INFLUENCE OF SUSTAINABILITY ON COMMUNITY WATER PROJECTS IN IMENTI SOUTH, MERU COUNTY, KENYA

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A Research Project Report Submitted in Partial Fulfilment of the Requirements for the Award of Degree of Masters of Arts in Project Planning and Management of the University of Nairobi

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DECLARATION

I declare that this research report is my original work and has not been presented to any other institution of learning for an academic award.

Signature ……. Date…….

Michael Mbaabu

L50/16004/2018

This research report is submitted with my approval as the University Supervisor.

Signature…… Date ……

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DEDICATION

I dedicate this research report to my beloved wife Polly Kiende, my daughters Terry Gakii and Tracy Kageni for the encouragement and continued support during the period of report development.

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ABBREVIATIONS AND ACRONYMS

CWP	Community Water Projects
IFAD	International Fund for Agricultural Development
Kshs	Kenya Shillings
M&E	Monitoring and Evaluation
NACOSTI	National Commission for Science, Technology and Innovation
NGOs	Non-Governmental Organization
SPSS	Statistical Package for Social Scientists

ABSTRACT

Sustainability is an aspired outcome for any project. It's a long-term process based on achievement of objectives. It then accelerates the successful performance and fosters change in the area of implementation. Factors under the study included community participation, funding levels, resource availability, and monitoring and evaluation analysis. They formed the research questions for the study and formed the theme for the literature review. The study adopted theories with related knowledge regarding the study topic which were; Mc Cleland Need achievement theory, Freirean theory of dialogue and society and the theory of constraints. Qualitative and quantitative data were used from where the study population included the water beneficiaries, water staff, government officials and the ministry of water officials. Descriptive survey design was adopted on the population targeted. Sampling proportionate random sampling technique was used to collect samples from the targeted population. The targeted population was 135 from which a sample size of 70 drawn to represent. Both open and closed ended questionnaire were administered and filled by the respondents. There were also secondary sources of data like; journals, magazines, books, research papers and articles as well as the internet. Collected data was analysed by method of Statistical Package for Social Scientists (SPSS) and the result findings presented in tables and figures. From the findings, it's clear that community participation affected the ownership of the community water project form which the community people did not even feel the satisfaction in using it. Funding levels was also a concern this is because all projects depend on certain allocated budget to operate in. Therefore with little allocation the project could not sustain some of its operations hence influencing the sustainability. As seen resources were a vital segment in ensuring the project prospered but from the findings there as inadequacy in availability of resources therefore this contributed greatly to some project processes declining the performance. Also the level of monitoring and evaluation analysis was not very well collected because most of the beneficiaries were not involved in the progress of the project as well as timeliness to which the analysis was done was not adequate. The recommendations based on the study findings is that community participation should be highly incorporated since these are the owners of the project as they offer labour as well as contribute in funding and resources. Funding levels should be well allocated in adequacy and early disbursement at early stages. Also for assessment on the progress it was recommended that monitoring should be frequently carried out to avoid any upcoming issues that may affect performance of the project. The conclusion was that there was correlation between the independent and dependent variables on sustainability of community water project in Imenti South.

Key Words: Sustainability of community based water project, Resource availability, Monitoring and Evaluation, Community participation and Funding Level

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The pragmatic literature by (Brundtland, 2005) asserts that sustainability is a ladder to satisfying our wants with focus on needs of generation to come. Sustainability is the capability to continue over duration of time, with little or no damage to the environment the project is operating in (Harvey and Reed, 2002) . From this definition, water supply should remain operational both reliable and available for a long period of time. Always, consumable clean water for human use has been promised but the challenge remains that the water quality is not up to standard this accounting to how much unsustainable sources of water are to the community people.

Projects in the modern world are brought up to cater for a certain need from which positive change is expected and always have a starting time when initiation is done to the finishing time where completion is sought (Banuelas *et al*, 2002). This is to assure achievement of certain goals within the project's boundaries. For any project, sustainability is highly recommended to ensure its continuity for the benefit of the beneficiaries. According to (Oino et al., 2015) despite being highly recommended, it has been a challenge achieving sustainability therefore disturbing the continuity of the project in fulfilment of its objectives to its beneficiaries as expected.

Based on study by (Hutton, 2007), water supply is a very crucial ordinary reserve for the continual of human life. Water projects are therefore initiated to ensure continual flow of water. In my case of water project in Imenti South, water is a crucial resource because most of the beneficiaries in the community recommend its availability being that it is used for irrigation, household chores, and commercial activities among others. When water is used for irrigation and commercial agriculture, productivity is witnessed something that helps improve the livelihood of the community people from the earnings as well as massive food production which boosts the nutrition levels of the people (Shiva, 2006). There's need for available clean water is made available to avoid such diseases as typhoid or cholera among other water borne diseases likely to affect the community hence their performance of work levels reduced. Therefore sustainability of the water project is deemed very necessary so as to ensure all the activities are done satisfactorily by the community beneficiaries.

According to (Haider, 2009) to ensure sustainability of water projects is well catered for; beneficiaries' priorities are taken first in order for them to have a intellect of possession of the

venture which influences their society in a way. Kenya as a developing country has been in many years faced by the challenge of availing clean and reliable water to its people (Postel, 2014). This ends up affecting the sanitation of the people that affects their wellbeing negatively. Therefore sources have been monitored and assessed to ensure security of water due to the changing climate that is mostly on drought trend.

Studies have been carried out and shows that Kenya as part of the sub Saharan countries in the world has scarcity of water which then raises an issue on the continuity of water flow. This therefore raises an alarm in helping monitor, assess and evaluate the available water projects to ensure the peoples water needs are catered for appropriately (Neburacha, 2011). This case of water inadequacy in Meru can be attributed to the poor economic condition experienced and if the present water projects are mishandled or mismanaged, huge costs of maintenance is observed (Kinoti, 2010).

1.2 Statement of the Problem

The experiential literature confirms studies conducted on sustainability of community water projects but still there is unsustainable development leading to poor performance of the projects. Many projects in Kenya are unsustainable (Madrigal, 2011). Hence this makes them unsuccessful for usage to their beneficiaries. Both projects from the government and the NGOs have had been implemented and still not well performing. Therefore this brings in the question whether really there's sustainability.

A study by (Kirigha , 2016) on sustainability of projects does not conclude on the issue of sustainability. Another study by (Onkoba, 2016) on Carolina Kibera projects only focused on sustainability as a community based project. Another study on water project sustainability by (Ngetich, 2009) on water projects only focussed on the expectation of the beneficiaries. Another one by (Mwendwa, 2018) who observed sustainability of community water projects at Kiirua Kathita in Meru County, Kenya only focussed on equitable distribution of water resources and accessibility by the community members.

Furthermore, other projects in the community away from water projects a case of health, agriculture, education have been continuously suggested, others implemented but the objectives they are supposed to impact on their beneficiaries is not felt hence less useful to the community. The studies did not focus on how the community participation, Funding levels, Resource availability and M&E influence the sustainability of community water projects in Imenti south. Therefore, the current study fills the gap by establishing how the community

participation, Funding levels, Resource availability and M&E influence sustainability of community water projects in Imenti south.

1.3 Purpose of the Study

The purpose of this study was to examine influence of sustainability of community water projects in Imenti South.

1.4 Objectives of the Study

The study objectives were:

i. To establish how community participation influence sustainability of community water project in Imenti south.
ii. To identify how funding levels influence the sustainability of community water projects in Imenti south.
iii. To determine how resource availability influence sustainability of community water project in Imenti south.
iv. To examine how monitoring and evaluation data analysis influence sustainability of community water project in Imenti south.

1.5 Research Questions

i. To what extent does community participation influence sustainability of community water project in Imenti south?
ii. To what extent does the level of funding influence sustainability of community water project in Imenti south?
iii. To what extent does resource availability influence sustainability of community water project in Imenti south?
iv. How does monitoring and evaluation data analysis influence sustainability of community water project in Imenti south?

1.6 Significance of the Study

The study was of significance to people directly and indirectly affected by the project. Throughout this research a greater opportunity to identify faced challenges by project implementers were fostered. This helped in providing possible solutions to the various levels of challenges hindering good project performance.

The research was used for referencing purposes by other researches in pursuing their various levels of education as it was with my case to be awarded a master's degree by University of

Nairobi in project planning and management. Significance was sought by various beneficiaries who were in a position to own the project that's within their reach. This came along with an important aspect of participation and togetherness towards working on the same goal for good performance and sustainability.

Projects initiators are at a better position to identify various strategies needed to be included to ensure their projects are sustainable. The government is made aware of the needs of its people for them to be satisfied through incorporation of various strategies. When the needs of the people are identified, awareness is created to the government from which guiding policies are initiated and implemented.

1.7 Delimitation of the Study

This study aimed at determining the influence of sustainability of community water projects in Imenti south. Based on the current study the respondents were the beneficiaries, ministry of water staffs as well as the stakeholders of the projects. It investigated the following factors which were the study variables or objectives; community participation, funding levels, availability of resources, monitoring and evaluation analysis.

1.8 Limitations of the Study

The limitations encountered by the researcher incorporated; the research was only bound to community projects, lack of confidentiality or trust between the researcher and the respondents but this was prevented by administering both open and closed ended questionnaires which gave the respondents the freedom to answer the questions according to their opinion and understanding. The researcher also experienced financial constraints which were curbed by working within the resources provided. Time factor was an issue and from this the researcher was expected to conduct research within the given time frame to avoid incomplete project research.

1.9 Assumptions of the Study

The study assumed that influence of sustainability on community water projects was significant. It was presumed that the study findings were used to generalize other projects undertaken within the communities and assumed they faced similar challenges and that their level of sustainability was similar. The information gathered from the respondents was assumed to be true and unbiased for the questionnaires sake.

1.10 Definition of Significant Terms

Sustainability: Refers to development of long-term implementation of objectives without distressing the goals met for use by the future generations by being durable enough to cater for similar needs over and over again.

Community water project; this is a development attained by a similar unit of people with same traits and needs to offer water for use from which they incorporate objectives to meet their needs.

