economically improved the beneficiaries lives	51 (41.1)	46 (37.1)	12 (9.7)	15 (12.1)	(0)	4.07	0.997
Community ownership							
10c The community donated land for the project	81 (65.3)	31 (25.0)	7 (5.6)	3 (2.4)	2 (1.6)	4.50	0.841
10d The community fully owns the project	64 (51.6)	38 (30.6)	9 (7.3)	7 (5.6)	4 (3.2)	4.24	1.037
Project completion							
10e The project was completed in time	33 (26.6)	36 (29.0)	23 (18.5)	14 (11.3)	18 (14.5)	3.42	1.374
10f The project was adequately funded by the county government	55 (44.4)	31 (25.0)	21 (16.9)	13 (10.5)	4 (3.2)	3.97	1.154
Community satisfaction							
10g The project was implemented as per the bill of quantities	39 (31.5)	24 (19.4)	36 (29.0)	12 (9.7)	13 (10.5)	3.52	1.310
10h Project management committees are fully involved in project implementation	54 (43.5)	59 (47.6)	5 (4.0)	1 (0.8)	5 (4.0)	4.26	0.901
Total Scores						4.04	1.057
N = 124							
Composite Mean = 4.04							
Standard Deviation = 0.626							

Table 4.10 indicates a composite mean of 4.04 and standard deviation of 1.057. This implies that the planning, implementation and completion of water projects within the set time and budget led to community satisfaction and project success. This is also agreed to by the representatives of the beneficiaries through the FGDs and the Key informants. Both

of them agreed that in the event the water projects are completed on time and within budget, it was inevitable that everyone would be satisfied. However, from the reviews it was clear that the reverse is also true. This assertion is agreed to in literature with Chong (2010) having observed that an understanding of performance of projects in the public service is multi-pronged and measures such as timely completion, costs and quality were some of the notable ones.

Item 10a sought to investigate if the project had shortened the distance to nearest water source. Majority of the respondents 69 (55.6%) strongly agreed that the distance to the nearest water source has been shortened (mean of 4.37; standard deviation 0.841). This suggests that the water projects had improved accessibility for the residents who were the direct beneficiaries of the water projects. This result was significantly concurred by the beneficiaries via the FGD and the key informants. They all basically agreed that one positive element of the water project performance was improved accessibility by shortening the distance to water. This result is important and is in concurrence also with IFAD (2009) who had mentioned that a measure of water project performance has got to do with improved accessibility and that when this is achieved, any water project can be said to have better performance.

Item 10b established the extent to which the project economically improves the beneficiaries' lives. The results indicate that a majority 51 (41.1%) strongly agreed with the statement with a mean of 4.07 and standard deviation of 0.997. This implies that the water projects were instrumental in getting the economic lives of the beneficiaries off to a good start. This result was also agreed to by both the beneficiaries via the FGD and the key

informants who noted that having access to water powered many of their small business and reduced the operating costs that existed when the water was far away. This is also in line with available literature considering the assertions by Chen et al (2013) that part of a savvy and effective water project is the improvement of the standards of living and economic health of its primary beneficiaries.

Item 10c shows results on whether the community donated land for the project. 81 (65.3%) strongly agreed that the community donated land for the project. This implies that the community was highly invested in the performance of the water projects judging from their willingness to offer land for water project construction. The beneficiaries via the FGD and the key informants in concurrence mentioned this to be true. The beneficiaries however complained that they felt often left out on certain significant decision-making processes as far as the water project management was concerned. This last bit is significant considering that Adan (2012) argued that that if performance of any operational indicator is to succeed, then stakeholder participation must be considered. He also noted that often the general public were never involved in the initiation and implementation of the process, so much so that often the implementation always ran into problems of lack of buy-in.

Item 10d indicates the results on the ownership of the project by the community. When asked if the community fully owned the project, 64 (51.6%) strongly agreed with the statement with a mean of 4.24 and standard deviation 1.037. This implies that the community was considered valuable by the PMCs in the ownership of the water projects. However, the beneficiaries through their FGD contradicted this assertion by noting that inasmuch as they knew they owned the projects significantly, they were often left out of

the decision making process. This again agrees with Adan (2012) who mentioned that the efficient performance of any project must be premised not only on actual ownership but perceived ownership which involves participation in all spheres of the project operations. This result shows a lapse in the area of involvement of the beneficiaries inasmuch as the PMCs felt the beneficiaries owned the projects to begin with.

Item 10e indicates results on whether the project was completed in time. Majority of the respondents 36 (29%) agreed and based on the reliable mean and SD results. This implies that the time aspect of the projects according to the PMCs was on point. However, the beneficiaries had a very different opinion on the matter. Many noted that the water projects were never completed on time. This is totally in agreement with Richard et al, (2010) assertions that in the event there are problems with the performance of any public service project; issue like cost, time and quality, citizens were often the first to complain; and of course, they were entitled to for those aspects are necessary to ascertain the performance of the said projects.

Item 10f sought to establish whether the project was adequately funded by the county government. Majority 55 (44.4%) strongly agreed that the county government adequately funded the project. This implies that as far as the PMCs were concerned, there was sufficient funds provided by the county government to complete the projects. However, the beneficiaries had, again, a very different opinion on the matter. Many noted that the water projects were never completed on time because of what they perceived to be insufficient funds and others felt the presence of embezzlement of funds hampered the completion of

the water projects. Klingebiel and Rammer (2011) showed that resources are important for the general wellbeing of any organization.

