

**INFLUENCE OF PARTICIPATORY PROJECT
MANAGEMENT APPROACHES ON SUSTAINABILITY OF
DONOR FUNDED WATER PROJECTS IN MWALA SUB
COUNTY, MACHAKOS COUNTY, KENYA**

BY

KYALO DOMINIC MUSEMBI

**A Research Project Report Submitted in Partial Fulfillment of the
Requirements for the Award of Master of Arts Degree in Project
Planning and Management of the University of Nairobi**

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DECLARATION

This is my original work and has never been submitted in any university or college for examination.

Signature _____

Kyalo Dominic Musembi

L50/80688/2015

Date

This research project report has been submitted for examination with the approval of my university supervisor.

Signature _____

Dr. Ndunge Kyalo
Senior Lecturer,
Department of Open Learning
University of Nairobi,

DEDICATION

I dedicate my work to my dear wife Martha and our daughter Melanie and finally my Mother Tabitha for their incredible support during my study.

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ABBREVIATIONS AND ACRONYMS

ASAL	Arid and Semi Arid Land
CBO	Community Based Organization
CDF	Constituency Development Fund
CWPs	Community Water Projects
DWO	District Water Officer
ECDP	Eastern Community Development Programme
GOK	Government of Kenya
KII	Key Informant Interview
M & E	Monitoring and Evaluation
MDG	Millennium Development Goals
NEMA	National Environmental Management Authority
NGO	Non Governmental Organization
RA	Research Assistant
UN	United Nations
WATSAN	Water and Sanitation

ABSTRACT

The purpose of study was to establish the influence of participatory project management approaches on sustainability of donor funded water projects in Mwala Sub County, Machakos County, Kenya. The study sought to establish how participatory planning influences sustainability of donor funded water projects; to determine how participatory design influences sustainability of donor funded water projects; to establish how participatory implementation influences sustainability of donor funded water projects and to ascertain how participatory monitoring and evaluation influences sustainability of donor funded water projects in Mwala Sub County, Machakos County, Kenya. Most of the donor funded water projects in Mwala Sub County have been operating for a short period after implementation despite the heavy investment by the donors and the community. The study adopted descriptive survey design. Mwala Sub County has 35 donor funded water projects that have been implemented which include 27 boreholes, 5 earth dams and 3 sand dams. A borehole serves an estimate of 500 households; an earth dam serves 450 households while a sand dam should serve 50 households. Based on the Krejcie and Morgan (1970) table, the sample size of the population of 15,900 is 377. These were reached through focus group discussions. With average of 12 persons, the focus groups were 31. The donor agencies that had financed water projects in the area were 6. Mwala Sub County has 15 locations with each 1 National Government Administrator Officer (Chief). The area has 1 Sub County Water Officer who is in charge of the area. The researcher engaged 6 project coordinators of the funding agencies as key informants. In order to enrich the data, triangulation was adopted hence the researcher included all the 15 National Government Administration Officers (Chiefs) and the Sub County Water Officer. The number of Key informants was 22. Data was collected using questionnaires which were administered to the respondents by the researcher and his assistants. Key informants supplemented the information provided hence were included in the study. The quantitative data was edited, coded and then analyzed using SPSS version 22. The qualitative data was analyzed based on the study themes. The study found that participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation influences sustainability of donor funded water projects in Mwala Sub County in Machakos County. When stakeholders are fully involved in project management, they own it and their contribution makes it successful and sustainable. The findings of this study will be of help to the donors as they will help them to mainstream their programming to ensure full involvement of all the stakeholders in the projects hence sustainability. The information will also be useful to stakeholders in making decisions in the development by improving on their participation in projects. The findings of this study will provide policy makers and implementers at County and National level with information that they can use to ensure that development is done in a manner that promotes sustainability of the projects. The study has built on the existing knowledge and literature and also suggests areas of further study and research. The recommendations of the study were that there is need for full involvement of all stakeholders from inception to the end of the project implementation in planning, designing, implementation and monitoring and evaluation. There is need to build capacity of the committee members through training on monitoring and evaluation aspects and processes.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

According to International Monetary Fund (2010), water is an environmental resource necessary to not only support life but also sustain economic activities across different sectors. It is a core cross-cutting element for reaching every other development goal. According to United Nations World Water Development Report – Water and Sustainability (2012), access to water is a prerequisite for ending poverty and hunger, achieving gender equality and improving health and environmental sustainability. It is estimated that 45 percent of the population in Sub Saharan Africa has access to safe drinking water (Nkonya, 2008). Lack of access to water has a disastrous impact on society especially on women and children who suffer in terms of illnesses and lost opportunities. Women and children spend millions of hours each year fetching water. Lack of access to water traps people in vicious cycle of poverty (Nkonya, 2008).

The Millennium Development Goals reports on 2015 shows that although over 90 percent of the populations in the world have access to improved sources of safe drinking water, there is still shortage on sanitation levels. This leaves an estimate of about 2.4 billion without improved sanitation facilities which pose dangers of contracting water borne diseases. Water and sanitation are critically fundamental to development of human beings for it is not only their right but also important to the attainment of other development objectives. The report projected that in 2015, an estimated 663 million people in the whole world still use water from sources that are

not improved including unprotected wells, springs and surface water (UNICEF & WHO, 2015). In order to achieve the Sustainable Development Goals, priorities ought to be made to address issues of water.

According to Kenya's Vision 2030 (2007), "only 57 per cent of households in Kenya have access to water that is 'considered safe'. The proportion is lower (Only 50%) for rural populations. The distances covered to reach the water points are long with some residents covering an average of 8 kilometers to access water. Numerous hours which could have been used to carry out productive activities are spent looking for water; a situation which makes the communities poorer and poorer.

Over the past years, there has been decline in the rate of access to safe water. Access to safe drinking water was estimated to be 48 per cent in the year 1990 (Central Bureau of Statistics data) while in the year 1996, access to safe water reduced to 46 percent (United Nations Development Programme, 1997). There is possibility that the percentage will continue diminishing owing to increase in population if the situation is not holistically dealt with.

The water Act (2002) had an objective of improving access to safe drinking water to the Kenyan population. Many water projects in Kenya are funded by the government but the water facilities are not sustainable owing to lack of sufficient and reliable revenue and government bureaucracy. In this regard, other actors like donors come in to support the government to provide water to the communities. These concerted efforts however in many occasions do not yield much fruit since the water projects initiated do not serve the community in providing water for long time. Donors have

invested their finances in many water projects in Mwala Sub County with an objective of dealing with the root cause of poverty, one of which is inadequacy of safe drinking water. According to Mwala Sanitation and Sewerage Company, the coverage of safe drinking water in Mwala Sub County stands at 38 % and this is in danger of going down considering the number of water facilities that are breaking down and increasing population. Sustainability of the water projects therefore is very critical where the ability of the water projects to provide water to the target beneficiaries for significant periods of time is important.

1.1.1: Participatory planning

According to Dodge and Bernett (2001), participatory planning is a system in which all stakeholders come together to brain storm ideas which are progressively consolidated into a plan. It is a situation whereby a community diagnoses their problem and come up with a plan of action to solve their socio-economic problems. The experts come in only to facilitate in order to assist the stakeholders to maximize their performance and optimize their result. According to FAO (1990), the plans that are done by people from outside cannot inspire the people to contribute in their implementation however technically sound they are. This is because what has been planned may not be the priority of the community. In this case, the community may not wholly own the project and consequently the project will not be sustainable.

The specialists are required but should act as facilitators. This is because none wants to take part in something that did not originate from him or her. Many donors in Mwala Sub County come up with plans and involve the community at the implementation level. This could be the reason why many water projects are not

sustainable. The researcher sought to establish how participatory planning influences on the sustainability of the water project in Mwala Sub County.