Community participation; this is the organization composed of people with similar traits and needs that come together to satisfy their need by being involved in implementation of a project.

Funding; this is the aspect of financial capabilities in terms of financial resources, needed during project expenditure to finance a need arising within the project.

Resource availability; this is ensuring readiness of all materials needed in order to accomplish a certain objective.

Monitoring and evaluation; this is the practice of observing and assessing the presentation of an action to ensure it's of good performance and identification of challenges to be sorted for good performance.

1.11 Organization of the Study

The study encompass of 5 chapters with the first one focusing on backdrop information in line with the study. As such, it identifies the main research problem, study's objectives, limitations and delimitations together with establishing study's significance to the field of study among other germane issues. The second one review the studies that have been in print before that narrate to the area of curiosity together with conjectural and intangible frameworks used in the study. The third one highlights the methodology utilized to conduct the study in terms of collecting and analyzing the data and ethical measures observed to ensure that the study was conducted in the accurate way. The fourth one provides the main findings whereas the fifth one concludes the study by summarizing and discussing the findings as well as recommending the areas for further studies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter contains information regarding previously carried studies by other researchers on sustainability. It reviewed past studies in journals, articles, magazines and the internet to be used for the study. It consisted of the empirical framework, theoretical and conceptual framework, critique of the reviewed literature, summary and research gaps.

2.2 Sustainability of Community Water Projects

As defined, sustainability by other researchers simply means a resource being able to be continuously used over time and not getting depleted or destroyed before achieving its anticipated purpose (Abrams, 2018). Sustainability of community water projects therefore means how well the water resources available are maintained in order to benefit the intended community people and for them to be used by the upcoming generation in that community. This therefore makes it be a long-term responsibility to ensure the project is well maintained. This helps in management of available project resources as well as ensures accessible services, continued operations and repair on any faults caused on the project.

Sustainability therefore helps ensure continuity of human being welfare (Pinillos*et al,* 2016). There are reduced disease outbreaks due to quality water availability, increased livelihood, better irrigation skills and reduced child labour experienced in search for water among other water availability benefits. When projects activities are well governed and are sustainable therefore makes the entire project sustainable. For water project to be termed as sustainable there's some indications that really prove it is. Some include adequacy of water, reliable water sources, quality treated water away from any contamination, efficiency and effectiveness. For these indicators therefore to be assured, there must be continual achievement of the project objectives.

In the water and sanitation program –Africa region 2002 identified under its framework based on sustainability, and raised concerns related to community water which are need and demand, program initiation all the way to implementation, active water users who are also the stakeholders in water committees, as well as donors or project sponsors (Water Aid Program, 2010). The program notes that for proper water supply, there are three types of assets needed which are ordinary funds, infrastructure assets and labour which are all financed to ensure sustainability of the projects.

2.3 Influence of Resource Availability and Sustainability of Community Water Project

Resources are of many forms for the success of a project. There are financial resources, raw material as well as human resources which are also the labour. It is very important for any project to ensure there are sufficient resources at all categories within the project for its progress to be successful. Project resources can be attained from the various project donors, the government as well as the stakeholders or the community people willing to contribute.

Despite there being marginalized areas within the continent, there are always resources in that area that needs to be realized to support human kind. Resources are a very critical requirement for any development project and should be cheap and readily available to make their purchase more affordable. Despite the need for their affordability, they should not be exploited so as to compromise the future generations need ability to use them (Engelman, 2013).

A study by (Adek, 2016) on resource availability, showed that lack of sufficient financial resources affected purchase of raw materials required for the implementation of the water project for the devolved county governments a case of Mombasa County in Kenya. Another study by (Santos and Pache, 2015), on factors influencing resource availability in management of NGOs, had the objective of identifying how adequacy and availability influenced the management. The findings from the study showed that financial and human resources are critical for the sustainability of any project intending to perform well to its beneficiaries.

2.4 Influence of Funding Levels and Sustainability of Community Water Project

Funding is the level to which finances or rather financial resources are allocated to a certain activity meant to fulfil an objective that satisfies need of certain people in this case the community. For proper funding of any project there needs to be a budget of the events being undertaken. The budget set along helps in financial management for accountability purposes to show what and where the funds were used at. According to (Mills, 2016) budget is the controller of project activities for accountability and transparency.

Project funding ensures that a project operates within the given budget (Bloch & Blemberg, 2012). The project success lies between its cost and time that when it's recognized to having attained its objectives. It requires accuracy, transparency and honesty in handling costs that ensures easy controls within the projects boundaries. According to (Phillips, 2007), in case of inadequate funds to run a project, the monitoring and evaluation activities end up being disturbed hence not able to meet the project goal of sustainability. For efficiency of the systems

operating within the project, there is need to allocate funds to individual work and this accounts for transparency on how funds have been utilized.

Level of funding greatly influences sustainability of community water projects since its through offered finances resources required for the project continual can be provided to avoid any inadequacy (Karanja, 2014). Financial support is often given by donors, the government or stakeholders who ensure that progress of the project is catered for without any lack of finances. When projects are well funded, some advantageous factors come along like improved technology.

A study conducted by (Jansz, 2011) on a water source in Mozambique's, Niassa province showed that finances really affected the sustainability of community projects this being a conclusion drawn from poor maintenance and repair of the projects activities. This study also extended and found out that assigned stakeholders of the projects very well understood the project but there were inconsistencies in aptitude and proficiency which made the stakeholders go an extra mile in raising and repairing water points because luckily enough there were sufficient technical skills within themselves since those trained had withdrawn.

According to programme for Africa region on water and sanitation 2002, confirms in act No. 13 on community water accessibility, long distance and time consumption in search for water, as well as established maintenance and operations existence, funding and ownership of the projects. Allocation and accountability of projects costs prevent failure of existing project activities ruining its progress for the community water projects. A study by (IRC, 2011)on rural water supplies in Ethiopia and observed that water sustainability is a great concern that needs much attention to be attended to. The study revealed that non-functional facilities affect highly service delivery.

From the (World Vision, 2009) the report shows that most development community project fail to be sustainable since the community has failed to run them after financial supporting bodies withdrew. Also a study conducted by (Ahmad and Mercedes, 2006) on funding of projects in Peru, showed that there was late disbursement of funds towards the progress of the project hence from the findings it showed that due to late funding, there was delay in paying wages, purchasing of raw materials all these leading to poor delivery of labour hence unsustainable project. Not a clear record also was made from how funds were acquired and utilized despite having financial partners, and this led in drawing a conclusion that there was no accountability and transparency in the financial systems.

How committed a community is by provision of financial resources really shows the dedication and commitment towards the sustainability of the whole project (Harvey & Reed, 2006). It is therefore important to incorporate the beneficiary community in raising finances for the project which can be used for capital purchase of equipment, labour and raw materials.

In developing countries a sample of Kenya, there has been poor fiscal decentralization in the devolved system in the counties, which render projects like in the public service for example water, hospital, education among others unavailable to the citizens of the country (De Mello, 2011). When there is no adequate funding on these required projects named earlier, then there leads to poor structures developed which are as a result of delayed disbursement of funds to finance the projects which therefore makes the sustainability of the projects poor (Rodden, 2002). A study carried out by (Ofori, 2013), on time and cost usage in a project, are influenced by the inabilities of those undertaking the processes, poor planning, timeliness, poor risk allocation among others that negatively affect cost and time in a project.

A study in Bolivia on financial allocation towards projects by (Smoke, 2001)showed that there were low budgetary allocations made as well as delayed disbursement of funds delaying the whole process of implementation of the project. He further explained that due to failed financial duty, led to poor implementation of the water projects. This negatively influenced accessibility of water in Bolivia (Faguet, 2004). A study by (Bailetti, 2005)on how funds were made available for the water projects, in Scotland showed that local government had a challenge in offering funds in implementation of water projects.

2.5 Influence of Community Participation and Sustainability of Community Water Project

Participation by community is basically giving the beneficiaries of any project a voice towards what is being implemented to air their views and observations without excluding them in the project implementation process in their community. For the projects stages, each phase requires the community participation to be considered since the input acquired leads to a positive output that really assures sustainability (Sadiqi *et* al 2017).

By giving the project stakeholders or rather the community a voice to air their views and decisions, helps in identifying relevant and sufficient information for the entire project hence improving its level of sustainability. This stakeholder's voice is based on each phase of the project cycle bearing in mind it is a cyclic process that requires different understanding and recognition hence therefore incorporating various community participants to it. There are several times when the community does not have the opportunity to make decisions despite

them being the beneficiaries and this is due to lack of participation capacity. Since a project is implemented with the aim of satisfying a need, it is therefore important to incorporate the community participants, which helps identify the ideal need and its magnitude to the community people hence working with the availed resources (Bryson, 2013).

The interest from the stakeholders allows a project to have a unique and special feature from which the project manager need to conduct a stakeholder analysis to identify their level of relevance and influence towards a project sustainability (Albert, 2007). For an effective and efficient project which is deemed sustainable need to take into consideration community engagement which allows room for detection of any risks within the community, identification of opportunities hence drawing an effective project plan which eventually brings in community project ownership and its success (Marangu, 2012). Community participation fosters togetherness, cooperation and commitment which give room for clear and proper communication, good conflict resolution measures, trust and transparency. This also makes a project competent and successful.

From the community participation these parties do not only make decisions but also bring some sense of accuracy despite presence of technical experts, since their acceptance towards the project really counts. A study by (Nyaguthii & Oyugi , 2013) shows that decision making has been highly incorporated in the project but the implemented decisions sometimes have no consultations hence end up making the project unsustainable. It's therefore important to allow the community participation takes place in order to allow for relevant and sensible information for the success of the project.

With community participation comes in with the ownership of the project since the same community is the beneficiary of the project. It's important to associate with the community members in order to get the arising needs and wants within the project. Community participation helps bring mutual understanding between the stakeholders and the community people which also helps in allocation of responsibilities to the various levels of people. The roles and responsibilities assigned should be clear, true, transparent and with good communication network.