Item 10g shows the response on the implementation of the project as per the bill of quantities. Most of the respondents 39 (31.5) strongly agreed that the project was implemented as per the bill of quantities based on the mean and SD results. This implies that as far as the PMCs were concerned, the county government were judiciously guided by the bills of quantities to complete the projects. However, the beneficiaries had, again, a very different opinion on the matter. Many noted that the water projects were never completed judiciously guided by the bills of quantities. This further suggests that there was concern about the cost of the projects and an implication that it exceeded what was initially stipulated. Lemarleni, (2017) showed that there was both positive and significant correlations between cost and project performance. Sturdiest and positive correlations were gotten out of keeping to costs in general and this was overshadowed by financial resource coupled with strategy resource allocation. Technological resource together with human resources also recorded robust and positive correlations.

Item 10h sought to establish the extent to which project management committees were fully involved in project implementation. Majority 59 (47.6%) agreed that the management committees were fully involved. This implies that the PMCs felt that their involvement was positive and significant. This is a positive indication considering that Adan (2012) had also mentioned that participation is key if the performance of projects is to be positive.

4.5 Human Capital and Water Project Performance

Human capital was an independent variable in this study. This section sought to answer the objective which was to establish the degree to which project management committees' human capital influence water projects' performance in Kibwezi East Sub County. The result is as seen in Table 4.12. Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly Disagree (SD). Table 4.11 shows the Frequencies (F), Percentages (%), Mean (M) and Standard Deviation (SD) for human capital.

Table 4.11 Human Capital and Water Project Performance

Parameter	S.A F %	A F %	N F %	D F %	S.D F %	M	S.D
Education level							
11a Committee members have low level of education	15 (12.1)	56 (45.2)	36 (29.0)	12 (9.7)	(0)	3.62	0.834
11b Committee members are unable to read to understand and write clearly	25 (20.2)	66 (53.2)	25 (20.2)	2 (1.6)	(0)	3.97	0.703
11c Committee members are committed to increase their level of education	44 (35.5)	61 (49.2)	8 (6.5)	3 (2.4)	1 (0.8)	4.23	0.759
Technical orientation							
11d Committee members possess the required water management skills	18 (14.5)	46 (37.1)	15 (12.1)	37 (29.8)	3 (2.4)	3.33	1.143
11e Technical skills are externally sourced to support the water committees	35 (28.2)	62 (50.0)	10 (8.1)	9 (7.3)	1 (0.8)	4.03	0.880
11f Committee members embrace technical capacity building	56 (45.2)	55 (44.4)	3 (2.4)	2 (1.6)	3 (2.4)	4.34	0.826
M&E skills							
11g Water committee members are trained on M&E practices	11 (8.9)	18 (14.5)	6 (4.8)	54 (43.5)	33 (26.6)	2.34	1.271
11h M&E results inform decision making by the water committee	28 (22.6)	35 (28.2)	6 (4.8)	36 (29.0)	19 (15.3)	3.14	1.445
Total scores						3.63	0.983

With regard to human capital, table 4.12 indicates that the overall composite mean was 3.63 with a standard deviation of 0.983. This indicates that there is a significant level of education among members of the committee, technical orientation, motivation and monitoring and evaluation capabilities of the project management committee. However, whether the level is positive or negative would be gleaned in the succeeding results.

Item 11a sought to investigate if the community members had an inadequate level of education. Majority of the respondents 56 (45.2%) strongly agreed that the community members had good level of education with a mean of 3.62 and standard deviation of 0.834. However, based on the demographics results, it is clearly evident that the level of education of the PMCs was not satisfactory. Boonstra (2013) described the necessity to enhance technical and social with the capability of the management committee to participate in any endeavor. He noted that education was an empowering indicator that allowed the management committee to meaningfully participate in decision-making. He however noted that inversely, the lack of education created a problem for management committee to participate and manage.

Item 11b established the extent to which committee members were unable to read, understand and write clearly. The results indicate that a majority 66 (53.2%) strongly agreed with the statement. This implies that the community members had literacy challenges which clearly could hamper their participation in and management of water projects. In the FGD with beneficiaries, it was clear that they felt that part of the reason for improper monitoring and evaluation of projects was the low literacy levels of the PMCs.

The key informants on their part mentioned that they had initiated efforts to motivate the PMCs to improve their literacy levels if they were to later significantly engage with the water projects.

Item 11c shows results on committee members' commitment to increase their level of education. 61 (49.2%) agreed that the community members were committed to increase their level of education with a mean of 4.23 and standard deviation of 0.759. This is a positive indication of the realization of the low education levels and the need to then improve it. Dignam (2011) emphasized in his study, necessity of having an educational level that allows for proper acquisition of skills for better work.

Item 11d indicates the results on committee members possessing the required water management skills. When asked if the community possess the required skills, majority 46 (37.1%) disagreed with the statement. This implies that the community members had water management challenges which clearly could hamper their participation in and management of water projects. In the FGD with beneficiaries, it was clear that they felt that part of the reason for improper monitoring and evaluation of projects was the low education levels of the PMCs and their inability to comprehend the issues involved in managing the water projects. The assertions by the beneficiaries is significant considering that Mbogori (2014) had noted similar results in his study in Narok County.

Item 11e indicates results whether technical skills are externally sourced to support water committees. Majority of the respondents 62 (50%) agreed. This implies that there appeared to be limitations inherent in the PMCs human capital enough for counties to source technical skills elsewhere. The beneficiaries and key informants recommended the

outsourcing mentioning that otherwise water projects performance would be irrevocably hampered if left on the PMCs alone. This is of course an indictment on the PMCs ability to manage water projects. Seligman and Csikszentmihalyi, (2010) had noted that the skills and knowledge that a worker gains through education and experience constitutes human capital and one must have them in abundance if the quality of works is to be realized.

Item 11f sought to establish whether the committee members had embraced technical capacity building. Majority 56 (45.2%) strongly disagreed with the statement. This again gives the implication that the PMCs had challenges in their technical capacity to deal with water projects. Seligman and Csikszentmihalyi, (2010) defined human capital as the embodiment of the knowledge, talent, and experience of employees and can also be related to the primary component of intellectual capital. Looking also at the beneficiaries and key informants' response on the matter, it is clearly evident that PMCs lack significantly the technical capacity and could thus be said to have limited human capital.