1.1.2: Participatory design

According to Asian Development Bank (1996), development that is meaningful needs early and substantial participation of all relevant stakeholders in the design of all activities that concern them. Participatory design is about engaging users in the design of new information technology, (Sanoff, 1990). When the community is involved in the design, there is high level of quality, usefulness and efficiency of development projects if stakeholders view their involvement and contribution as significant (Asian Development Bank, 1996). The donor organizations involve the community in the design to ensure that the end product meets the needs of the intended user.

The study sought to establish how the involvement of the end users in the design influences sustainability of water projects in Mwala. Many projects had stalled and others were not doing well as intended by the donors and the beneficiaries. Previous studies had shown that when the community is engaged in formulation of fundamental goals and design, it empowers the community and fosters a sense of ownership which results to sustainable outcomes (Asian Development Bank, 1996).

In Mwala Sub County, financiers of water projects come up with designs and then approached the community seeking their support to implement the already designed projects. The community rarely participated in the design of the project and when they did, it was passive as they only provided information. This could have been the reason why many water projects did not last long enough to serve the community and

provide access to water to the community. The study was seeking to establish how participatory design influences on the sustainability of water projects in Mwala Sub County.

1.1.3: Participatory implementation

Participatory implementation is the carrying out the activities as described in the work plan with all the stakeholders taking active role. It is where all the stakeholders come together to execute the plan in order to realize the desired outputs or outcomes. According to Fischhoff (2012), many participatory projects rest on the establishment of committees for the implementation phase like water management committee. The community should be involved in selection of the steering committees. Participatory implementation can help keep the project relevant and adapt to a changing environment (Fischhoff, 2012).

According to Warner and Abate (2005), community participation in the development initiative does cease with planning but must carry on through the execution and sustainability phases. Donors should involve the community in the management of activities, contributing directly to construction, operation and maintenance with locally available resources. Using of locally available resources and practices, that may include traditional system designs, methods of construction and other practices should be encouraged where suitable since communities are familiar with them and can conveniently contribute to them (Warner & Abate, 2005). The community is rich with resources and when they are involved can reduce the cost of implementation, for example, provision of local materials like sand, stones, unskilled labor in

implementation. Participatory implementation motivates people to work together and they thus feel the sense of community and recognize the benefits of their involvement.

According to Warner and Abate (2005), the personnel that are in charge for project development should be capacity built and have appropriate knowledge to discharge their responsibilities. The committee should be assisted by the funding agency to know the facets of project implementation and importance of regular and accurate monitoring implementation of the project. The responsibility for the management and operation of the water projects should be with the community and the donors should ensure that the community understands that to ensure sustainability.

In Mwala Sub County, most of the funding organizations engaged the community in implementation. However, in most cases, this was partial in that only in some aspects of the implementation did the community participate. Though some organizations have procurement committees constituting the community representatives, others do not have. This passive participation of the community in the implementation phase could be one of the reasons why the projects were not sustainable. The study sought to establish how participatory implementation influences on the sustainability of the water projects in the area.

1.1.4: Participatory monitoring and evaluation

According to World Bank (2010), participatory monitoring and evaluation is the process where stakeholders at different levels engage in monitoring or evaluating a certain project, program or policy, and then share control over the content and the results of the monitoring and evaluation activity and engage in taking or identifying

corrective actions. Ideally, the stakeholders should be involved in designing the data collection tools, data collection, analysis of the data collected and participate in feedback sessions. This recognizes that the stakeholders are not just providers of information but active participants in the exercise as well.

According to Philip et al, (2008), participatory monitoring and evaluation is one of the approaches that are undertaken to ensure that implementation of various activities in the plan of action plan contribute to expected outcomes. When the beneficiaries participate in monitoring and evaluation and make decisions on how to better implement the project, they are empowered and the project is likely to be sustainable. Participatory monitoring and evaluation motivates the stakeholders to contribute opinions to remedial actions. It also strengthens ownership in regard to successful results of activities that were planned. Monitoring project implementation is absolutely essential to ensure that the project is being implemented properly and necessary adjustments are made in order to realize the intended outcomes. Considerations must be done to define how various stakeholders will be involved in the monitoring and evaluation.

In Mwala Sub County, many projects that have been implemented were not sustainable. The donors who had been funding water projects in the area may not have been involving the community and other stakeholders fully in monitoring and evaluation of the projects from inception to completion. In most cases, the beneficiaries were involved passively through providing of the needed information. Once the projects implementation was complete, the funding organizations just

handed over the project to the community for management. The study was seeking to establish how participatory monitoring and evaluation influences sustainability of the water projects in Mwala Sub County.

1.2: Statement of the problem

Many of the water projects funded by donors in Mwala Sub County operate for less than 5 years and breakdown. This could be attributed to lack of Participatory project management where all the stakeholders are actively involved in all the processes of project from the start to the end of the project implementation. First it encompasses stakeholder involvement in planning where everyone is involved in identification of the needs, setting of the objectives and the goals and allocating resources. Secondly, it involves inclusive design of the project. The community understands their issues and therefore there is need to fully involve them in the design processes. Participatory project management also encompasses full involvement of all the stakeholders in the implementation of the planned activities in the plans. The community is very rich in resources including ideas and materials which are locally available. This involvement brings about ownership which ensures sustainability of the projects. Participatory monitoring and evaluation is very critical as it assesses if the project implementation is on course and enhances corrective measures to be taken if it deviates from the original plan. All the stakeholders should be involved in the process to build their capacities.

Participatory project implementation ensures that water projects are sustainable and that they operate for a significant time to provide water to the communities. However, this was not the case in Mwala Sub County as many projects had broken down. Water supply

in many water projects was unreliable, and once the projects break down, there were not enough funds to service the projects. Many water committees did not have enough operations and maintenance funds. Sustainability of water projects based on the objective of access to the water and the financial investment to the water projects is very critical to all stakeholders.

The sustainability of water supply and sanitation in rural Kenya would be achieved through a transition strategy where the local non-governmental organizations, community based organizations, faith based organizations and water users committees will take charge of water supply systems (Biamah, 2016). Many players had come in to invest their resources with an aim of improving access to water in communities. Despite these intensive efforts to handle the problem of water scarcity, many water projects do not operate for a many years to serve the purpose for which they were implemented. Numerous water projects are not fully completed during implementation while others operate for a very short period of time and close down. According to Biamah (2016), schemes that register lowest sustainability score usually are managed by weak CBO where the officials ignored their duties responsibilities and they rarely come together discuss the issues affecting the project. Sustainability of water projects in Mwala therefore has been a major concern. This study therefore was seeking to establish how participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation influence on sustainability of the water projects.

1.3: Purpose of the study

The purpose of this study was to establish how participatory project management influences sustainability of donor funded water projects in Mwala Sub County, Machakos County, Kenya.

1.4: Objectives of the study

The study was guided by the following objectives:

- i. To establish the extent to which participatory planning influences sustainability of donor funded water projects in Mwala Sub County.
- ii. To determine the extent to which participatory design influences sustainability of donor funded water projects in Mwala Sub County.
- iii. To establish the extent to which participatory implementation influences sustainability of donor funded water projects in Mwala Sub County.
- iv. To ascertain the extent to which participatory monitoring and evaluation influences sustainability of donor funded water projects in Mwala Sub County.

1.5: Research questions

- i. To what extent does participatory planning influence sustainability of donor funded water projects in Mwala Sub County?
- ii. To what extent does participatory design influence sustainability of donor funded water projects in Mwala Sub County?
- iii. To what extent does participatory implementation influence sustainability of donor funded water projects in Mwala Sub County?