Basically there has been commitment and willingness by the community people to foster togetherness in allocation of resources for the sustainability of the project, therefore, the community participation technique allows them to contribute through provision of labour, resources as well as financial support. From this there is community building created due to

availability of human resource, technical skills, resource provision and improved innovations from acquired decisions.

Considering community participation, there is a communication channel incorporated at the various levels of the project. A proper decision made is accompanied by relevance. With this community communication, goal achievement is made, making the entire process successful hence allowing the community people owns widely the project as theirs. Community participation allows distribution of benefits within the organization hence ensures there is transparency and equal division of community benefits.

A study by (Ngetich, 2009) on sustainability of water projects, showed that most implemented projects were not functional due to lack of community involvement and this led to a recommendation on further study. From the gap left in the study (May, 2005) did a further research on the topic and realized that the reason as to why there was no sustainability in the water projects is because there was no awareness hence little contribution from the community was made. This therefore showed that due to poor sustainability the performance of the project was not attained as well.

Community based organizations in this case the water project in Imenti south sub county, therefore need to advocate for community participation since it's a way of mobilizing and contributing towards the projects resources. How do they contribute? Contributions to a project by community is done by offering their opinions and decisions that are relevant to the entire projects, they also provide labour in terms of technical skills and expertise provision of relevant services towards the project therefore making a great impact to the whole project making it a crucial part of sustainable development of the community.

When the community realize that this project is theirs by way of benefiting from it, makes them empowered hence willingness to contribute is highly appreciated. From the a critical way of thinking, a community is a needy group of people who deserve attention and sympathy, hence by incorporating them at various stages makes them appreciate and even own the project more. This therefore is attributed to their potentiality and willingness levels hence the need to exploit and attain something positive from them.

2.6 Influence of Monitoring and Evaluation and Sustainability of Community Water Project

M/E is an incessant process of assessing progress of an activity to identify whether it meets its intended goals and objectives and taking any required measures to ensure everything is in the

right place. It should be featured in the lifecycle of a project since it conveys the flow of the information. The aim of monitoring and evaluation for a development project is that it allows visualize the actual success in relation to the expected results throughout the implementation. Evaluation on the other hand is periodic assessing towards the objectives to identify whether performance and relevance as well as impact are achieved for efficiency and effectiveness as well as show the nature, distribution of its impacts. According to (Delponte & Pittaluga, 2017) M&E is a continuous function with the primary objective of providing, managing and has indicators towards the project performance throughout its progression in achieving its meant objectives and goals.

There is therefore need to incorporate proper monitoring and evaluation strategies within the project (Gyorkos, 2003). This therefore allows proper feedback to be obtained from the assessment which gives a way in allocation of a budget, the expectations and also give insight to incorporate new ideas. What is monitored is channelled to the evaluation process which brings understanding all the way to the completion of a project (Iwu, 2016). It is very important to incorporate the community in the monitoring and evaluation process which is a way of curbing corruption in the processes involved (Nyaguthii & Oyugi, 2013).

In a community project, there is need to ensure M/E at a high human resources capacity for efficiency and effectiveness hence allowing the shareholders and the stakeholders the opportunity for performing accordingly (WorldBank, 2011). A good monitoring and evaluation system allows early detection of constraints and challenges (Majumder *et al*. 2017). There is need to build up a high capacity in the systems by involving the staff by either training to gain the skills needed. A study by (UNDP, 2012), shows that it's very important for human resources to have effective technical skills and expertise to ensure high monitoring and evaluation capacity.

A report by a study conducted by the World Bank on counties, found out that orientation result was not well incorporated in the implementation of community projects hence creating a weakness in tracking results from the processes as well as community members not allowed to involve in the M/E activities within the project.

Another study by IFAD on the level of project monitoring and evaluation on the donor funded project in Kenya, found out that there were challenges facing the M/E processes hence not achieving proper M/E. The analysis created from this study is that there are challenges like lack of staff commitment, perception on irrelevance of the process leading to assumption in

collection of data as well as reporting, also there is irrelevance in gaining data as well as poor quality data because the focus is based on physical and financial aspect hence no efforts towards the outcome or the impact created. This leads to delaying the whole process.

M/E analysis conducted helps in understanding the projects principles and guidelines and creates an opportunity for effectiveness in the data analysis as well as paving way for the right processes to be undertaken. For the sake of the project, M/E is highly considered to provide progress with required information and this helps keep track in identification of any projects faults and be able to justify them. It's good to undertake monitoring and evaluation analysis periodically within a project to investigate whether targets are achieved hence recording of the data follows. This data is therefore vital for reports and to show accountability of the process. The report also should incorporate views of parties featured in the project processes. Therefore M/E is conducted on four bases; for accountability reasons, operational & strategic management as well as for capacity building.

2.7 Theoretical Framework

Research had been conducted previously based on sustainability of community projects but left an unfulfilled gap that this project needs to identify. The study employed certain theories; McClelland need achievement theory, Freirean theory of dialogue and theory of constraints.

2.7.1 McClelland Need Achievement Theory

McClelland need achievement theory is a theory by (McClelland, 1965) which explained the different perceptions by the human to fulfil their needs and wants since they all want to accomplish, be successful and excellent. The need achievement theory was built from the foundation of Abraham Maslow's hierarchy of needs which has three forms of needs which are need for achievement, need for power and need for affiliation. He further observed that gender, culture or age would not limit a certain need. Need for achievement explained that everyone conducted a certain task in order to achieve something that they had intended to. Also brings about self-appreciation and motivation having achieved a certain objective. The need for affiliation is associated with the self-realization or actualization where one through their achievements has the ego that they achieved beyond their expectation. Need for power is associated with authority where everyone wants to be recognized of effecting influence to others hence fighting for various positions at various levels. From the theory we can relate of how donors and beneficiaries have the motivation to achieve by completion of the water project and ensuring provision of water to the community people. It is therefore important since it helps organize the project stakeholders identify the needs of its people to a point that the need

is nurtured and grown into a realized goal with it having various levels of power. The theory is important therefore by allowing the generation of new ideas to be incorporated which therefore motivated innovation towards accomplishing them.

From the theory the need that an individual has in them is what stirs and motivates them to go an extra mile so as to fulfil it. For this case in our water project, the need to have accessible quality and adequate water is what motivates the donors and the community people towards having the realization of implementing a water project that can provide the beneficiaries with sufficient water without having to go for long distance to get water hence cutting off the cost associated with the search for water. A need motivates towards achievement of a goal.

2.7.2 Freirean Theory of Dialogue

Freirean theory of dialogue and society is a theory by (Freire, 1982). In his explanation, he pointed out that there needed to be dialogue in order to bring understanding. This is through critical thinking that consciousness and collaboration is incorporated. With critical thinking, people are able to develop needs that are important to them. Through the community needs then, there was establishment of goals that helped in the continuity and completion of the projects. Through dialogue, information is shared and everyone is given an opportunity to air their decision that helps in the continuity a project. The importance of this theory to our project is that it fosters togetherness between parties involved within the water project through mobilization of funds to support projects and also alignment of donors to achieve a common goal. Critical thinking being highly established gives room for opportunities to be realized hence being innovative. There is togetherness among the people forming dialogue and this comes along with peace that is a good ground for formulation of better goals.

2.7.3 Theory of Constraints

This is a management philosophy postulated 1984 in a book called goal by Eliyahu Goldratt. This was as a motivation to organization on achievement of their goals and objectives. The theory says that no matter how great achievement an organization has had, there is always a constraint or rather a challenge that limits its performance. It's therefore important for projects stakeholders to identify the weakest areas of constraints in their project and overcome it to avoid negative impact on the project success. Therefore, the theory was significant in the current study where resource availability and M&E has to be actualized by all stakeholders in the project so as to maximize project sustainability. This will help identify areas of weakness at all levels and work out towards ensuring no barriers limit the success of a project hence influencing negatively on its performance and sustainability.

2.8 Conceptual Framework

This is a diagrammatic representation of the variables in the project.