Item 11g examined whether water committee members were trained on M&E practices. Most of the respondents 54 (43.5%) disagreed when asked on training on water committee members on M & E practices. This implies that M&E training was lacking and this was concurred to by the beneficiaries and key informants' based on their response on the matter. This is agreed to in literature as Vanessa and Gala, (2011) had observed that the technical capacity of the organization in conducting evaluations, the value and participation of its human resources in the policymaking procedure, their incentive to impact resolutions, can be enormous determinants of how the evaluation's lessons are made, conversed and

perceived. This is tied also to Item 11h that sought to establish whether M&E results informed decision making by the water committee. Majority 36 (29%) disagreed with the statement. This lack of M&E training and use is significant to show where gaps in water project performance lies.

4.6 Social capital and Water projects' performance

Social capital was an independent variable in this study. This was to answer objective two which was to establish the extent to which project management committees' human capital influence water projects' performance in Kibwezi East Sub County The results are viewed in Table 4.13.

Table 4.12 shows the Frequencies (F), Percentages (%), Mean (M) and Standard Deviation (SD) for social capital.

Table 4.12 Social Capital and Water projects' performance

Parameter	S.A F %	A F %	N F %	D F %	S.D F %	M	S.D
Social networks							
12a Committees upholds working with others with similar mindset	52 (41.9)	59 (47.6)	5 (2.4)	3 (2.4)	(0)	4.28	0.87 3
12b Committees encourage constructive feedback and criticism	42 (33.9)	74 (59.7)	1 (0.8)	1 (0.8)	(0)	4.31	0.60 9
12c Committee support other community development initiatives	48 (38.7)	68 (54.8)	2 (1.6)	(0)	(0)	4.37	0.58 2
Shared norms and values							
12d Common values guide interaction among committee members	62 (50.0)	49 (39.5)	6 (4.8)	1 (0.8)	(0)	4.46	0.63 6
12e There is respect and decorum among committee members	58 (46.8)	58 (46.8)	2 (1.6)	(0)	(0)	4.47	0.53 4
12f Committee operation is strengthened by profound team work	70 (56.5)	47 (37.9)	1 (0.8)	(0)	(0)	4.58	0.51 2
Social perception							
12g There is trust and ownership among committee members	60 (48.4)	56 (45.2)	1 (0.8)	1 (0.8)	0	4.48	0.56 6
12h High sense of integrity defines the committee's operation	52 (41.9)	61 (49.2)	2 (1.6)	1 (0.8)	(0)	4.41	0.57 6
12i Members are motivated to belong and participate in the committee's activities	56 (45.2)	55 (44.4)	5 (4.0)	1 (0.8)	1 (0.8)	4.39	0.69 2
Total Scores						4.42	0.62
N = 124							
Composite Mean = 4.42							
Standard deviation = 0.62							

With regard to social capital, Table 4.12 indicates that the overall composite mean was 3.63 with a standard deviation of 0.983. These results indicate that shared norms, values, attitude and mindset of the county project management committee greatly influenced how committees managed the projects.

Item 12a sought to investigate if the committees upheld working with others with similar mindset. Majority of the respondents 59 (47.6%) agreed that the committee upheld working with others. This implies that the PMC had a teamwork mentality. However, the beneficiaries felt otherwise judging by how they perceived the water projects management to be going. They noted that they felt a lack of cohesiveness among the PMCs due to what they perceived to be poor water projects management. Social capital entails social network, shared norms and values amongst project committee members and beneficiaries, peoples' attitude towards development and the social institutions in a project environment. It can also be defined as the networks of relationships among people who live and work in a particular society, enabling that society to function effectively (Eschura, 2009). It is clearly evident in this result that the PMCs were not meeting the standards that define social capital based on the available definition.

Item 12b established the extent to which the committees encouraged constructive feedback and criticism. The results indicate that a majority 74 (59.7%) agreed that the committee encouraged constructive feedback. The feedback is important for monitoring and evaluation and would imply better project performance. However, the beneficiaries had a different take on this matter. They noted that often they could not access the PMCs for consultation and as a result any feedback options were moot. Huugu, (2010) had observed that local participation and feedback mechanisms by project management committee lends accuracy to the development. Further, the study noted that the local population is always at hand to input ideas and feelings as regards projects and what impact they have on their lives as a populace and the overall prioritization of needs with regard to service delivery.

The risk of failure is curtailed and minimized because the local population works hard to ensure that the projects are successful. It also infuses a sense of ownership of programs and the capacity to successfully implement them. The lack of all these essentials means that potentially the water projects could be hampered.

Item 12c shows results on committee support to other community development initiatives. Majority 68 (54.8%) agreed that the committee supports other community development initiatives. This implies that there was a support and collaborative structure between the PMC and the beneficiaries. This is disagreed to by the beneficiaries and especially the key informants who noted that because of the low education levels by PMCs whatever collaborative efforts that were there were often less meaningful. This result falls within the auspices of the coordination theory that anchors the study and which noted that coordination and collaboration were important elements for project success and that without it projects would be hampered.

Item 12d indicates the results on the extent to which common values guided interaction among committee members. Majority 62 (50%) strongly agreed that common values guide interaction among committee members. again, this is disagreed to by the beneficiaries and especially the key informants who noted that because of the low education levels by PMCs whatever integrative efforts that were there were often less meaningful. This result falls within the auspices of the coordination theory that anchors the study and which noted that coordination and collaboration were important elements for project success and that without it projects would be hampered.