- iv. To what extent does participatory monitoring and evaluation influence sustainability of donor funded water projects in Mwala Sub County?

1.6: Significance of the study

The study would be useful to various stakeholders. Findings and recommendations of this study will provide donors with information that once they mainstream in their programming will ensure that the water projects that they implement together with all the stakeholders are sustainable. The information will help the stakeholders in carrying out participatory planning where all the stakeholders are involved. The resources that they invest in the communities will bear fruits and contribute in alleviating poverty. The information provided after the study will assist the stakeholders to come up with proper project designs which are informed by all the stakeholders. These designs will ensure that the projects are sustainable and that they will continue to serve the community in providing water. The findings and information generated from the study will be helpful in enhancing stakeholder involvement in project implementation. The findings of this study will provide policy makers and implementers at county and national level with information that they can use to ensure that development is done in a manner that promotes sustainability of the projects. The information generated will also provide stakeholders and the community at large with insights on how they can participate in monitoring and evaluation of the water projects and make necessary adjustments in order to realize the objectives. The study has built on the existing knowledge and literature and also suggests areas of further study and research.

1.7: Limitations of the study

It was envisaged that some respondents would be hard to reach due to vast area and long distances to cover. To mitigate this, the researcher engaged two research assistants. It was also foreseen that there could be a challenge of time to extensively carryout the study. This was resolved through engaging research assistants to ensure that the study was done within the scheduled time. It was also foreseen that some respondents might not be willing to participate in the study for fear of intimidation by the superior persons and this was controlled through assurance to the respondents that confidentiality will be upheld.

1.8: Delimitation of the study

The study was seeking to establish the influence of participatory project management on sustainability of donor funded water projects in Mwala sub county, Machakos County, Kenya. The study solely focused on influence of participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation on sustainability of donor funded water projects. The target population was beneficiaries of water projects, donors of water projects and their partners in Mwala Sub County, Machakos County Kenya. The study involved a sample population of 377 beneficiaries, whose data was gotten through focus group discussions. Key informants included 6 programme coordinators of the funding agencies, 1 Sub County Water officer and 15 National administration officers (Chiefs). The study was undertaken to those donor funded water projects in Mwala Sub County acknowledging presence of other water projects funded by Governments and private investors. The researcher carried out the study in Mwala Sub County because it is the area where he was working and he could

conveniently study the project in Mwala Sub County. In addition, over the years, the researcher had noted significant failure of water project in the area. The number of the donor funded water projects were many compared to CDF funded and also it was easy to access the programme coordinators for information hence the reason to studying only donor funded projects.

1.9: Assumptions of the study

The study was guided by a number of assumptions; that the respondents would be willing to participate in the study; that the questionnaires administered to the respondents would be filled and returned for analysis; that the respondents would provide correct answers to the questions asked.

1.10: Definitions of significant terms

Project sustainability This is a state where the project activities and benefits go on for at least three years after the implementation of the project. According to this study, sustainable projects run efficiently for about 5 years.

Donor funded water projects These are water projects that are financed by Non Governmental Organizations. They include boreholes, earth dams and sand dams.

Project This is a short-term venture meant to attain some specific objectives within a defined time.

Participation This refers to the involvement of all the stakeholders in project management from inception to completion.

Water project This is a project that is designed and implemented with a purpose of providing safe drinking water to the community.

Participatory project management This refers to where all the stakeholders are actively involved in the project activities from inception to the completion.

Participatory planning This is where all the stakeholders are actively involved in the planning of the water project – need identification and analysis, goal setting and resource allocation.

Participatory design This refers to where all the stakeholders are actively involved in design of the water project including activity setting and scheduling, responsibility sharing and budget preparation.

Participatory implementation This refers to where all the stakeholders are actively involved in the actualization of the plans in order to realize the objective.

Participatory monitoring and evaluation This refers to where all the stakeholders are involved in the day to day assessment of the progress of the project implementation to ensure it stays within the set track.

1.11: Organization of the study

This study was organized in five chapters:

Chapter one focused on the introduction of the study, background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, and significance of the study, delimitations, limitations, and assumptions of the study. It also defined significant terms as they are used in the study.

Chapter two was a review of the literature on participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation. It also focused on the independent and dependent variables and how they related to each other which was shown in conceptual framework.

Chapter three focused on research methodology which covered research design, target population, sampling procedure, data collection instruments, methods of data collection, validity and reliability of the instruments, ethical considerations, operational definition of variables, and methods of data analysis.

Chapter four focused on analysis of data, presentation and interpretation whereas chapter five focused on summary of findings, discussions, conclusions and recommendations.

CHAPTE R TWO

LITERATURE REVIEW

2.1: Introduction

This chapter covers the factors that influence the sustainability of donor funded water projects (participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation). It also encompasses theoretical framework, conceptual framework and summary of research gaps.

2.2: Sustainability of donor funded water projects

According to World Commission on Environment and Development (1987), the development that is deemed sustainable is the one addresses and meets needs of the present generation without compromising the ability of future generations to meet their own needs. Sustainability means to function in a manner that may be sustained forever which means to produce something without diminishing or wiping out the necessary resources (Köhler et al, 2012). Sustainability of water projects means that the beneficiaries of the project will continue to get safe water for a period not less than 3 years. Sustainability of water projects is very important to the stakeholders since it acts as a measure of success or failure of the project.

According to Norgaard (1992), sustainability is the ability to maintain a given flow over time from the base upon which that flow depends. According to Kithinji (2016), sustainability of project is the ability to secure and manage sufficient resources to enable fulfillment of its mission effectively and efficiently over time without over depending on

any single donor for such resources. Water projects that are sustainable are able to provide water to the community for a reasonable time of about 3- 5 years. The water supply is ever reliable and the beneficiaries are assured of water at any time. For the water projects to be sustainable, all stakeholders have to come together and join efforts to initiate the projects from inception to the completion of the projects. Sustainable water projects are able to generate enough money that is usually used for operations and maintenance. The income generated is able to finance expenses like payment of casual laborers, repairs in case of breakdowns and servicing of the water facility equipments.

Safe, affordable and accessible water is very important for healthy living of human beings. Despite the importance of clean water, about a billion people in the third world countries do not have access to safe and water supply which is sustainable. An estimate of about 7.5 litres of water per person for every day is needed for purposes of drinking, cooking and personal hygiene. In order to cater for all the needs, one person requires at least 50 liters per day. Domestic water requirement is endangered by demands for agriculture and increasing population. In Kenya, water is scarce especially in arid and semi arid areas. This has even brought about death of human beings and animals, a situation which is becoming worse and worse every day. In Mwala Sub County, water supply was not reliable as some projects were not able to produce enough water for the community. Some projects had broken down while others were mismanaged to the point breaking down. This study sought to understand the influence of participatory project management in sustainability of the water projects in Mwala Sub County.

2.3 Participatory planning and sustainability of donor funded water projects

According to Royal Town Planning Institute (2001), participatory planning involves a set of processes through which different groups and interests engage together in arriving at a consensus on a plan and the implementation of the plan. It is the initial step in the definition of a common agenda that is meant for development by a local community and an external entity (Olthelen, 1999).

Involving the community in the planning stage is very important and contributes immensely to the success of the project. This is because the community knows what they need more than the outsiders and they should be allowed to champion their agenda. When identifying the needs of the community, the donors engage them to provide the information. This is because the local people are the best source of knowledge and wisdom of their surroundings (Wates, 2000). Participatory planning ensures that the community owns the project and that eventually it will be sustainable for they will give their full support to the project. Though the practice is now changing gradually, many donors did not engage the community at the planning stage which explains why such projects fail. If the donors did it, it was partial where the community members are just but providers of information.