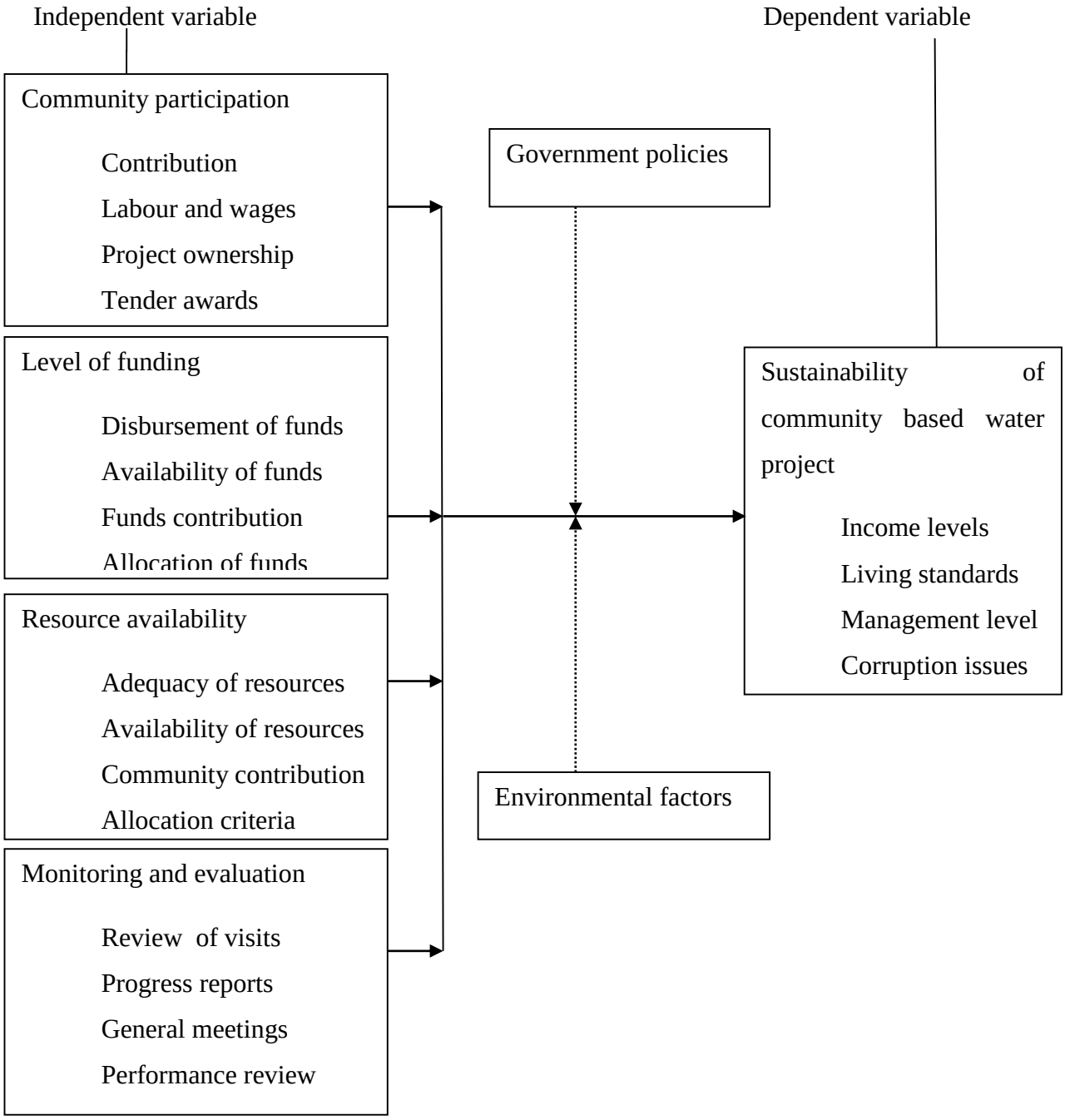

Figure 1: Conceptual Framework

2.9 Summary of Empirical Literature Review and Research Gap

This section is basically on reviewed studies that were carried out by other researchers in the past. Since they have related information regarding sustainability, therefore and could not generalize on the topic, they were applied in this section to help understand sustainability more.

Table 2.1 Summary of Empirical Literature

Objective	Researched By	Study Objectives	Findings	Gap	Filling the gap
Community participation	(May, 2005)	Examined how community awareness was conducted to community to enhance their participation and progression of the water project and how this impacted on sustainability of the project	It was clearly seen that little awareness was made hence the community did not have the opportunity to aid the success of the project this influencing its sustainability.	The researcher did not find out whether there were any contributions made from the community in terms of resources to reinforce towards the present ones in the project sustainability	The study throughout the project will try and incoorporate the community people who are the beneficiaries throughout the progress to ensure ownership of the project as well as provision of required resources and labour
Funding	(Ahmad & Mercedes, 2006)	They examined how funding levels influenced sustainability and objectively studied on how funds were disbursed to the water project in Peru	The findings were that there was late disbursement of the required funds for the continual of projects activities; hence there was late delivery of labour, issuance of wages to labourers as well as late	The findings did not show the records of total loans disbursed despite having financing partners which therefore brought about the gap of accountability and transparency which lacked hence did not	The study will help find out better ways of raising funding for the project or/and ensure the already allocated funds are equally disbursed and allocated at every sector

			purchase of raw materials needed.	create room for trust and honesty on how funds were utilised and acquired.	of the project
Resource availability	(Santos and Pache, 2015)	Examine how resource availability influenced implementation of project in the NGOs	The findings were that resources are a very vital element for any project hence should be adequate and available for use anytime they are needed for the progress of the project	The study did not show how in case of inadequacy whether there were any resources contributed by the community and the mode of purchase for the resources. Also no clear indication of how the management of resources was carried out to ensure they were available and adequate.	The project study ensured that resources are made available before every other project phase
Monitoring and evaluation	(Mukunga, 2012)	Examine sustainable level of community water project on visits and progression reports towards the advancement of the venture	It showed that little assessment was conducted since no reports were offered for the project and that few of the	There was no clear indication whether the community people were informed on contributing towards the assessment of the project	The revelation is that monitoring is key and will be frequently done to unearth the failures or the

			respondents were made aware of the assessment program for the project. This clearly showed that little or poor monitoring and evaluation was made		weakness likely to phase the project

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter is based on activities carried out by the researcher during the research period. It consisted of research design, target population, sampling procedure and sample size, research instrument, data collection methods, data analysis, ethical consideration and Operationalization of variables.

3.2 Research Design

This is a method and procedure in acquisition of required information. It shows where and from which source the information required was obtained for use in the research. The study considered a descriptive research design that explained what existed in phenomena. It included carrying out surveys and finding facts of an event. The design was appropriate because it was extra exact and truthful hence the reason it was more preferred. It gives information on where, what, when and how and answers more than one variable.

3.3 Target Population

This is an aimed unit of settlement from which data to draw inferences is obtained (Kothari, 2003). A study by (Burns and Burns, 2008) describes it as subjects that meet principles for attachment for a research study. It utilized 135 members as target population. Among them the population included members of the community, the projects staff and some of the government officials who also were the respondents to the study. Questionnaires that gathered the information were administered to them.

Table 3.1 Target Population

Respondents	Target population
Community Members	61
Project Staff	30
Government officials	44
Total	135

Data Source: Imenti South Water Project 2019

3.4 Sample Size and Sampling Procedure

Sample identification is the practice undertaken in assortment of representative units of persons involved in representing a larger group of persons that help draw conclusions for the larger group.

3.4.1 Sample Size

Sample size is a unit selected to represent a large group to help draw conclusions of the larger group (Kothari, 2004). It should convey as much information as possible regarding the large group (Palinkas, 2015). Based on (Singh & Masuku, 2014), sample magnitude entail to the division of the whole people that the investigators studies as a agent of the population.

The formula that was used for obtaining the sample size from the target population was as shown:

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

Where ***n***= sample size

N = population (135)

Cv= coefficient of variation (take 0.6)

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

$$n = \frac{135\,(0.6^2)}{0.6^2 + (135-1)\,0.05^2} = 69.93 \text{ (rounded to 70)}$$

3.4.2 Sampling Procedure

The sampling procedure for this study that was used was stratified random sampling. A well selected sample size ranges at a 10% for a descriptive study since its large enough to represent. Stratified random sampling technique was considered because according to (Babbie, 2010) it ensures a representative sample is enough for the study.

Table 3.2 Sample Size Distribution

Respondents	Target Population	Sample Size	% Sample Size
Community Members	61	32	46
Project Staff	30	15	21
Government officials	44	23	33
Total	135	70	100

3.5 Research Instrument

The study utilized questionnaire as a tool to collect data. The researcher outlined two sections on paper on questions regarding the project. The first containing general information regarding the respondent and the second with questions based on the study from which the respondents was required to fill according to their own opinion. Those sections were presented as both closed and open ended allowing the respondents the freedom to respond to their understanding and express their opinions. The researcher developed the questionnaire tools in line with the topic under study. After designing the questions, the researcher took some few to pilot on the reaction of the respondents towards the set questions. If they were positive during the administration, full study would continue but if they rejected them the researcher would have to review the set of questions based on the study. A questionnaire is considered because according to (Zohrabi, 2013), it's free from bias and is accurate with information collected. The questionnaire was administered to the sample size of the target population and in our case 70 copies were administered to be filled. Secondary information was used and was obtained from the previous researches in form of articles, books, journals, magazines and the internet.

3.5.1 Piloting

Piloting was conducted to prove the vagueness of the questions. A small percent probable (10%) was pretested on the pilot study sample size. The identified errors were removed to see the relevance of the questions. The pilot testing for this study was conducted on a similar water project in Imenti South.

3.5.2 Validity of the Research Instrument

This involves how accurate data is by use of instrument to collect the required information (Somekh and Cathy, 2005). The content validity, which is pegged on test score, was an option in the current study. To a great extent, it was apprehensive about the depiction of the population

by the trial that was drawn from it. The knowledge covered by test items should represent the larger domain (Meyers, 2016). Validity of research instruments was measured by conducting the pilot testing on the target population. It's very crucial to ensure the validity for accurate and honest results. To ensure the validity the researcher sought opinions from the experts in University of Nairobi basically the lecturers who are specialized in the field of study. This ensured improvement in content validity of collected data.

3.5.3 Reliability of the Research Instrument

This is the stability of data after re-tests with different instruments and which can be depended on for consistent results. This occurs when a measurement is conducted on various times with more than one instrument. For reliability of data Cronbach's Alpha measurement was used for the correlation of items being measured. According to (Churchill and Brown, 2004), acceptable reliability coefficient of 0.6-0.7 is proposed, less than 0.6 is questionable and is not reliable. Higher than 0.8 was highly reliable and used for this study was obtained from the pilot study.

3.3.4 Reliability Analysis

This was conducted using the Cronbach's Alpha which to ascertain internal consistency by identifying certain items within a scale of same construct. The results are shown in table 3.3.

Table 3.3 Reliability Analysis

Items	Alpha Value	Comments
Resource availability	0.764	Reliable
Community participation	0.892	Reliable
Funding levels	0.728	Reliable
Monitoring and evaluation	0.770	Reliable

3.6 Data Collection Procedure

In order to collect data, the investigator will have a proposal on the relevant topic which was defended before a panel in order to be permitted to collect data for analysis. From there a transmittal letter will be written to the respective study area to allow the researcher conduct any research. From there relevant bodies like NACOSTI will issue permits to allow the researcher carry out research freely. Issuance of the questionnaires will then take place. After

disbursing the questionnaires then the researcher will collect them and analyse recorded information to help draw conclusions and findings.