Item 12e indicates results whether there was respect and decorum among committee members. Majority of the respondents 58 (46.8) strongly agreed. This is also tied to Item 12f that sought to establish whether the committee operation was strengthened by profound team work. Majority 70 (56.5%) strongly agreed with the statement with a mean of 4.58 and standard deviation of 0.512. This implies that the PMC had a teamwork mentality. However, the beneficiaries felt otherwise judging by how they perceived the water projects management to be going. They noted that they felt a lack of cohesiveness among the PMCs due to what they perceived to be poor water projects management.

Item 12g examined whether there was trust and ownership among committee members. Most of the respondents 60 (48.4%) strongly agreed with the statement. This implies that the community was considered valuable by the PMCs in the ownership of the water projects. However, the beneficiaries through their FGD contradicted this assertion by noting that inasmuch as they knew they owned the projects significantly, they were often left out of the decision making process. This again agrees with Adan (2012) who mentioned that the efficient performance of any project must be premised not only on actual ownership but perceived ownership which involves participation in all spheres of the project operations. This result shows a lapse in the area of involvement of the beneficiaries inasmuch as the PMCs felt the beneficiaries owned the projects to begin with.

Item 12h sought to establish if a high sense of integrity defined the committee's operation. Majority 61 (49.2%) agreed with the statement. This implies that there was a feeling of integrity among the PMCs. it should be noted that from previous results, the beneficiaries

disagreed with this assertion when they mentioned their suspicions for embezzlement of funds based on the unfinished water projects. Also, Item 12i examined members' motivation to belong and participate in the committee's activities. Majority 56 (45.2%) strongly agreed that members were motivated to belong and participate in the committee's activities. However, based on the low level of education they possess it can be deduced that more training would enhance their motivation to participate (Verma, 2015).

4.7 Project management committee leadership style and performance of Water projects

Project management committee leadership style and water projects' performance was an independent variable in this study. This section answered objective three which was to investigate the influence of project management committees' leadership style in performance of water project in Kibwezi East sub county, Makueni County. See the results in table 4.13. Table 4.13 shows the Frequencies (F), Percentages (%), Mean (M) and Standard Deviation (SD) for project management committee leadership style and water projects' performance.

Table 4.13: Leadership Style and Water projects' performance

Parameter	S.A F %	A F %	N F %	D F %	S.D F %	M	S.D
Transformation leadership style							
13a PMC leaders appreciate differing perceptions when resolving problems	47 (37.9)	77 (62.1)	(0)	(0)	(0)	4.38	0.487
13b PMC leaders offer alternative best ways of working	54 (43.5)	65 (52.4)	2 (1.6)	1 (0.8)	2 (1.6)	4.35	0.712
13c PMC leaders provide a convincing vision for the projects future	56 (45.2)	65 (52.4)	3 (2.4)	(0)	(0)	4.43	0.544
Transactional leadership style							
13d PMC leaders appreciate when good work is accomplished	78 (62.9)	45 (36.3)	1 (0.8)	(0)	(0)	4.60	0.582
13e PMC leaders set performance standards and focus on achievement	49 (39.5)	67 (54.0)	4 (3.2)	2 (1.6)	(0)	4.34	0.625
13f PMCs focus is on delivery of high quality products	67 (54.0)	50 (40.3)	1 (0.8)	2 (1.6)	(0)	4.50	0.686
Autocratic leadership							
13g PMC leaders make decision without consultation	5 (4.0)	11 (8.9)	7 (5.6)	72 (58.1)	27 (21.8)	2.14	0.998
13h PMC leaders delegate responsibility to others	35 (28.2)	63 (50.8)	7 (5.6)	13 (10.5)	2 (1.6)	3.97	0.970
13i PMC leaders control over other members and rarely consider their suggestions	16 (12.9)	16 (12.9)	6 (4.8)	54 (43.5)	30 (24.2)	2.46	1.343
Total scores						3.91	0.772
N = 124							
Composite Mean = 3.91							
Standard deviation = 0.772							

With regard to project management committee leadership style and water projects' performance, table 4.13 indicates that the overall composite mean was 3.91 with a standard deviation of 0.772. This shows that the individuals elected from amongst the project beneficiaries to ensure smooth implementation and sustainability of the project depending on the leadership style used have the ability to guide and give direction to the other project

beneficiaries, can have good communication skills, can motivate others, take on responsibilities and give feedback on the various things that need to be communicated.

Item 13a sought to investigate if PMC leaders appreciated differing perceptions when resolving problems. Majority of the respondents 77 (62.1%) agreed that the PMC leaders appreciated differing perceptions when it came to resolving problems with a mean of 4.38 and standard deviation of 0.487. This implies that the PMCs employed transformational leadership in their leadership. This is strongly disagreed to by the beneficiaries who noted that lack of feedback and consultative forums between them and the PMC was testament enough for poor leadership on the PMCs part. This is agreed to in literature, for instance, Bass (1985) in his seminal work on leadership in politics is considered to be one of the fathers of leadership conceptualization particularly after he famously defined a leader as someone who motivates others to do more than they initially thought possible. He further asserted that leaders clearly understand and contrive a paradigm of awareness that permits followers to be empowered with necessary resources that leads to desirable results and equips them with the mechanism to attain goals. He noted that without proper leadership, organizational or even project success would be a pipe dream.

Item 13b established whether PMC leaders offered alternative best ways of working. The results indicate that a majority 65 (52.4%) agreed. This was tied to the other queries as Item 13c showed results on PMC leaders providing a convincing vision or the projects future. Majority 65 (52.4%) agreed that the PMC leaders had been providing a convincing vision for the projects future with a mean of 4.43 and standard deviation of 0.544. On whether the

PMC leaders appreciated when good work was accomplished. Majority 78 (62.9%) strongly agreed with the statement with a mean of 4.6 and standard deviation 0.582. On whether PMC leaders set performance standards and focused on environment, majority of the respondents 67 (54%) agreed. All these again implies that the PMCs employed transformational leadership in their leadership. This is strongly disagreed to by the beneficiaries who noted that lack of feedback and consultative forums between them and the PMC was testament enough for poor leadership on the PMCs part.