According to Abeyratne (1990), previous studies found that farmers had little idea involving hydrology of parts of watersheds outside the village areas. This was done in Sri Lanka to plan for small tank rehabilitation interventions. In Asia, holistic approach is put in consideration where community participation in villages to manage water projects especially in areas facing water stress. This is needed to ensure sustainability of drinking

water supply (Reed, 2002); this has to be done by investing in awareness generation and capacity building of the Panchayats and communities (Reed, 2002).

In a study conducted in Mbeya District in Tanzania, it has been acknowledged that participatory approach is useful in community development because it stimulates a sense of ownership to the water projects (Ntonjera, 2008). The government of Kenya has employed participatory development as an approach to build capacities of disadvantaged communities to be in control of their own lives by building collaborations with donors and local communities (Mwanzia & Strathdee, 2010). Hayward, Simpson and Wood (2004), argued that participatory approaches are being introduced with no proper understanding of how local stakeholders perceive and experience participation.

In Mwala Sub County, many funding agencies had sought to assist the communities to access water. Some had involved the community in planning through inclusion of their representatives in the planning committee while others involve the community and other stakeholders partially. A number of projects had been initiated but some had stalled while others are not providing water as initially intended. Limited involvement could be the reason for failure of the projects to stand the test of time and be sustainable. The study was seeking to establish the influence of participatory planning on sustainability of donor funded water projects in Mwala Sub County.

2.4 Participatory design and sustainability of donor funded water projects

According to Gosselink (1995), in the conventional design process, the role of water users is relatively limited. There is great potential for the farmers to contribute to the design process if they are allowed to express their alternative sets of design criteria which take into account their local knowledge and experience.

While designing community water projects, the community should be involved in the design stage to bring in their contribution to the design of the project. In most of the times, design processes do not engage the community or populations groups causing the solutions to be ineffective for the targeted groups. According to Plummer (1999), the community provides crucial information through discussions which can be used in design of the projects. Sustainability of the water projects therefore depends on the information provided by the community and how that information is utilized to design water projects.

While designing community projects, the beneficiaries play a big part in provision of the locally available materials. Donors should involve the community in budgeting to ensure that every resource required in the project is budgeted for and at the right cost. According to Rogers et al (2012), if a project is designed in consultation with the stakeholders, there is likelihood that it will be sustained. This is because when people are involved in making of decision, they build up a sense of ownership of the venture and feel motivated to sustain it. Appropriate design depends on the needs of the community and situation and with no contribution from the diverse members of the community it is doubtful that the infrastructure that was brought from outside will be appropriate (Gleitsmann, Kroma & Steenhus, 2007). On the other hand, rural Africans have the lower level of access to water

and sanitation facilities compared to other developing areas of the world, (UNESCO-WWAP, 2003).

According to Oyugi (2008), participatory design within the context of developing countries in Africa is an emerging area of interest in the Participatory Design. In Kenya, the funding agencies initiate projects that they have solely designed and only few involving the community. Water intervention designs should be made in a manner that they will serve the community to sustainably access water. The designs differ from one area to another much as they serve the communities differently. For example, while in Mbiuni earth dams may do better than boreholes due to salinity, boreholes in Wamunyu serve better since the water table is far. The community understands these dynamics and when involved in the design stage, they provide useful information that ensures that the projects are sustainable. The study was seeking to establish how participatory design influences on the sustainability of donor funded water projects in Mwala Sub County.

2.5 Participatory implementation and sustainability of donor funded water projects

Implementation stage in project management is the phase where the visions become reality. According to Gopal (1995), NGOs must whenever possible employ staff from their targeted communities, familiar with social-cultural characteristics of the community, to work on matters relating to the sub-project. Participatory implementation leads to the empowerment of the community which creates an enabling environment for the beneficiaries to take charge of the implementation. Involvement of the people increases a sense of ownership of the project hence sustainability. Unfortunately, most donors rarely involve the beneficiaries leaving them out of the implementation process. In other

instances, the involvement of the end users is partial and mostly occurs when the project is complete during the handing over. If people do not participate in a project during implementation, they will not own the process, results and the assets or outcomes.

Investment in the human and social capital of youthful persons through participation in community solving problem is the best way to build capacities and connections (Sanoff, 2000). The youth through this engagement take up roles that make them active members in the communities. Through this, the projects that are implemented are likely to be sustainable for they will own them and manage them after the withdrawal of the donor support. Community work is seen as a way to fill the need for a sense of community and a sense of practical accomplishment (Boyte, 1991).

In Mwala Sub County, some donors involved the community in project implementation while others either did not or partially involved the community. This had largely affected sustainability of the projects with some failing totally after they are implemented. The study was seeking to establish how participatory implementation influences on the sustainability of donor funded water projects in Mwala Sub County.

2.6 Participatory monitoring and evaluation and sustainability of donor funded water projects

Participatory monitoring and evaluation is a process through which stakeholders at different levels engage in monitoring or evaluating a certain project, program and share control over the content, process and results of the monitoring and evaluation activity and engage in taking corrective actions (World Bank, 2010). According to Estrella and

Gaventa (1998), there is increased acknowledgement that monitoring and evaluation need to be participatory as a result of promotion of broad-based participation in development.

While implementing water project, all the stakeholders should be involved in the monitoring and evaluation process. According to Phillip et al (2008), participatory monitoring and evaluation is one of the various approaches to ensure that the implementation of the projects within the plan of action results to the expected outcomes. The involvement of the community in the monitoring and evaluation process helps to identify gaps in the project and take corrective measures before the project deviates from the original plan. It builds the capacities of the community to continue monitoring the project long after its completion to ensure continued supply of benefits hence sustainability.

According to Waweru (2011), in a research conducted in Nuu Division in Mwingi East District, “there was a positive relationship between monitoring and evaluation on sustainability of water project”. Community participation is at the core of any community based/driven development project; the ability of the community to improve their lives largely depends of how they are going to participate in the development (Binswanger-Mkhize et al, 2010).

Monitoring involves continuous assessment of the implementation of the project in relation to established schedules, the use of inputs, infrastructure and services by the users with an aim of providing feedback on implementation (Akampurira, 2014). It helps the stakeholders to make adjustments in case the project deviates. On the other hand, evaluation is periodic assessment of the performance of the project, relevance, impact and

efficiency according to the initially set objectives. It can be done at the mid-term or at the end of the project implementation.

According to Malik et al (2002), monitoring and evaluation contributes to the achievement of the objectives by supporting decision-making, accountability, learning and capacity development. While Project monitoring and evaluation brings about many potential benefits to the success of project or program, it could also result to time and resources wasting and failure if it is done poorly or inappropriately (Estrella & Gaventa, 1998). In a Mid-Term Evaluation Report, of Mount Kenya East Pilot Project for Natural Resources Management, done by Ministry of Water and Irrigation, IFAD and MKEPP (Mt. Kenya East Pilot Project), they noted that the existing monitoring and evaluation systems have failed due to factors including poor system design through collecting more data than is required or even analyzed; insufficient staffing of monitoring and evaluation in terms of quantity and quality; also involves either missing or delayed baseline studies for use in project comparisons and evaluation; postponement in processing data, often caused by inadequate processing facilities like appropriate software and capable staff and in adequate utilization of results for both feedback and sustainability (Republic of Kenya, 2009).

In Mwala Sub County, many projects that had been implemented are not sustainable. The donors who had been funding water projects in the area may not have been involving the community and other stakeholders fully in monitoring and evaluation of the projects from inception to completion. In most cases, the beneficiaries were involved passively through providing of the needed information. The study was seeking to establish how

participatory monitoring and evaluation influences sustainability of the water projects in Mwala Sub County.