3.7 Data Analysis Technique

Data analysis is the process of bringing order to gathered data in order to bring understanding and relevance to it (Babbie, 2010). Statistical Package for Social Scientists (SPSS) will be used to analyse data and help in identification of correlation between the variables. From the analysed data, conclusion will be drawn from both inferential and descriptive statistics. Data will be classified into groups and means, standard deviation and frequency tables will be used for presentation. To bring understanding on the affiliation between the dependent and independent variables, application of multiple regression analysis was adopted. It is preferred since it allows analysis of mass variables independently with forecast of a sole dependent variable. The following equation was used;

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

Where:-

Y= Sustainability of community based projects

β_0=constant

$\beta_1, \beta_2, \beta_3$ and β_4 = regression coefficients

X_1= Community Participation

X_2= Resource availability

X_3= Funding Levels

X_4=Monitoring and evaluation

ε=Error Term

3.8 Ethical Considerations

Ethics are morals that influence human behaviour. Therefore for the researcher to conduct the study there is need for ethics to be well-thought-out. Therefore some of the ethical considerations put in place were allowing the respondents the freedom to respond to the questionnaire without limiting them to certain questions. The researcher was in a position to apply for all required permits in the areas being researched on. Plagiarism report was also necessary to ensure the project originality is well assured of and of high uniqueness. The

researcher observed time and completed the research at the set time for completion to avoid any delays in implementation of the project. Ethics was also considered in contacting the university lecturers to allow them in ensuring the validity of content of the study. The researcher also admitted the mistakes and took appropriate measures to correct the study report and ensure its uniqueness and neatness. Also timely virtual conferencing conducted online was an ethic considered to be good since there were no connection barriers experienced.

3.9 Operationalization of Variables

Table 3.4 Operationalization of variable

Objective	Variable	Indicator	Measurement Scale	Data collection tool	Type of data analysis
To determine how the level of funding has influenced sustainability of community water project	Independent Level of funding	Amount of funds allocated Disbursement of funds Community contribution	Ordinal Ratio	Questionnaire Questionnaire Questionnaire	Descriptive statistics/ Inferential statistics
To determine how community participation influences sustainability of community water project	Community participation	Provision of raw materials Offering of project ideas and planning Labour provision and payment of wages	Ordinal Ratio	Questionnaire Questionnaire Questionnaire	Descriptive/ Inferential statistics
To establish how monitoring and evaluation influences sustainability of community water project	Monitoring and evaluation	Progress reports Meetings held Review visits	Ordinal Ratio	Questionnaire Questionnaire Questionnaire	Descriptive/ Inferential statistics

To determine how availability of resources influence sustainability of community water project	Resource availability	Management levels Financial status Expertise	Ordinal Ratio	Questionnaire Questionnaire Questionnaire	Descriptive/ Inferential Statistics
To determine factors influencing Sustainability of community based water projects	Dependent variable Sustainability of community based water projects	Income levels Growth opportunities Living standards	Ordinal Ratio	Questionnaire Questionnaire Questionnaire	Descriptive/ Inferential Statistics

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter describes the analysis, presentation and interpretation of data collected from the study. All information based on findings of the study is then shown out here in this chapter. It is basically based on the demographic characteristics with all details from the respondents. The study is based on sustainability of water project in Imenti south which is the dependent variable. Then, community participation, level of funding, resource availability, and monitoring and evaluation analysis form the independent variables of the study.

The findings were then analysed, presented and discussed to draw out conclusions.

4.1.1 Questionnaire Respondents Return Rate

The study identified the respondent's return rate which comprised of the target population and the rate was used to administer questionnaires.

Table4. 1 Respondents Return Rate

Questionnaire	Response Rate	Percent Rate
Filled and returned	57	81.4%
Not returned	13	18.6%
Total administered	70	100%

Results from table 4.1, show that the larger percent of the response rates represented those who returned the questionnaires after filling them. This was after a total of 70 copies being administered. The filled and returned had an 81.4% while those that were not returned represented by 18.6%. The results were positive and allowed much information to be gathered. A study shows that a response rate of 10-50% is adequate for analysis and reporting, 60 is good while above 70% is excellent. Therefore the response rate for this study is excellent from the target population and therefore useful and adequate results.

4.1.2 Gender Distribution of Respondents

The researcher asked the respondents to provide their gender orientations and results are in Table 4.2.

Table4. 2 Gender Distribution for Respondents

Gender	Frequency	Percent	Valid Percent	Cumulative percent
Male	51	73.0	73.0	73.0
Female	19	27.0	27.0	100.0
Total	70	100.0	100.0	

Results from the table 4.2, shows majority of the respondents were male with a 73% while female gender was 27%. The findings indicated that male were more because they are involved in searching for water sources, piping and digging water tunnel activities from the forests source in order to reach the catchment areas from where the connectivity was made. Therefore this project being a way of identifying the water problems they had great response in the study. Females were also involved but not as engaged as male gender.

The age difference was also considered from the respondents. Therefore there was need to study each age bracket because there were different levels of involvement towards the project.

4.1.3 Age Distribution for Respondents

The researchers asked the respondents to provide their age brackets and results are in Table 4.3**.**

Table4. 3 Age Distribution for Respondents

Age Distribution	Frequency	Percent	Valid Percent	Cumulative Percent
Below 20 years	5	7.1	7.1	7.1
20-29 years	15	21.4	21.4	28.5
30-39 years	36	51.4	51.4	79.9
40-49years	10	14.3	14.3	94.2
50-59 years	4	5.7	5.7	100
Above 60 years	0	0	0	100
Total	70	100.0	100.0	

The results from the table 4.3 indicate that the majority response in terms of age was aged between 30-39 with 51.4 percent followed by those with 20-29 year with 21.4 percent. This is

a clear indication that the youths were more involved in the project. This is accelerated by their energy towards accomplishing tasks and commitment towards the success of the project. They therefore formed the baseline for much information and new ideas for the project. With much labour being based on these age groups labour force was therefore a point to consider in any project hence accounting for the economic growth of the project that was to benefit many community people. Those below the age of 20 years and 50 to above 60 years were not as much involved but are beneficiaries of the project.

4.1.4 Occupation level of Respondents

The researcher asked the respondents to provide their level of occupation and results are in Table 4.4.

Table4. 4 Occupation of respondents

Occupation	Frequency	Percent	Valid Percent	Cumulative Percent
Finance	12	17.1	17.1	17.1
Human resource	31	44.3	44.3	61.4
Procurement	8	11.4	11.4	72.9
Accounts	19	27.1	27.1	100.0
Total	70	100.0	100.0	

The results from the table 4.4 show that the large percent of the respondents is from the human resource department. This is because they deal with employment of the personnel and are very closely looked up for in any project. Therefore the finance department with 17% shows that finances are still a key sector for the ongoing of any project. Procurement personnel have 11% since they mostly deal with movement of materials used within the project. Accounts occupation has 27% because they are mostly accountable for processes involved within the project. Therefore it shows that all levels of occupation in the project are relevant as they convey information from all angles and none is left out to ensure maximum information acquisition.

4.1.5 Role of Respondents in the project

Various respondents also have different roles within the project. They are indicated in table 4.5 below.

Table4. 5 Role of Respondents

Role of Respondents	Frequency	Percent	Valid percent	Cumulative Percent
Water department staff	15	21.4	21.4	21.4
Partner	3	4.3	4.3	25.7
Water project member	52	74.3	74.3	100
Total	70	100	100	

The results from the table 4.5 show that majority of the respondents role were staff members. These are well conversant with the project being the beneficiaries. Therefore they have more information regarding the processes. There is a 4% as the project partners who have some knowledge on different level of the project. Also 21% involved the water staff members who have internal information regarding the project.

Bearing in mind that various respondents got attached with the project in different times, it was therefore important to understand how long each one of them has been conversant with the project. Therefore the table 4.6 below shows the duration of work.

4.1.6 Work duration by Respondents

Table4. 6 Work Duration by Respondents

Working Duration	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 1 year	10	14.3	14.3	14.3
1-10 years	15	21.4	21.4	35.7
Above 11 years	45	64.3	64.3	100.0
Total	70	100.0	100.0	

The results from the table 4.6 show that 14% have worked for less than a year in the project, 21.% have been to work for 1-10 years while the larger percent with 64% have worked above 11 years. This shows that more respondents have worked for long or many years within the project therefore making the study more successful since they conveyed a lot more information for the past years.

4.4 Sustainability of Community Water Project in Imenti South

The research sought to examine the sustainable levels of community water projects in Imenti South, Meru County, Kenya for the past years. The respondents were asked to use a Likert scale of 1 to 5, where 1=Strongly disagree to 5=Strongly agree The results were as shown on Table 4.7 and Table 4.8 below.

Table4. 7 Rating of sustainability level on community water projects in Imenti South

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Good	8	11.4	11.4	11.4
Good	19	27.1	27.1	38.6
Average	19	27.1	27.1	65.7
Bad	8	11.4	11.4	77.1
Very Bad	16	22.9	22.9	100.0
Total	70	100.0	100.0	

The results from the table 4.7 shows that 27% was good and average, 23% chose very badly while 11.4% chose bad and very good. A higher percent showed that the project was not sustainable after the rating was conducted.

Also to gather more information on the sustainability of community water project, it was important to identify and discuss factors that influenced sustainability of community water project.

Table4. 8 level of Sustainability of community water projects

	Mean	Std. Deviation	N
Water Availability	1.5455	1.50252	70
Corruption	2.6727	1.13944	70
Level of service delivery	2.6909	1.12006	70
Maintenance and management levels	2.1636	1.03214	70
Composite Mean	**2.2682**	**1.19854**	

From the finding of the research has establish level of service delivery was high at a mean score of 2.6909, corruption also hindered the level of sustainability at a mean score of 2.6727, the management and managerial levels had influence on sustainability at mean score of 2.1636 and finally availability of water supply had low score on sustainability of water projects at a mean score of 1.5455. The composite mean was 2.2682 and a standard deviation of 1.19854 which implied that the respondents agreed that sustainability of community water projects was on an upward trend in Imenti South, Meru County, Kenya.

4.5 Community Participation

This variable was mainly incorporated in the study to identify and get to know the level to which the community people who are mostly the project beneficiaries contribute towards the success of the project. Therefore, the respondents were requested to fill in the questionnaires they were given and give information of how their different level of involvement was towards the project.