For elaborative purposes literature gives pointers to effective leadership that is sought for by the beneficiaries. Bushra et al (2011) explored the manner in which efficacious leadership skills could be used to get up performance of projects. Firstly, they said that, proper leadership would work to improve staff agility which is about the speed with which staff are able to change and conform to different organizational situations. This would in turn reduce costs and hindrances that confront projects over time. The agile mind is important because it builds confidence and assurance of staff about their capability to perform at their peak. Then, leadership skills that are proper enhances decision-making which is necessary for the proper development of projects. Employees always need to feel empowered and that their best efforts are both seen and rewarded. Thirdly, leadership skills help in talent retention and succession planning; twin aspects that when effectively employed improves performance of projects.

Item 13f sought to establish whether PMC focused on delivery of high quality, majority 67 (54%) strongly agreed with the statement. Also, Item 13g examined whether PMC leaders made decision without consultation. Most of the respondents 72 (58.1%) strongly disagreed with the statement with a mean of 2.14 and standard deviation 0.998. This was also tied to whether PMCs delegated responsibility to others. Majority 63 (50.8%) agreed with the statement with a mean of 3.97 and standard deviation of 0.97. Finally, on whether PMC controlled other members and rarely considered their suggestions. Majority 54 (43.5%) strongly disagreed with a mean of 2.46 and standard deviation of 1.343. The beneficiaries had a different opinion on all these results as they indicated that the PMCs used some form of transactional leadership style and a tint of autocratic leadership based on the reward and punishment method they employed.

Cummings and Stafford, (2010) on their part were bold enough to assert that only transformational leadership can effectively improve project performance for better business growth. Before Avolio and Bass (1998) inaugurated transformational leadership, there existed behavioral leadership theories that were premised on stimuli controlling style of leadership. Hargis et al (2011) noted that transactional leadership is about influencing followers based mainly on the offering of rewards and the meting out of punishment. It is supervisory in nature and performance oriented and significantly lacks in motivation, passion and inspiration. On the other hand, the much-recommended transformational leadership is concerned with inspiration and motivation of people to accomplish tasks and change the situation.

4.8 Correlation Analysis

Pearson's Correlation Analysis was employed to compute the significant value of the relationship between the independent variables and the dependent variables. At this point, summative scales were calculated to present both regression and correlation results. The results is as seen on Tables 4.14, 4.15 and 4.16

Table 4.14 Correlations Analysis for Human Capital and Performance

		Performance	Human Capital
Performance	Pearson Correlation	1	
	Sig. (2-tailed)		
Human Capital	N	124	
	Pearson Correlation	.526**	1
	Sig. (2-tailed)	.000	
	N	124	124

Calculating from summative scales, the measures of the correlation analysis were computed for all the variables of the study. The research analytics scholar Wong and Hiew (2005) calculated that whatever correlation coefficient value (r) that is within the parameters of 0.10 to 0.29 must be interpreted as weak, whatever score is within 0.30 to 0.49 perimeter must be interpreted as medium and that score that is within the 0.50 to 1.0 perimeter must be interpreted as a strong value. Nonetheless, and to add value to correlation understanding, Field (2005), observed that the correlation coefficient should be 0.8 or below to keep multi collinearity hiccups at bay. In this study, the multi collinearity problem is absent as the correlation coefficient which the highest mark is at 0.603 which is below the 0.8 mark. Human capital possessed a correlation score of ($r=0.526$ $p < 0.01$), exposed

that human capital had a positive relationship with performance and that its result was significant in a statistical sense following a 95% confidence interval level 2-tailed.

Table 4.15 Correlations Analysis for Social Capital and Performance

		Performance	Social Capital
Performance	Pearson		
	Correlation	1	
	Sig. (2-tailed)		
	N	124	
Social Capital	Pearson		
	Correlation	.516**	1
	Sig. (2-tailed)	.000	
	N	124	124

From Table 4.15, social capital possessed a correlation score of ($r=0.516$ $p < 0.01$), showed that social capital had a positive relationship with performance and that its result was significant in a statistical sense following a 95% confidence interval level 2-tailed. This is supported by Chen et al (2013) who mentioned that social capital is both relevant and useful for projects' performance anywhere in the world.

Table 4.16 Correlations Analysis for Leadership Style and Performance

		Performance	Social Capital
Performance	Pearson Correlation	1	
	Sig. (2-tailed)		
Leadership Style	N	124	
	Pearson Correlation	.603**	1
	Sig. (2-tailed)	.000	
	N	124	124

From Table 4.16, leadership style possessed the greatest correlation score of ($r=0.603$, $p<0.01$) showing that that leadership style had a positive relationship with performance and that its result was significant in a statistical sense following a 95% confidence interval level 2-tailed. This is supported by Wilcox (2013) who mentioned that leadership is paramount to the progress of organizational wellbeing to which the success of projects is a part.

4.9 Regression Analysis

The study measuring paradigms were principally quantitative in nature and consequently regression analysis was the most fitting tool to use. The predictive power of the independent variables on the dependent variable is the motive behind the use of regression. The results are seen in the following tables

4.9.1 Regression analysis for Hypotheses One

Hypothesis H₁: Stated that project management committees' human capital does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County

Water projects' performance = f (project management committees' human capital)

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Table 4.17 Model Summary^b for Human Capital

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.652 ^a	.618	.611	.116

a. Predictors: (Constant), Human capital

b. Dependent Variable: water projects' performance

From Table 4.17 the score attributed to the R value is .652 which is implicative of a positive direction of the regression results. Fundamentally, R is the correlation of the range between the observed and predicted values that portray the dependent variable and they range from -1 to 1 (Wong and Hiew, 2005). Further, the coefficient of determination score of the R² value was 0.611. This shows clearly that 61.1 per cent of the adjustment that characterize the dependent variable (water projects' performance) was explained and predicted by independent variable (Human capital).