2.7 Theoretical frame work

According to Korten (1990), authentic community participation enhances sustainability of community development projects. When the community is fully involved in the development agenda, it brings about social and personal empowerment, economic development and social political transformation (Kaufman & Alfonso, 1997). Involvement of community ensures that they own the process and empowers them to a level where they can take up issues in the project and solve the problems while addressing their needs. Sustainability has become an important issue to all development players including government and donors. The significance of the idea of sustainability can be seen from the manner sustainability is utilized as one of the five standards in evaluating development projects (Brown, 1998). Development agents are very conscious of the term which makes them to ensure effectiveness while implementing projects. According to Goldsmith & Brinkerhoff (1992), USAID and World Bank's post evaluation confirm that many of development projects have diminished levels of sustainability after they have been completed.

2.7.1 Expectancy Theory of Motivation

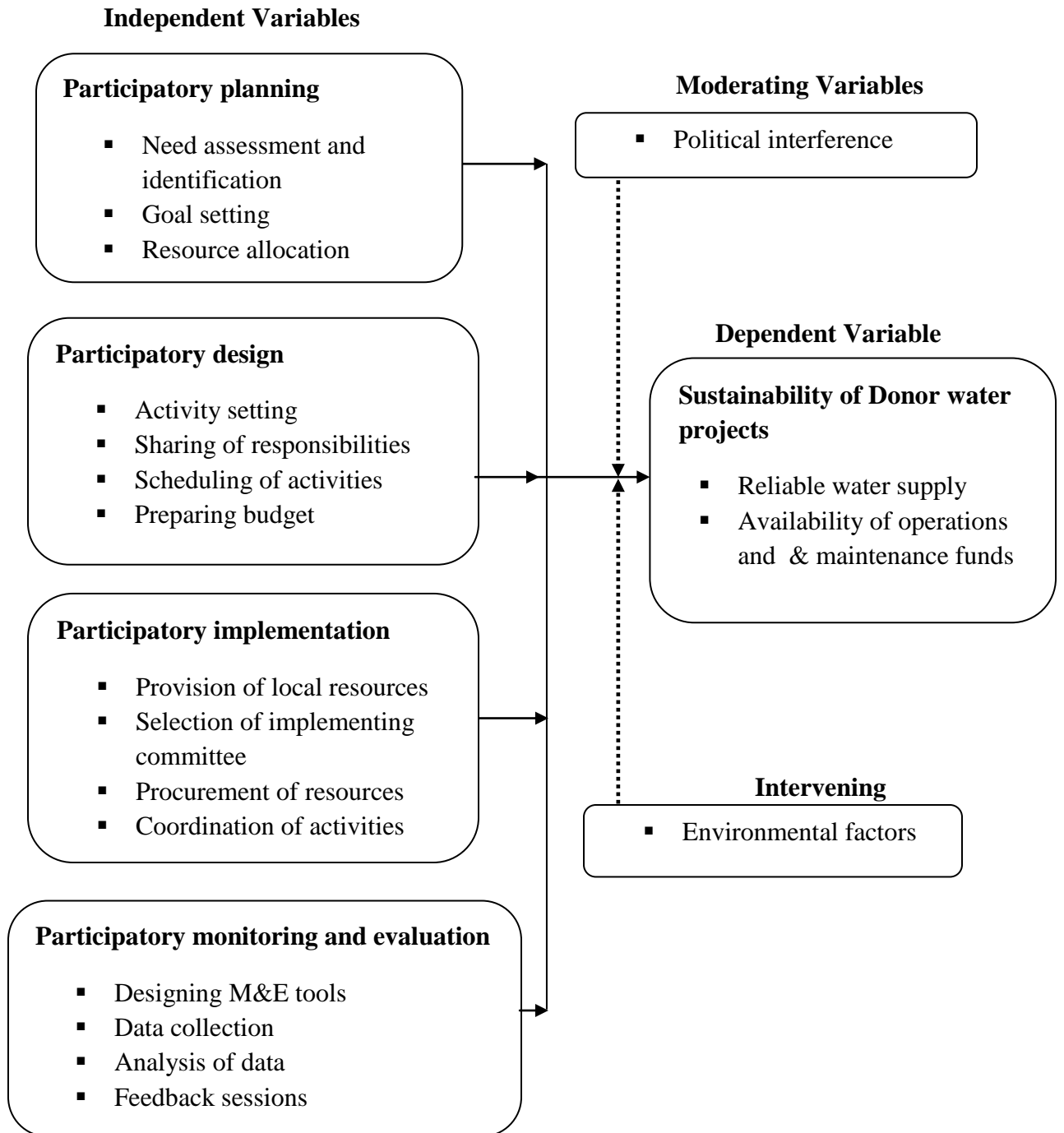
Victor Vroom developed the theory of motivation in the year 1964 as a substitute to the content theories of motivation. It simply refers to any context where individuals do have expectations from anything that they do. It affirms that behavior that is motivated is usually increased if a person perceives a positive relationship between effort and performance – i.e. the outcome. He stresses on outcomes and also focuses results. The theory does state that the intensity of a tendency to perform in a certain manner depends on the intensity of an expectation that the performance will be followed by a definite outcome. The motivation of people towards doing something is greatly determined by the value they place on the outcome of their effort.

This theory relates to the study that the participation of the stakeholders in the project depends on the outcome that they are expecting to realize. The community is more likely to participate in the project if the results of the project are going to benefit them. While participating in implementation of water projects, the stakeholders expect to get water for domestic use. The community will therefore be expecting to increase access to safe drinking water and hence will be very active in the processes to avail water. Involvement of stakeholders, value for their contribution and the end result which is water will motivate stakeholders in water projects to participate in initiation of water projects.

The diagram below shows the relationship between the independent, moderating, intervening and dependent variables.

2.8 Conceptual framework diagram

Figure 1.0: Conceptual framework diagram



2.9 Explanation of variables in conceptual framework

The conceptual framework comprised of four independent variables, moderating variable, intervening variable and dependent variable. The first independent variable, participatory planning consisted of need identification and analysis, goal setting and resource allocation as indicators. The second independent variable was participatory design which had activity setting, responsibility sharing, activity scheduling and budget preparations as indicators. The third independent variable was participatory implementation which comprised of provision of local resources, implementation committee selection, procurement and coordination of activities indicators. The fourth and last independent variable was participatory monitoring and evaluation which had monitoring and evaluation tool design, data collection and analysis and feed backing as indicators.

The above mentioned independent variables have influence on the dependent variable which is sustainability of donor funded water projects. The performance is measured by reliable water supply, and availability of operations and maintenance funds that are generated by the project. Manipulation of either of the independent variables affects the dependent variable. The conceptual framework acknowledges presence of moderating variable of political influence and intervening variable of environment factor. These were held constant during the study.

The dependent variable is sustainability of donor funded water projects which is influenced by the aforementioned independent variables. The measure of sustainability entailed reliable water supply, and availability of operations and maintenance funds that were generated by the project.