The respondents were required to fill and respond as to how they feel community participation is involved and whether there are any benefits associated towards the project.

Table 4. 9 Benefits of Community Participation

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	55	78.6	78.6	78.6
No	15	21.4	21.4	100.0
Total	70	100.0	100.0	

From the findings it clearly shows that community participation has positive effect on sustainability of water project in Imenti South. 78.6% are for yes that it really does contribute while 21.4% do not see any need for community participation on the project. This clearly connects with the level of education from where it seen that education really has an impact on sustainability of the water project.

Table4. 10 Community Participation

	N	Mean	Std. Dev.
Provision of required materials	70	3.3818	1.26916
Decision making	70	2.9091	1.40466
Timely Payments for labor	70	3.3455	1.20521
Timely awareness of progress	70	2.4909	1.23037
Community ownership	70	3.6182	1.22461
Community satisfaction	70	3.1455	1.39335
Composite Mean		**3.1485**	**1.287893**

The results above, indicates that provision of required materials positively influence community participation in projects as shown by a mean score of 3.3818, it's also evident that community own water projects as shown by the mean score of 3.6182, followed by timely payment of labour evidenced by a mean score of 3.3455,the results shows that community is satisfied with level of participation in projects as per a mean score of 3.1455, decisions on projects incorporated community members at a mean score of 2.9091 and finally, there was delayed response on awareness regarding progress of water projects in Imenti south, Meru county as per a mean score of 2.4909. The composite mean for the community participation level was 3.1485 and a standard deviation of 1.2879 which implied that the respondents agreed that community participation level influence the sustainability of community water projects in Imenti South, Meru County, Kenya.

4.6 Levels of Funding

The levels of funding was sought to be a great contribution towards the success of the project. Therefore the table below shows the rating on the various levels of financing which influence the way funds are allocated for the project. The study was conducted to show whether funding influenced sustainability of community water project.

Table4. 11 Level of Funding

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	60	85.7	85.7	85.7
No	10	14.3	14.3	100.0
Total	70	100.0	100.0	

The results above show that the larger percentage of the respondents felt that level of funding had a great influence on the sustainability of the community water project. This is because 86% were for yes while 14% were for no. The overwhelming yes showed that funds are the main reason projects do not succeed. Their insufficiency shows that most activities of the project are left undone. With the large number accepting improved levels of funding it shows if projects were well funded or were funded on the most critical activities, then sustainability would be greatly achieved.

Table4. 12 Factors Influencing Levels of Funding

	N	Sum	Mean	Std. Deviation
Funds allocated	70	248.00	3.5429	1.15863
Disbursement of funds	70	233.00	3.3286	1.23619
Shareholders contribution	70	240.00	3.4286	1.35075
Availability of Funds	70	219.00	3.1286	1.28448
Composite Mean			**3.35718**	**1.25751**

From the results, the respondents agreed to a greater extent that allocation of funds directly influences sustainability of community water projects by a mean score of 3.5429, they also confirmed that shareholders contribution is vital at a mean score of 3.4286, timely disbursement of funds is also critical in the sustainability of water projects at a mean score of 3.3286 and finally availability of funds had a least influence at a mean score of 3.1286. The composite mean for the level of funding was 3.35718 and a standard deviation of 1.25751 which implied that the respondents agreed that level of funding influence the sustainability of community water projects in Imenti South, Meru County, Kenya.

4.7 Resource Availability

The research sought to establish how resource availability influences sustainability of community water project in Imenti South. Their responses were captured in the table 4.13.

Table 4. 13 Resource Availability

	N	Mean	Std. Dev
Allocation of Funds	70	3.127	1.361
Timely Delivery	70	2.763	1.304
Community contribution	70	2.490	1.289
Availability and adequacy of resources	70	2.490	1.199
Composite Mean		**2.7175**	**1.288**

It shows from the results, that allocation of funds to acquire raw materials is a key element at a mean score of 3.127. Also a mean of 2.763 shows that timely delivery of raw materials greatly influences resource availability for the sustainability of the water project. Community contribution towards raw material availability had a mean of 2.490 while availability and adequacy of resources had a mean of 2.490 also. The composite mean for the resource availability was 2.7175 and a standard deviation of 1.288 which implied that the respondents agreed that resource availability influence the sustainability of community water projects in Imenti South, Meru County, Kenya.

4.8 Monitoring and Evaluation

Monitoring and evaluation was one of the major variables considered for the study. It was therefore importance to evaluate and assess how the analysis influenced sustainability of community water project in Imenti South, Meru County, Kenya.

Table4. 14 Frequency of Monitoring and Evaluation

	Frequency	Percent	Valid Percent	Cumulative Percent
Frequently	9	12.9	12.9	12.9
Yearly	14	20.0	20.0	32.9
Monthly	23	32.9	32.9	65.7
None	24	34.3	34.3	100.0
Total	70	100.0	100.0	

The result above shows that 34% is that no monitoring is done on the project. 9% is conducted frequently, 20% yearly and 33% monthly. Regarding the frequency of analysis on M&E, it revealed the reason as to why sustainability was not fully achieved.

4.9 Inferential Statistics for combined factors and sustainability of community based water projects

From the data presented below on Community Participation, Level of Funding, Availability of resources, and Monitoring and Evaluation on sustainability of community water projects were calculated into single variables per factor by computing the averages of each factor. Multiple regression analysis was then conducted at 95% confidence interval and 5% confidence level 1-tailed to establish the relationship between the variables. The research used statistical package for social sciences (SPSS V 25.0) to code, enter and compute the measurements of the multiple regression.

4.9.1 Multiple Regression Analysis for combined factors and sustainability of community based water projects

The study used a multiple regression analysis to evaluate the effect among predictor variables. The results of regression model output summary is presented in Table 4.18.

Table4. 15 Summary of Multiple Regressions on combined factors and sustainability of community water projects

Model	R	R Square	Adjusted RSquare	Std. Error of the Estimate
1	0.838	0.745	0.836	0.3423

Dependent Variable: Sustainability of community water project

From the research findings, independent variables selected for the study that is: Community Participation, Level of Funding, Availability of resources, Monitoring and Evaluation accounted for 83.6% of the variations on sustainability of community water project. According to the test model, the model could not explain 16.0% percent of the variation on sustainability of community water project. Therefore, further studies should be done to establish the other factors that contributed the unexplained (16.0%) of the variation on sustainability of community water project in Imenti South, Meru County, Kenya.

The analysis of variance results for the relationship between the four independent variables and sustainability of community water project as presented in Table 4.16.

Table4. 16 Summary of One Way ANOVA Results on combined factors and sustainability of community water projects

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	875.6	3	291.66	83.103	.000[c]
	Residual	623.7	52	11.990		
	Total	1499.2	55			

Dependent Variable: Sustainability of Community Water Project

The probability figure of 0.0000 indicates that the regression relationship was significant in predicting the effects of Community Participation, Level of Funding, Availability of resources, Monitoring and Evaluation of community water projects. The calculated F (83.103) was significantly greater than the critical value of F= 4.000. This shows that the overall test model was significant.

From the regression model, Regression coefficients for the relationship between the four independent variables and community based project as shown in Table 4.17

Table4. 17 Correlations of variables and sustainability of community water project

In the table above however, the study wanted to establish the correlation of the independent

		Sustainability of community water project	Community Participation	Availability of resource	Monitoring and Evaluation	Levels of Funding
Pearson Correlation	Sustainability of Community water Project	1.000	.738	-.102	.539	-.057
	Community Participation	.738	1.000	-.021	.377	.064
	Availability of resources	-.102	-.021	1.000	-.394	.300
	Monitoring and Evaluation	.539	.377	-.394	1.000	-.260
	Levels of Funding	-.057	.064	.300	-.260	1.000
Sig. (1-tailed)	Sustainability of. Community water projects		.000	.230	.000	.340
	Community Participation	.000	.	.439	.002	.320
	Availability of resources	.230	.439	.	.001	.013
	Monitoring and Evaluation	.000	.002	.001	.	.028
	Levels of funding	.340	.320	.013	.028	.
N	Sustainability of community water project	70	70	70	70	70

variable with regard to dependent variable. As indicated the study found out that at mean score of 1 on the sustainability of community water project, community involvement came at 0.38, while on the measure of sig, (1-tailed) the score was 0.000. Furthermore monitoring and evaluation on the score of 0.539.On the same score, availability of resources -0.102 and levels of funding stood at -0.057, while on sig (1-tailed) these two variables showed a significant increase in score as far as sustainability of community water project is concerned. These showed that while community participation and monitoring and evaluation was held high and showed a correlation, availability or resources and levels of funding showed low correlation.

4.5.3 Regression Coefficients for combined factors and sustainability of community based water projects

Table 4. 18 Regression Coefficients on combined factors and sustainability of community based water projects.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero order	Partial	Part	Tolerance	VIF
(Constant)	.676	.119		5.696	.000	.438	.913					
Community Participation	.325	.041	.738	7.961	.000	.243	.407	.738	.738	.738	1.000	1.000
Availability of resources	.275	.041	.623	6.788	.000	.194	.356	.738	.685	.577	.858	1.166
Funding levels	.311	042	.623	6.763	.000	.243	.726					
Monitoring and Evaluation	.148	.045	.304	3.307	.002	.058	.238	.539	.417	.281	.858	1.166

a. Dependent Variable: Sustainability of Community Water project

The multiple regression equation for predicting sustainability of community based water project from the four independent variables was:

$Y= 0.676+0.325X_1 + 0.275X_2 + 0.311X_3 + 0.148X_4 + \varepsilon$

Community participation, Availability of resources, funding levels, and Monitoring and Evaluation

Where:-

Y= Sustainability of community projects

X_1= Community Participation

X_2= Availability of Resources

X_3= Level of funding

X_4=Monitoring and Evaluation

ε=Error Term

The regression equation presented above established that considering all factors (Community Participation, Availability of resources, Levels of Funding, and Monitoring and Evaluation) constant at zero, Sustainability of community water projects was 0.676. The findings presented also show that taking all other independent variables at zero, a unit increase in the Community participation would lead to a 0.325 increase in the scores of Sustainability of community water projects. Further, the findings show that a unit increases in the scores of Level of funding would lead to a 0.311 increase in the scores of Sustainability of community water projects. From the study findings, it was also established that a unit increase in the scores of availability of resources would lead to a 0.275 while motoring and evaluation would lead at a score of 0.148 that increase in the scores of sustainability of community water projects in Imenti South. However as indicated the main leading variable would be community participation, then Level of Funding, then availability of resources and monitoring and evaluation. All the variables were significant (p-values < 0.05).