Table 4.18 ANOVA^b for Human Capital

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	262.813	5	57.096	95.391	.000 ^a
	Residual	13.878	224	.684		
	Total	276.691	229			

a. Predictors: (Constant), Human capital

b. Dependent Variable: water projects' performance

The result for the F-statistics ($F = 95.391$) showed a positive significance in a statistical sense at 5 per cent level ($\text{Sig. } F < 0.05$), which consequently confirms the fitness of the model and hence, Human capital posts a statistically significant influence on water projects' performance

Table 4.19 Regression Coefficient for Human Capital

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.707	.341	.259	7.618	.000
	Human Capital	.351	.159	.353	5.911	.000

a. Dependent Variable: water projects' performance

Primarily, the results as evident in Table 4.19, shows the produced t-value of constant ($t = 7.618$) as significant statistically at .000 per cent level ($\text{Sig. } F < 0.05$), which again confirms that the regression model is fit. Which implies that, there is statistically significant influence of Human capital on water projects' performance. Further, based on the Beta or regression coefficients, and the fact that its p-value is below 0.05, the variable, Human capital had a statistically positive influence on water projects' performance

4.9.2 Regression analysis for Hypotheses Two

Hypothesis H₂: Stated that project management committees' social capital does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County

Water projects' performance = f (project management committees' social capital)

$$Y = \beta_0 + \beta_2 X_2 + \varepsilon$$

Table 4.20 Model Summary^b for Social Capital

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.567	.526	.519	.106

a. Predictors: (Constant), Social capital

b. Dependent Variable: water projects' performance

From Table 4.20 the score attributed to the R value is .567 which is implicative of a positive direction of the regression results. Further, the coefficient of determination score that is the R² posted a score of 0.519. This can be interpreted that 51.9 per cent of the adjustment in dependent variable (water projects' performance) was explained and predicted by independent variable (social capital).

Table 4.21 ANOVA^b For Social Capital

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	212.913	3	57.006	76.301	.000 ^a
	Residual	13.118	214	.654		
	Total	226.031	217			

a. Predictors: (Constant), Social capital

Table 4.21 ANOVA^b For Social Capital

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	212.913	3	57.006	76.301	.000 ^a
	Residual	13.118	214	.654		
	Total	226.031	217			

b. Dependent Variable: water projects' performance

The result for the F-statistics (F = 76.301) was significant at 5 per cent level (Sig. F < 0.05), which consequently confirms the fitness of the model and hence, there is statistically significant influence of social capital on water projects' performance

Table 4.22 Regression Coefficient for Social Capital

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.567	.381	.249	7.009	.000
	Social Capital	.258	.051	.153	2.586	.004

a. Dependent Variable: water projects' performance

Primarily, the results as evident in Table 4.22, shows the produced t-value of constant (t = 7.009) as significant statistically at .000 per cent level (Sig. F < 0.05), which again confirms that the model is fit. Which implies that, there is statistically significant influence of social capital on water projects' performance. Further, based on the Beta or regression coefficients, and the fact that its p-value is below 0.05, the variable, social capital had a statistically positive influence on water projects' performance

4.9.2 Regression analysis for Hypotheses Three

Hypothesis H₂: Stated that project management committees' leadership style does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County

Water projects' performance = f (project management committees' leadership style)

$$Y = \beta_0 + \beta_3 X_3 + \varepsilon$$

Table 4.23 Model Summary^b for Leadership Style

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.667	.646	.633	.155

a. Predictors: (Constant), Leadership Style

b. Dependent Variable: water projects' performance

From Table 4.23 the score attributed to the R value is .667 which is implicative of a positive direction of the regression results. Further, the coefficient of determination score of the R² value was 0.633. This can be interpreted that 63.3 per cent of the adjustment in dependent variable (water projects' performance) was explained and predicted by independent variable (leadership style).

Table 4.24 ANOVA^b For Leadership Style

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	234.567	3	68.908	102.789	.000 ^a
	Residual	16.789	234	.598		
	Total	251.356	237			

a. Predictors: (Constant), Leadership Style

b. Dependent Variable: water projects' performance

The result for the F-statistics ($F = 102.789$) was significant statistically which consequently confirms the that the model is fit and hence, there is statistically significant influence of leadership style on water projects' performance

Table 4.25 Regression Coefficient for Leadership Style

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.717	.291	.297	7.231	.000
	Social Capital	.339	.069	.312	5.169	.005

a. Dependent Variable: water projects' performance

Primarily, the results as evident in Table 4.25, shows the produced t-value of constant ($t = 7.231$) as significant and the model can thus be confirmed to be fit. Which implies that, there is statistically significant influence of leadership style on water projects' performance. Further, based on the Beta or regression coefficients, and the fact that its p-value is below 0.05, the variable, leadership style had a statistically positive influence on water projects' performance.

In summary, based on the hypotheses testing results, both from the correlations and the regression analyses, all the hypotheses are hereby rejected (Project management committees' human capital, social capital and leadership style have a significant influence on water projects' performance)

4.10 Summary of the Chapter

The analysis from the study shows that water projects' performance in Kibwezi East Sub County was influenced by project management committee human capital, social capital and leadership styles albeit differently. Project management committee member's level of education, technical orientation, monitoring and evaluation skills significantly influenced water projects' performance. Social networks, shared norms and values and social perceptions also played a big role in the water projects' performance. It was also evident that most project management committee leaders were not transformational leaders but more transactional.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter presents summary of findings, conclusions and recommendations of the study. It summarizes the results which were obtained from the analysis of the data collected. This section also presents suggestions for further studies. The aim of the study was to establish the influence of project management committees on water projects' performance in Kibwezi East Sub county, Makueni county Kenya, Kenya.