2.10 Summary of research gaps

Table 2.1 Summary of research gaps

The author	Focus	Findings	The gap	Focus of the current study
CHANASA, (2013)	Factors influencing sustainability of rural Community based water projects in Mtito Andei, Kibwezi sub-county, Kenya	Stakeholder participation enhances efficiency of the water project and sustainability of the project	The study's variables did not include participatory monitoring and evaluation	The current study includes participatory monitoring and evaluation as one variables
ONG'WEN, (2014)	Factors influencing sustainability of community water projects In Shianda division, Kakamega county – Kenya	The findings indicated that community participation had the highest influence on sustainability CWPs, followed by community capital contribution, then community education and training on technology while project location had the least influence on sustainability CWPs	The study did not focus on Participatory design	The current research includes participatory design as one of the variables for study.
TIFOW, (2013)	Factors influencing sustainability of rural water supplies in Kenya:	The study found that community participation was important to sustainability of rural water supply projects	The study did not seek to establish solely the influence of participatory design	The current research includes participatory design and participatory monitoring and evaluation as one of the variables for study.
NTHENGE, (2014)	Factors influencing sustainability of donor funded projects: a case of Wenje water Projects in Tana river county, Kenya	Local community participation would increase the projects' sustainability.	The researcher did not focus on stakeholder involvement in design	The current study considered participatory design and participatory implementation
APELI, (2015)	The researcher focused on capacity development process, institutional	Water management institutions have challenges with water	The researcher did not study influence of	Influence of participatory planning,

	development, financial factors and community participation in decision making, ownership and monitoring and evaluation	resources conservation practices	participatory implementation and participatory design	participatory implementation and participatory design
MUTONGA, (2015)	Factors influencing sustainability of donor funded community water projects: a case of Kitui central constituency, Kitui county, Kenya	The respondents were not involved in the implementation of the community projects in all the phases	The researcher did not focus on participatory monitoring and evaluation and participatory design	The current study focuses on participatory design and participatory monitoring and evaluation.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives an overview of the research design, the target population, size of the sample and sampling procedure, data collection instruments, procedure of data collection and analysis, and ethical considerations.

3.2 Research design

The study adopted descriptive survey design to carry out the research. The study adopted this because it would describe the state as it is without manipulating the data and that the respondents were be asked questions using questionnaires whose response will be described. According to Kerlinger (1973), descriptive survey design studies large populations by selecting and studying sample that has been chosen from the population to determine the relative incidence, distributions and interrelations. The data that was collected was both qualitative and quantitative which after analysis explained the relationship between independent variables (participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation) and dependent variable (sustainability of donor funded water projects). This method provided information of the attitudes and values of the population which were qualitative in nature. Questionnaires were used to collect data from the respondents. The researcher used questionnaires because it was easy to administer to large sample of the target population at a low cost and analysis of the data was easy.

3.3: Target population

The target population comprised of all individuals that the researcher could reasonably generalize findings (Cooper & Schindler, 2006). The target population was beneficiaries of donor funded water projects in Mwala Sub County, Water Management Committee members, Mwala Sub County water officer, National Government Administration Officers (Chiefs) and the project coordinators of the funding organizations. The total population served by the water projects was 15,900. Sample population was 377 beneficiaries from whom the researcher contacted focus group discussions. The researcher also engaged 2 committee members from each project hence 70 water management committee members. 15 National Government Administration officers (chiefs), 1 Sub County Water Officer and 6 project coordinators from the funding NGOs were also involved.

3.4: Sample size and sampling procedure

A sample is a group in research study on which information is obtained while sampling is the process of selecting these individuals. It is a selection of respondents that are chosen in a manner that they characterize the total population.

3.4.1 Sample size

According to Mwala Water Sanitation and Sewerage Company Limited, Mwala Sub County had 35 donor funded water projects that had been implemented. These included 27 boreholes, 5 earth dams and 3 sand dams. According to ECDP Area Strategic Plan, a borehole is expected to serve an estimate of 500 households; an earth dam is expected to serve 450 households while a sand dam should serve 50 households. Based on the Krejcie

and Morgan (1970) table, the sample size of the population of 15,900 is 377. With size of 12 persons, the focus groups were 31. The donor agencies that had financed water projects in the area are 6. Mwala Sub County has 15 locations with each 1 National Government Administrator Officer (Chief). The area has 1 Sub County Water Officer who is in charge of the area. The researcher therefore engaged 6 project coordinators of the funding agencies as key informants. In order to enrich the data triangulation was adopted hence the researcher included all the 15 National Government Administration Officers (Chiefs) and the Sub County Water Officer. The number of Key informants therefore was 22.

3.4.2 Sampling procedure

The study employed census to select 6 project coordinators of the implementing NGOs in Mwala Sub County, 15 National Government Administration Officers (Chiefs) and 1 Sub County Water Officer as key informants. Purposive sampling technique was used to select 2 committee members from each of the 35 water projects, one of the committee members must be the chairman depending on the researcher's judgment on the elements and the nature of research objective. According to Krejcie and Morgan (1970), the sample size of the population of 15,900 is 377. The researcher purposively selected 31 focus groups comprising of an average of 12 persons. The borehole projects had 27 focus groups, the earth dams had 3 focus groups and the sand dams had 1 focus group who were selected randomly.

3.5 Data collection instruments

According to Mugenda and Mugenda (2003), there are many ways of collecting data to answer survey questions. To ensure data is reliable, it should be collected from various sources. In this study, the researcher used three instruments to collect data which included questionnaires to get data from the beneficiaries of the water projects and two interview guides; one for focus group discussions and the other for key informants. According to Kombo (2006), a questionnaire is a research tool that gathers data from a large sample. The questionnaire was divided into three sections with the first section seeking to gather personal information, the second collected data of the project status and the third section captured data on the variables under study. The interview guides had open ended questions which focused on the four objectives of the study. For the focus group discussions, there was also a bio data form that was used to capture details of the respondents such as age, gender, marital status, occupation and level of education. The questionnaire was appropriate because it helped the researcher to get data from many respondents within a short period of time compared to one of one interviews and also the data collected could be easily analyzed more scientifically and objectively.

3.6: Validity and reliability

According to Mugenda and Mugenda (2003), validity involves the extent to which a research instrument measures what it is required to measure while reliability is the stability and consistence with which a research instrument measures what it is supposed to measure. In survey research, a pilot study is important to test the appropriateness, suitability and effectiveness of the instruments before the actual study is carried out, (Cohen & Swerdlik, 2002). According to Ursula, a pilot study is small scale trial

intended to assess the suitability of a research design and of the instruments for data collection (Ursula, 2010). The instruments were piloted with a small population but not the target population with same characteristics to establish their validity and reliability. In most cases, is it impossible to be 100 % valid thus validity is measured in degrees. According Black (1993), to ensure validity, any instrument must measure what it was intended to measure.

3.6.1 Validity

In order to ensure content validity, the research instrument was pre-tested through a pilot study which was done in Matungulu Sub County which borders Mwala Sub County. This ensured that the research instrument was refined to ensure that the results obtained from the field would be valid. In order to determine the content validity of the instruments, the researcher carried out a pilot study from randomly selected respondents who had same characteristics with the target population. This helped to confirm if the respondents interpreted the questionnaire in the same way. Modifications and revisions were made to ensure validity. The researcher also sought opinion of the supervisor in order to establish the validity of the research instrument through revision and modification. The researcher also made sure that the format of the instrument was appropriate.

3.6.2 Reliability

In order to test reliability of the instruments, the researcher carried out a pre-test with randomly selected beneficiaries of water projects from Matungulu Sub County which borders Mwala Sub County. This is according to Andale (2016), who argues that to test the internal consistency of a test; the test should be administered to a large group of people and sets the ideal number at 30 or more. In order to improve the reliability, the

researcher standardized the conditions under which the measurement took place. The research assistants were trained prior to data collection.

The numerical scores from the pre-test were split into two halves, one for odd items and the other for even items. The two sets of the values were be correlated using Pearson Product Moment Correlation Coefficient to calculate the coefficient of the relationship. According to Berthoud (2000), a research instrument must have a reliability correlation coefficient of 0.7 and above.