CHAPTER FIVE: SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter shows data findings summary, conclusions and recommendation from the findings and interpretations of the study based on the study objectives.

5.2 Summary of Findings

The study sought to establish how community participation influences the sustainability of community based water projects in Imenti South in Meru County, Kenya. It established that it was to a great extent that provision of required materials positively influence community participation in projects, the findings evident that community own water projects, the payments are timely made for labour, the results shows that community is satisfied with level of participation in projects, decisions on projects incorporated views from community members, and finally, there was delayed response on awareness regarding progress of water projects in Imenti south, Meru county. The findings indicated that community participation level influence the sustainability of community water projects in Imenti South, Meru County, Kenya. It was noticed that community members through which the piping was done provided with land and other materials to ensure the connectivity was adequately done. Community participation supported with the security of the project for long time because the community beneficiaries secure what is there's

The study sought to establish how level of funding influences the sustainability of community based water projects in Imenti South in Meru County, Kenya. From the results, the respondents agreed to a greater extent that allocation of funds unswervingly influences sustainability of community water projects, the study also confirmed that shareholders contribution is vital in sustainability of water projects, timely disbursement of funds is also critical in the sustainability of water projects and finally availability of funds had a least influence in the sustainability of water projects. The study also observed that the respondents agreed a greater extent that level of funding influences the sustainability of community water projects in Imenti South, Meru County, Kenya. Funding is found to be a very sensitive part for any project. Reason being it controls all the project progress to ensure its continuity as well as its success and also a way of countering any likely failures likely to face a project. The findings revealed that levels of funding were conducted via harambees to at least ensure continuity of the project. Rising of funds was raised in different ways even by engagement of government entities to help in financing the project.

The study sought to identify whether resources availability influences sustainability of community water project. The finding indicates that allocation of funds to acquire raw materials is a key element in sustainability of community water projects; finding shows that timely delivery of raw materials greatly influences resource availability for the sustainability of the water project, Community contribution towards raw material availability was identified as a significant indicator, while availability and adequacy of resources also equally critical in the success of water projects. The study also observed that resource availability had a significant influence on the sustainability of community water projects in Imenti South, Meru County, Kenya. The study findings noticed that lack of resources slowed down the whole process because these are key requirements for any project. It was therefore important to ensure they are readily available and adequate for continuity of the project. Resources being of many forms were provided both at the community level and also government involvement was a big thing to allow more resources into the project.

The study sought to establish how monitoring and evaluation influences the sustainability of community based water projects in Imenti South in Meru County, Kenya. From the results, the respondents agreed to a greater extent that the community is rarely involved in the analysis process supported by 34% is that no monitoring is done on the project. 9% is conducted frequently, 20% yearly and 33% monthly. Regarding the frequency of analysis on M&E, it revealed the reason as to why sustainability was not fully achieved. Therefore, the arising of sustainability issues within the project that really affects its success. Monitoring and evaluation helped identify any likely failure in the course of the project. It was seen that monitoring was done in phases and at all levels of the project but in this case it was not adequately conducted. There were activities being monitored daily, weekly and monthly to avoid piling up of weaknesses that could lead to deterioration of the projects success. Various levels of people were used to carry out the activities to express their different levels of expertise and skills. This ensures that not a single phase is skipped to avoid any failures to the project.

Additionally, the finding of the research established that level of service delivery was high and directly contributed to sustainability of water projects in Imenti South, Meru County, Kenya. The study also observed that corruption aspects hindered the level of sustainability of water projects, Management and managerial levels had influence on sustainability of projects and it had improved and finally availability of water supply had low influence on sustainability of water projects. The study also observed that respondents agreed that sustainability of community water projects was on an upward trend in Imenti South, Meru County, Kenya.

5.3 Discussion

5.3.1Funding level and the sustainability of community based water projects in Imenti, South, Meru County, Kenya

The discussions of findings were essential in determining the correlations with those other previous literature. From the study it's a clear indication that inadequate funding levels resulted to poor allocation of funds hence leading to a collapsing project. If funds allocated in the budget are not sufficient for the project it's hard for it to thrive therefore end up killing its achievability. According to (Bakir, 2013) involvement and dependency on community funding for a project is very hard and dangerous to ensure sustainability of the project. This is because in any chance a community might be straining financially then this means the financial aspect will also be on high demand and unachievable. Funding is reflected in an well organized budget that is approved by first determining the need for the project and the duration it takes. Funds allocated are determined to sustain the project by knowing how long it takes and what kind of activities are being funded. In another discourse, Mills, 2016 posits that budget set along helps in financial management for accountability purposes to show what and where the funds were used at. According to budget is the controller of project activities for accountability and transparency. Therefore, it's crucial in ensuring adequacy, availability and frequency to which funds are availed to the project being undertaken. Many a times, projects fail not because there are insufficient funds but because of misappropriation of funds through corruption which is a key in misusing available funds. With funds there is need for transparency, honesty and accountability to avoid altering some crucial stages of the project.

5.3.2 Community participation and the sustainability of community based water projects in Imenti, South, Meru County, Kenya

For community participation, it's of high influence to any project especially community based that are targeted towards a community. It's important to incorporate the community because in such a project scenario there is need for conflict handler, who can bring in cooperation as well as solve the indifferences that maybe existing within the project. Study by Albert, 2007 pstulates that interest from the stakeholders allows a project to have a unique and special feature from which the project manager need to conduct a stakeholder analysis to identify their level of relevance and influence towards a project sustainability. Community participation is incorporated in instances where idea and skill development is a considered factor. This enables empowerment of the community people. Study by Bryson, 2013 asserts that it's important to incorporate the community participants, which helps identify the ideal need and its magnitude

to the community people hence working with the availed resources. The study conducted on water projects in Imenti south shows that successful projects are those conducted locally and are well planned, designed, implemented and managed well. This community engagement fosters unity and togetherness amongst the beneficiaries and creates a sense of ownership. Through this allocation of roles and responsibilities is well conducted between the beneficiaries. Fostered togetherness helps in ensuring the security of the project because the community beneficiaries feel the freedom to own their project. According to (Neil, 2003), donors should let the beneficiary communities take the lead in development projects and they themselves should take a supportive role. Therefore, It's imperative to ensure all levels of people in different categories are involved because there are those who offer skilled labour, others ideas and decision making and some also offer oversight of certain activities for the projects sustainability.

5.3.3 M&E and the sustainability of community based water projects in Imenti, South, Meru County, Kenya

Another variable is the M&E that really influences the sustainability of the project. The study showed that monitoring and evaluation were not up to date reason being they were not a factor being considered and which is very relevant and crucial to access any projects progress. A good monitoring and evaluation system allows early detection of constraints and challenges. According to Majumder et al. 2017, a high capacity build up in the systems by involving the staff by either training to gain the skills needed is a tool to enhance M&E. Most community people were not aware of the analysis process for the project and therefore its allocation in the budget was not counted to be relevant although it's a very crucial process for the project. Monitoring and evaluation helps in the project management all through its initiation to completion under an allocated budget. Furthermore, a study by UNDP, 2012, evidence that it's very important for human resources to have effective technical skills and expertise to ensure high monitoring and evaluation capacity. This confirms why it's important to carry out monitoring and evaluation daily, weekly and monthly to ensure upcoming issues within the projects progress are well catered for. Different levels of people have different skills and expertise for carrying out the analysis. It's important to take note of every step and to ensure none of it is skipped since it can bring a weakness to the entire project before its achievement.

5.3.4 Resource availability and the sustainability of community based water projects in Imenti, South, Meru County, Kenya

The findings on raw materials clearly indicated that their availability has great influence on the sustainability of the project. It's therefore important to ensure its allocation as well as adhere to their availability through timely allocation; equal disbursement to endure the project is completed within the given timeframe. Without the necessary resources the project cannot achieve its purpose. Level of resource availability greatly influences sustainability of community water projects since its through offered finances resources required for the project continual can be provided to avoid any inadequacy Karanja, 2014. Resource support is often given by donors, the government or stakeholders who ensure that progress of the project is catered for without any lack of finances. When projects are well funded, some advantageous factors come along like improved technology. A study conducted by Jansz, 2011 on water showed that resource availability really affected the sustainability of community projects this being a conclusion drawn from poor maintenance and repair of the projects activities. Its therefore critical and important to ensure that resources are readily available, the frequency of availability and the allocation of the same. Resources are acquired from different places especially those that are not readily available. Therefore, it's important to monitor the resources that reach the projects ground to ensure their accountability for recording, reporting and future referencing of the same. Resources are very critical at different phases of the project and therefore identifying their flow in the project is very crucial.

5.4 Conclusion

Based on the above findings, the study concludes that the level of funding by project stakeholders has positive influence that is significant on the sustainability of community based water projects in Imenti South, Meru County, Kenya. Adequate funding should be made a priority to avoid pitfalls by avoiding poor allocation, late disbursement that end up in falling off of the project.

The study further concludes that Community participation is an issue that greatly counts in sustainability of water projects. This brings a sense of ownership to the community people to whom delivery of service is directed to. If the community people lose interest in a certain project, then it is not deemed to thrive in that locality. Therefore for efficiency and sustainability it's very important to ensure the community is involved.

The study also concludes that resources should be made available to ensure the project doesn't stall due to insufficient funds. It's important to have adequate funds to enhance efficiency and effectiveness in project sustainability and performance.