5.2 Summary of Findings

The first hypothesis stated that project management committees' human capital does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County. On this human capital posted a correlation score of (0.526 $p < 0.01$) and regression results ($\beta = .353$, $t = 5.911$, $p < 0.004$). This is an indication that human capital had a statistically significant influence on water projects' performance.

The second hypothesis stated that project management committees' social capital does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County. Here social capital posted a correlation score of ($r = 0.516$ $p < 0.01$) and regression results ($\beta = .153$, $t = 2.586$, $p < 0.001$). This is an indication that social capital had a statistically significant influence on water projects' performance.

The third hypothesis stated that project management committees' leadership style does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County. Here leadership style posted a correlation score of ($r= 0.603$ $p< 0.01$) and regression results ($\beta=.312$, $t=5.169$, $p<0.001$). This is an indication that leadership style had a statistically significant influence on water projects' performance.

Table 5.1 Summary of Hypotheses Testing Results

Hypotheses	Correlation Values	Conclusion
H ₀₁ : project management committees' human capital does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County	$r=0.526$, $p< 0.01$	Rejected
H ₀₂ : project management committees' social capital does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County	$r=0.516$, $p< 0.01$	Rejected
H ₀₃ : project management committees' leadership style does not have significant influence on water projects' performance in Kibwezi East sub county, Makueni County	$r=0.603$, $p< 0.01$	Rejected

5.3 Conclusion of the Study

Premised on the research objectives and the findings of the study, the following are the derived conclusions. Based on the first objective, the PMC were not adequately educated and trained sufficiently to effectively deal with the management of water projects. they also did not have the technical capacity to understand the workings of the water projects forcing the county to seek outsourcing options for management gaps. Basically, the human capital of the PMC was wanting in so far as equipping them for better management of water projects was concerned. It can thus be concluded that inadequate PMC human capital had a significantly negative influence on the water projects' performance in Kibwezi East sub county, Makueni County.

Based on the second objective, the PMC had significantly low social connections and relationships which hampered their management of water projects. There were also gaps in the social networks needed for cohesiveness of the PMC and the beneficiaries for better water project management. It can thus be concluded that inadequate PMC social capital had a significantly negative influence on the water projects' performance in Kibwezi East sub county, Makueni County.

Based on the third objective, the PMC style of leadership was largely transactional and partly autocratic. This is evidenced by the beneficiaries and key informants' assertions that the PMC used the stick and carrot method to get their way. It can thus be concluded that weak PMC leadership style had a significantly negative influence on the water projects' performance in Kibwezi East sub county, Makueni County.

5.4 Recommendations of the Study

Consequently, as a result of the objectives and conclusions, this study recommends;

The Project Management Committee members should enroll into training and skilling workshops and seminars to help in their acquisition of competence that would serve them in their water projects management. The training should be in-service to induce knowledge on-the-job. There can be a training curriculum on basic project management and monitoring skills.

The Project Management Committee members should introduce consistent consultative forums with the beneficiaries of the projects to get the beneficiaries' opinions and offer quality feedback. They should also build their social capital by building a conducive organizational culture that motivates and seeks the best-fit management model for the water projects.

The Project Management Committee members should employ the use of transformational leadership style that is both charismatic and inspirational to improve their water management and consequently improve the water projects' performance.

The County of Makueni should introduce legal frameworks including policies and laws that strengthens the qualifications of the PMCs and improves the interactions between the PMC and the water projects' beneficiaries. This would help to improve the overall water projects' performance in terms of cost, time of completion and quality of projects.

5.5 Recommendations for future Research

This study recommends that future research be investigated in the succeeding matters:

The Challenges facing the implementation of water projects in Makueni County

Factors influencing sustainability of Water Projects in Makueni County

There is need to look at other counties in Kenya as the present study cannot purport to have covered the characteristics in other counties.

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APPENDIX I: Letter of Transmittal

REDEMPTA KAVINDU
P.O BOX 78-90300

MAKUENI

Dear Sir/Madam,

RE: Transmittal Letter

I am a post graduate student from the University of Nairobi pursuing a master of Arts in Project Planning and Management. As part of the university requirements for the award of the degree, I am carrying out a study on *“Influence of Project Management Committee factors on the water projects’ performance in Kenya: A case of Kibwezi East Sub County, Makueni County.”*

This study is for academic purposes but will be useful to both National and County governments, NGOs, Faith-Based organizations and all agencies involved in development projects.

Your participation in the exercise is voluntary and you are free to seek clarification where you do not understand.

Information provided will be treated with utmost confidentiality and will be used for academic purposes only the privacy of the respondent will be maintained.

I am therefore kindly requesting you to participate in the study by providing answers to questions asked to you.

Thank you in advance

Yours Faithfully,
Redempta Kavindu

APPENDIX II: QUESTIONNAIRE FOR THE WATER COMMITTEE

This questionnaire is designed to gather information regarding on influence of project management factors on the water projects' performance in Kibwezi East sub county, Kenya. The questionnaire contains eight sections A, B, C, D, E, F, G and H. For each section, respond to all items using by ticking [] the correct choice or by providing the relevant information.

SECTION A: PERSONAL INFORMATION

This section contains items on personal profile of water committees members. Kindly tick appropriately on the provided space.