The formula that was used to calculate the correlation coefficient was:

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

Where

r = product moment coefficient

N = the number of subjects

X = the sum of each subjects scores for odd numbers

Y = sum of each subjects scores for even numbers

The researcher obtained correlation coefficient of 0.78 which was above 0.75 as proposed by Kasomo (2006). The researcher made sure that research assistants understood the interview guides before they embarked on data collection through training.

3.7 Data collection procedure

The researcher got a letter of approval from the University and a research permit from National Council for Science and Technology in order to conduct the study. Data was collected using questionnaires that were administered to the respondents and collected after two weeks for analysis. The researcher explained the purpose of the study to the respondents before conducting the data collection exercise and sought their consent. Courtesy calls and visits were done to remind the respondents to fill the questionnaires. The questionnaires were administered to the respondents who filled and returned for analysis.

While collecting data from key informants, the researcher booked appointment with the key informants where the researcher used note book and pen to record the responses. This was done in the offices where the key informants work. Before the interview, the key informant were be notified in time and appointment booked for them to provide information. Research assistants were used to collect data from focus group discussions and were trained before embarking on the collection of the data. The focus groups were comprised of the beneficiaries of the water projects. They were be mobilized by the area Chief and assistant chief with the help of village managers and brought in a central place. One of the research assistants was the moderator while the other was the note taker. A voice recorder was also be used to record the conversations of the focus group members. The research assistants informed the group members the purpose of the study and assured them of confidentiality of the information provided.

3.8 Data analysis

The study adopted both qualitative and quantitative methods of data analysis. During the data analysis, the researcher checked the completeness and consistency of the questionnaires. The data collected through questionnaires was firstly edited, then coded and descriptively analyzed using Statistical Package for Social Sciences (SPSS) IBM version 22 where the expected output was in form of percentages and frequency distributions. The qualitative data from the focus group discussions and key informants was cleaned up and categorized into themes and coded for analysis. The themes were then analyzed through content analysis. The findings were presented using tables which generated the conclusions and recommendations.

3.9 Ethical Considerations

During the study, care was taken to ensure that the research did not compromise the dignity of the respondents. The researcher communicated to the respondents before their engagement that the information they provided would be treated with confidentiality and the identity of the respondents would not be disclosed. The researcher sought written consent of the respondents to participate in the study. No respondent was coerced to participate in the study. The researcher assistants were trained before they administered the questionnaires to ensure that they conformed to the ethical standards. The respondents were also informed that the information they provided would be used solely for the purposes of this study. The respondents were informed the purpose of the study before they provided any information as well as how it would impact on them.

3.10. Operational definition of variables

Table 3.1: The below table shows the operational definition of variables:

Objectives	Variables	Indicators	Measurement	Data collection	Data analysis
To establish the influence of participatory planning on sustainability of donor funded water projects	Independent variable-planning	Involvement in needs identification and analysis	Ordinal	Personal interviews KII	Correlation and descriptive statistics
		Involvement in mapping	Nominal	Personal interviews KII	Correlation and descriptive statistics
		Training of the water management committees	Ordinal	Interviews	Correlation and descriptive statistics
To determine the influence of participatory design on sustainability of donor funded water projects	Independent variable-design	Involvement in activity setting	Ordinal	Personal interviews KII	Correlation and descriptive statistics
		Responsibility sharing	Nominal	Personal interviews KII	Correlation and descriptive statistics
		Activity scheduling	Nominal	Personal interviews KII	Correlation and descriptive statistics
		Involvement in budget preparation	Ordinal	Personal interviews KII	Correlation and descriptive statistics
To establish the influence of participatory implementation on sustainability of donor funded water projects	Independent variable-implementation	Appointment of project managers	Ordinal	Personal interviews KII	Correlation and descriptive statistics
		Involvement in selection of implementing committee	Ordinal	Personal interviews KII	Correlation and descriptive statistics
		Involvement in procurement	Ordinal	Personal interviews KII	
		Involvement in activity coordination	Nominal	Personal interviews KII	
To determine the influence of participatory monitoring and evaluation on sustainability of donor funded water projects	Independent variable-monitoring and evaluation	Involvement in designing M & E tools	Ordinal	Personal interviews KII	Correlation and descriptive statistics
		Involvement in data collection	Ordinal	Personal interviews KII	Correlation and descriptive statistics
		Involvement in data analysis	Ordinal	Personal interviews KII	
		Participation in feedback sessions	Nominal Ordinal	Personal interviews KII	

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1: Introduction

This chapter comprises of data analysis, presentation, interpretation and discussion. It is organized according to the objectives of the study which include participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation of donor funded water projects. The data that has been analyzed is presented using frequency tables and followed by interpretation and explanations of findings of participatory project management and sustainability of donor funded water projects in Mwala Sub County in Machakos County.

4.2: The response rate

This section consists of the response rate of the questionnaires and the interviews. In this study, the researcher administered 123 questionnaires to the respondents. The researcher got back 80 questionnaires were filled and returned for analysis. The response rate was 65.04 % which is considered sufficient for analysis and drawing of conclusions. According to Babbie (2002), a response rate of 50 % and above is adequate for making conclusions. Data was collected through questionnaires, focus group discussions and interviews.

4.3: Demographic characteristics of the respondents

The questionnaire used to collect data from water management committee members had section A which sought to get demographic information of the respondents which included gender, age and level of education.

4.3.1 Distribution of respondents by gender

The summary of the respondents by gender are as shown in table 4.1 below.

Table 4.1: Distribution of respondents by gender

Categories	Frequency	Percentage
Male	32	71.1
Female	13	28.9
Total	45	100.0

According to table 4.1, majority of the respondents were males at 71.1 percent while the female respondents stood at 28.9 percent. This shows that most of leadership roles are taken by men. This could be attributed by desire of men to be in positions of power and resource control in the community. Although women are involved in leadership of the water projects, the percentage is small yet they are the most affected by issues of water. This concurs with the findings of Nkonya (2008), who revealed that women and children who suffer in terms of illnesses and lost opportunities as they spend millions of hours each year fetching water which traps them in vicious cycle of poverty.

4.3.2 Distribution of the respondents by age

The summary of the respondents by age is as shown in table 4.2

Table 4.2: Distribution of respondents by age

Categories	Frequency	Percentage
18-30 years	0	0.0
31-40 years	5	11.1
41-55 years	31	68.9
Above 55 years	9	20.0
Total	45	100.0

As shown in table 4.2, majority of the respondents were aged between 41-55 years at 68.9 percent. Committee members aged between 31-40 years were 11.1 percent while those aged above 55 years were 20.0 percent. However, there was no committee member aged between 18-30 years. This is the category of youth and it signifies that the youth are not involved in the management of donor funded water projects. Most of youthful persons are out of the community in town for employment reasons and the few that are available rarely participate in community development projects. This is to indicate that most water management committee comprise of adults because that age bracket is the most responsible at the community level and are the steers of the development. Moreover, they are the available at the community level after the youth have left for employment in urban areas. This implies that the youth are left out in the agenda of development.

4.3.3 Distribution of the respondents by level of education

The summary of the respondents by education level is as shown in table 4.3

Table 4.3: Distribution of respondents by level of education

Categories	Frequency	Percentage
No schooling	0	0.0
Primary	12	26.7
Secondary	25	55.6
Diploma	4	8.9
University degree	4	8.9
Total	45	100.0

From Table 4.3, there were no committee members who had not attended school as there was no respondent with no schooling. Those who had primary level of education as the highest were 26.7 % while those who had attained secondary education were 55.6 % being the majority. Committee members who had attained diploma and university degree both stood at 8.9 %. When asked about training of the committee, most of the respondents (44.4 %) noted that they had been trained on management of water projects. This indicates that most of the committee members are educated and sustainability of most of the water projects could be attributed to education status of the members. This implies that knowledge and skills gained greatly assisted in ensuring that the projects are better managed hence sustainability.