Finally, the study concludes that monitoring and evaluation should be greatly performed at the right time interval to ensure longevity of the project and also help in identifying any problems to be solved urgently to avoid backload in the project cycle.

5.5 Recommendation

The study recommends that the community members in the projects to enable the project team to improve on sustainability of community based water projects because they supplement the continuity of projects after donor withdrawal. The different personnel for the different activities on management of water projects should be included in the areas of collecting and analyzing data, writing reports, disseminating M&E practices and logical framework approach to enhance timely dissemination of information to community members.

The study also recommends that Allocation of funds in the budget should be adequately done and with timely disbursement. It's therefore important to count in what's needed of a project in terms of funds. A clear budget should be formulated followed by laws to ensure transparency and accountability of funds geared towards the project. This budget helps in easing the allocation and timely disbursement of funds. How funds are availed to the project determines how the achievability of the project is.

The study also recommends that resource availability is a critical to have more than enough resources to sustain the whole projects cycles. This will ensure the project is completed on schedule, on budget and within the expected cost. This will ensure that project resources are well incorporated and accounted for to ensure efficiency, effectiveness and sustainable performance of the project.

The study also recommends that community participation should be the driving force for any project and therefore more support should be done to involve the beneficiary community. Through participation is when relevance of the project is identified. Community contribution increases the level to which the community owns the project. This then brings in community togetherness and unity.

The study also recommends that Monitoring and evaluation should be improved to counter any downfalls likely to face the project. It should be at least undertaken periodically whether

weekly, monthly or annually. This can be strengthened through community engagement in execution of monitoring analysis and also give timely feedback to other members of the society.

5.6 Suggestions for Further Studies

Empirical literature re-examined depicted that there were less studies on influence of sustainability on community water projects in Imenti South, Meru County, Kenya. Consequently, the findings from this study dish up as the foundation for further studies on this area of study. The study cramped its spotlight on the community participation, monitoring and evaluation, Funding levels, and Resource availability. Significantly, analogous study should be conducted to establish whether the findings could also relate to other community based water projects in the country other than Imenti South, Meru County. This would facilitate to ascertain whether its findings could be indiscriminate to other parts of the country. In accumulation, there would be the need to conduct further studies principally on other variables that were not evaluated in the current study. As such, a comparable study, but with a dissimilar hub can also be conceded out within Meru County. This would be decisive in evaluating other parameters that influence the sustainability of community based water projects within the country.

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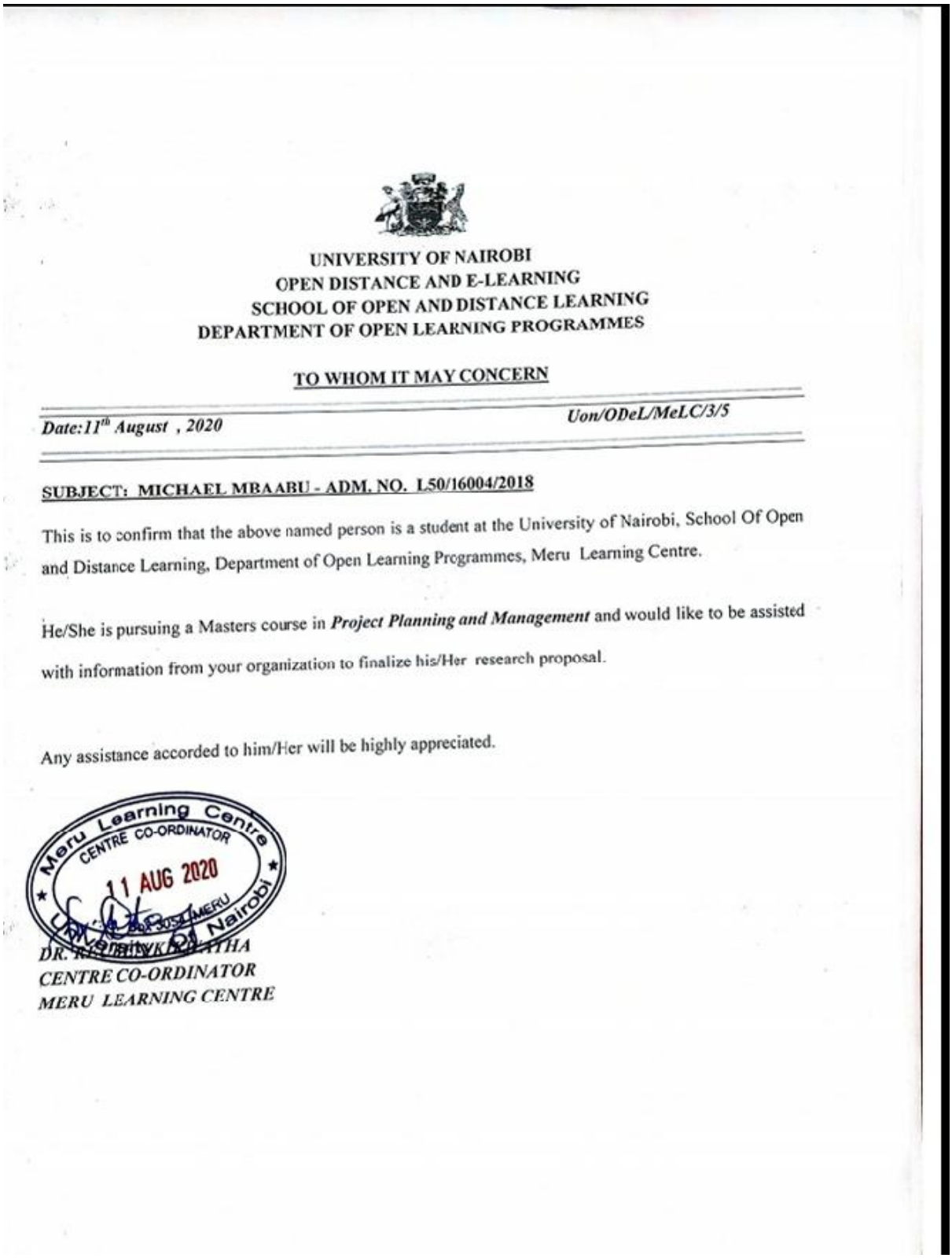
APPENDICES

Appendix 1: Transmittal letter



UNIVERSITY OF NAIROBI
OPEN DISTANCE AND E-LEARNING
SCHOOL OF OPEN AND DISTANCE LEARNING
DEPARTMENT OF OPEN LEARNING PROGRAMMES

TO WHOM IT MAY CONCERN

Date:11th August , 2020 *Uon/ODeL/MeLC/3/5*

SUBJECT: MICHAEL MBAABU - ADM. NO. L50/16004/2018

This is to confirm that the above named person is a student at the University of Nairobi, School Of Open and Distance Learning, Department of Open Learning Programmes, Meru Learning Centre.

He/She is pursuing a Masters course in ***Project Planning and Management*** and would like to be assisted with information from your organization to finalize his/Her research proposal.

Any assistance accorded to him/Her will be highly appreciated.

Meru Learning Centre
CENTRE CO-ORDINATOR
11 AUG 2020
University of Nairobi

DR. [illegible] KARIITHA
CENTRE CO-ORDINATOR
MERU LEARNING CENTRE

Appendix 2: Questionnaire

The information gathered from the research exercise will be purely for academic purposes and the received information will be treated with much confidentiality. Greatly appreciate your opinions which assist me in the research process. Instructions (Tick where appropriate)

SECTION A: General Information

Your Gender

Male [ ]

Female [ ]

Your age

Below 20 yrs. [ ]

20-29 yrs [ ]

30-39 yrs [ ]

40-49 yrs [ ]

50-59 yrs [ ]

60 yrs and above [ ]

Kindly specify your occupation and department at the place of work if any……

What is the duration of work in your organization.....

How do you understand sustainability and in what capacity .....

Do you have any role in the water project? (Specify the role) …….....

SECTION B: SUSTAINABILITY OF COMMUNITY WATER PROJECT

Rate the sustainability of the water project according to your understanding

Very good

Good

Average

Bad

Very bad

Comment on the areas that influence the sustainability of the water project

	Greatly improved	Improved	Constant	Decreasing	Greatly decreased
Water availability					
Corruption					
Level of service delivery					
Maintainance and maanagement levels					

Any other information regarding the sustainability of the community water project, kindly write in the provided space……

COMMUNITY PARTICIPATION

Do you feel that community participation incorporation is highly appreciated in the project environment?

Yes [ ]

No [ ]

Do you feel the community contributes towards the sustainability of community water project?

Yes [ ]

No [ ]

According to the answer given above kindly states how beneficial community participation is towards the sustainability of the water project? .....

Rate accordingly the performance of community participation towards sustainability of community water project in Imenti north sub county

	Very good	Good	moderate	Bad	Poor
Provision of required materials					
Decision making					
Timely Wage payments					
Timely awareness of the project progression					
Community ownership of project					
Community satisfaction					

B. LEVEL OF FUNDING

What are some of the ways the community project uses to acquire its funds? .....

Is funding beneficial to the project and to what extent does it influence sustainability of the project? .....

Kindly rate the extent

	Very good extent	Good extent	Moderate extent	Bad extent	No extent
Fund allocation					
Disbrsment of funds					
Shareholders contribution					
Availability of funds					

C.RESOURCE AVAILABILITY

How well are the resources available to the project progress? .....

How are the resources acquired? .....

Kindly rate the extent to which resource availability influences on sustainability of community water project in Imenti south sub county

	Very good extent	Good extent	Moderate extent	Bad extent	No extent
Allocation of funds					
Timely delivery					
Community contribution					

Availability and adequacy					

D. MONITORING AND EVALUATION

How often is monitoring and evaluation process conducted on the project to ensure its sustainability? .....

Is the community informed on the M/E activities undertaken for the project? .....

Kindly rate the level of monitoring and evaluation towards the sustainability of the community water project in Imenti south sub county?

	Very good level	Good level	Moderate level	Bad level	Very poor levels
Field visits by stakeholders					
General meetings					
Performance improvement					
Progress reports					

Thank you for your support.