1. Please indicate your WardSub ward
Village.....
2. Name(Optional) Contact
.....(Optional)
3. Please indicate your gender
(a) Female ()
(b) Male ()
4. What is your age bracket?
(a) Below 30 years () (c) 40 – 49 years ()
(b) 30 – 39 years () (d) 50 years and above ()
5. What is your highest level of education?
(a) Diploma () (d) Masters ()
(b) Post graduate dip () (e) PHD ()
(c) Bachelor's degree () (e) None ()
6. How long have you been a resident of Makueni County?
(a) 1 and below years () (d) 3 – 4 years ()
(b) 1 – 2 years () (e) 4 – 5 years ()
(c) 2 -3 years () (e) 5 and above years ()
7. Please indicate your position in the committee
(a) Chairperson () (d) Vice chairperson ()
(b) Secretary () (e) Vice secretary ()
(c) Treasurer () (e) Member ()
8. How old is the committee?
(a) 1 and below years () (d) 3 – 4 years ()
(b) 1 – 2 years () (e) 4 – 5 years ()

- (c) 2 -3 years () (e) 5 and above years ()
9. How long have you served in the committee?
- (a) 1 and below years () (d) 3 – 4 years ()
- (b) 1 – 2 years () (e) 4 – 5 years ()
- (c) 2 -3 years () (e) 5 and above years ()

SECTION B: County Water Projects Performance

1. In your own understanding and or judgement, kindly rate the following statements using the scale given in the Table

PARAMETERS		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
		1	2	3	4	5
Project meeting community needs						
10a	The project has shortened distance to nearest water source					
10b	The project economically improved the beneficiaries' lives					
Community ownership						
10c	The community donated land for the project					
10d	The community fully owns the project					
Project completion						
10e	The project was completed in time					
10f	The project was adequately funded by the County government					
Community satisfaction						
10g	The project was implemented as per the bill of quantities					
10h	Project management committees are fully involved in project implementation					
TOTAL						

Section C: Human Capital

2. Using your own understanding and or judgement, kindly rate the following statements using the scale given in the Table

	PARAMETERS	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
		5	4	3	2	1
	Education level					
11a	Committee members have good level of education					
11b	Committee members are able to read to understand and write clearly					
11c	Committee members are committed to increase their level of education					
	Technical orientation					
11d	Committee members possess the required water management skills					
11e	Technical skills is externally sourced to support the water committees					
11f	Committee members embrace technical capacity building					
	M&E skills					
11g	Water committee members are trained on M&E practices					
11h	M&E results inform decision making by the water committee					
	TOTAL					

Section D: Social Capital

3. In your own understanding and or judgement, kindly rate the following statements using the scale given in the Table

	PARAMETERS	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
		5	4	3	2	1
	Social networks					
12a	Committees upholds working with others with similar mindset					
12b	Committees encourage constructive feedback and criticism					
12c	Committee support other community development initiatives					
	Shared norms and values					
12d	Common values guide interaction among committee members					
12e	There is respect and decorum among committee members					
12f	Committee operation is strengthened by profound team work					
	Social perceptions					
12g	There is trust and ownership among committee members					
12h	High sense of integrity defines the committee's operations					
12i	Members are motivated to belong and participate in the committee's activities					
	TOTAL					

PART E: Project management committee leadership style and water projects’ performance

4. Using your own understanding and or judgement, kindly rate the following statements using the scale given in the Table

	PARAMETERS	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
		5	4	3	2	1
	Transformational Leadership Style					
13a	PMC leaders appreciate differing perceptions when resolving problems					
13b	PMC leaders offer alternative best ways of working					
13c	PMC leaders provides a convincing vision for the projects future					
	Transactional Leadership Style					
13d	PMC leaders appreciates when good work is accomplished					
13e	PMC leaders sets performance standards and focus on achievement					
13f	PMCs focus is on delivery of high quality products					
	Autocratic leadership style					
13g	PMC leaders makes decision without consultation					
13h	PMC leaders delegate responsibility to others					
13i	PMC leaders control over other members and rarely consider their suggestions					
	TOTAL					

APPENDIX III: FOCUS GROUP DISCUSSION GUIDE

The focused group discussion guide below will help us get more information from project beneficiaries on the Influence of project Management Committee factors on performance of water projects in Kenya.

APPENDIX 3: Focus Group Discussions Guide

This guide has been developed to collect data on the influence of project management committee factors on performance of water projects in Kenya: A case of Kibwezi East Sub County

1. Has this project shortened distance to the nearest water source?-----

2. Has this project economically improved lives of people around?
3. What ways has the community showed ownership of the projects
4. Was the project completed in time?
5. Was the project adequately funded by the County Government?
6. Did the project management committee fully participate in the project implementation?
7. Do PMC members have good level of education?
8. Does the PMC possess the required water management skills?
9. Was the PMC trained on basic monitoring and evaluation skills?
10. Does the committee encourage positive criticisms?
11. Do the committee members possess a high sense of integrity?
12. Is the PMC Leadership visionary?
13. Are the PMC members' problem solvers?
14. Does the PMC leadership regularly consult?
15. In your opinion what should be a PMCs role?
16. What challenges do PMCs face during project implementation?
17. How can PMCs be strengthened?

APPENDIX IV: INTERVIEW GUIDE

This guide has been developed to collect data from government officials and Non-Governmental organizations on the Influence of Project Management committee factors on performance of water projects in Kenya: A case of Kibwezi East Sub County, Makueni County.

1. What is the performance rate of county funded water projects in Kibwezi East Sub County?
2. How have water projects transformed lives of people around project areas?
3. Have water projects been done to the community satisfaction?
4. What is your role in project implementation and performance?
5. How is gender mainstreamed in the project management committees?
6. What major challenges do PMCs face?
7. What are some of the PMC shortcomings?
8. What factors should be considered in selecting PMC Members?
9. How can PMCs be strengthened?
10. In your opinion, are PMC well trained for the management task?