4.3.4 Duration of leadership in the committee

The summary of the respondents by duration of leadership in the committee are shown in table 4.4

Table 4.4: Distribution of respondents by duration of leadership in the committee

Categories	Frequency	Percentage
Less than 1 year	4	8.9
1-3 years	10	22.2
3-5 years	17	37.8
More than 5 years	14	31.1
Total	45	100.0

From table 4.4, committee members who had been in the leadership for less than 1 year were 8.9 %. Committee members who had between 1-3 years were 22.2 % while those in leadership between 3-5 years were the majority at 37.8 %. This indicates that majority of the committee members had been in the leadership of the water projects for a longer time as the highest percentage was 37.8 % of those who had managed the projects between 3-5 years. Those who had been in leadership for more than 5 years were 31.1 %. This implies that the management committee had gained enough experience on the issues of management in addition to the training they had received hence sustainability of most of the projects.

4.4: Findings of the four objectives of the study

The study investigated influence of participatory project management on sustainability of donor funded water projects in Mwala Sub County. The guiding objectives were participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation.

4.4.1: Influence of participatory planning on sustainability of donor funded water projects

The first objective of the study was to establish how participatory planning influences sustainability of donor funded water projects. The researcher sought to know if all stakeholders were involved in identification of needs and analysis, goal setting, and resource allocation. In addition, the researcher sought to know if there were community representatives in planning and if the opinions of the community were considered in the plan.

Table 4.5: Influence of participatory planning on sustainability of donor funded water projects

Participatory planning	Percentage
All stakeholders involved in need assessment and identification	25.0
Implementation team engaged the community in goal setting	18.2
Donor organization involved all stakeholders in resource allocation	18.2
Involvement of community representatives in the planning	18.2
Consideration of community opinions in the plan	20.5
Total	100.0

Table 4.5 shows that stakeholders were involved in need assessment and identification at 25.0 %. At the same time, 18.2 % of the respondents agreed that the implementation team engaged the community in goal setting; that the donor organization which included Eastern Community Development Programme, World Vision, JICA, African Development Services, Engineers without Borders and Catholic Sisters involved all stakeholders in resource allocation and there was inclusion of community representatives in planning. From table 4.5, 20.5 % of the respondents noted that community opinions were considered in the plans. This implies that the donor organizations involved the

stakeholders mostly in need identification and analysis and consideration of their opinions. However, the level of involvement in goal setting, resource allocation and representation in planning was low at 18.2 %.

The study revealed that planning is important in project management and sustainability of the water projects. In many of the projects that are doing well, the respondents noted that they were involved in need identification analysis. The results concur with findings of Wang & Gibson (2008), who argued that traditional wisdom and analysis are very important and the more there is in a project, the more successful the project will be. When the stakeholders are involved in the planning stake, the project is more sustainable and the community appreciates if their opinions are put into consideration in the project planning. This implies that the stakeholders should be involved in the planning of the project from the onset of the project in order to enhance the sustainability of the projects.

4.4.2: Influence of participatory design on sustainability of donor funded water projects

The second objective was to determine how participatory design influences sustainability of donor funded water projects.

Table 4.6: Influence of participatory design on sustainability of donor funded water projects

Participatory design	Percentage
Involvement of all stakeholders in activity setting and scheduling	26.7
Involvement of stakeholders in allocation of responsibilities	23.3
Involvement of all stakeholders in budget preparations	0.0
Involvement of community in design of project	23.3
Consideration of community opinions in the design	26.7
Total	100.0

From table 4.6, it was found out that stakeholders were involved in setting of project activities and scheduling at 26.7 %. Respondents who noted that stakeholders were involved in both allocation of responsibilities and community involvement in design of the project were 23.3 %. Interestingly, none of the respondents agreed that they were involved in preparations of project budgets by the donor organizations. The response on involvement of stakeholders in budget preparations was 0.0 %. Responses on consideration of community opinions in the design of the projects were at 26.7 %. The findings that stakeholders were involved in setting of activities and scheduling showed that the donor organization involved them. This implies that the project will be successful and sustainable as it influences how the project fairs during and after implementation. However, the donor organization did not involve the stakeholders in preparation of the budgets and this can be attributed to failure of some of the projects and their inability to last for a long time.

The findings revealed that although the stakeholders were involved in setting and scheduling of project activities, they were not involved in preparations of budgets of the projects. This might have negative effect in the performance and sustainability of the water projects. Exclusion of the stakeholders in the preparation of the budgets affected the performance of the projects as they never knew how the project cost. The findings also revealed that the donor organizations involved the stakeholders though in lesser margin of 23.3 % in design and that they included the opinions of the community in the design of the project. The communities usually have a wealth of knowledge and their opinions should be considered in the design of the projects. This is because of their experience and they usually know what is best for them and acceptance of their opinions

greatly affects the performance of the project and sustainability during and after implementation.

Findings from the sub county water officer on involvement of stakeholders in the design showed that although the donor organizations involve the stakeholders in setting and scheduling of the activities, donor organization rarely involve the community in the preparations of the project budgets. This negatively affects the projects and at times, the funds are not enough forcing the community and the committee to seek assistance from other financiers like government. Response from the project coordinators confirmed that they do not involve the stakeholders in the preparation of budgets. They develop the budget plans depending on the resource base and present it to the community and they strictly follow them while funding the water projects as their resources are limited. The community members and other stakeholders feel that there is need for involvement in preparations of the budgets in order to fill any potential gaps to ensure that the project is sustainable.

4.4.3 Influence of participatory implementation on sustainability of donor funded water

The third objective was to establish participatory implementation influences sustainability of donor funded water projects.

Table 4.7: Influence of participatory implementation on sustainability of donor funded water

Participatory implementation	Percentage
Involvement of stakeholders in selection of committee	17.0
Involvement of stakeholders in procurement of goods and services	2.1
Involvement of community in local material contribution	48.9
Training of the management committee members	31.9
Total	100.0

From table 4.7, the findings indicate responses on involvement in selection of committee at 17.0 %. Involvement of stakeholders in procurement of goods and services was very low at 2.1 %. The findings indicate that there was high involvement of the community in contribution of local materials during implementation at 48.9 %. The respondents also agreed that the water management committee was trained on how to manage the project after implementation at 31.9 %. The study revealed that the community was involved during the implementation of the water projects. The community was fully engaged to select their leaders as water management committee. This is because they know them and they understand who can better manage the projects. The donor organization involved the community in contribution of local materials which included land among others. This brought about ownership of the projects hence sustainability of the water projects. According to Kumar (2002), community participation is very important instrument in creating self-reliant and empowered communities which brings about ownership of community projects hence sustainability.

The project coordinator asserted that they involved the community during the implementation of the projects where the community provided local materials and unskilled labour. This is because it was one of the requirements of the funding organizations for the community to take part in contributing towards the implementation of the projects partly to reduce the cost of implementation and as well as ensuring that the community owns the process and the projects for sustainability. This concurred with the findings of Ibrahim (2011), who acknowledged that community participation in all phases of the project is imperative as it influences implementation of sustainable water projects in Kenya.

4.4.4: Influence of participatory monitoring and evaluation on sustainability of donor funded water projects

The fourth and last objective was to ascertain how participatory monitoring and evaluation influences sustainability of donor funded water projects.

Table 4.8: Influence of participatory monitoring and evaluation on sustainability of donor funded water projects

Participatory monitoring and evaluation	Percentage
Involvement in designing of monitoring and evaluation tools	0.1
Involvement of all stakeholders in data collection during implementation	12.9
Involvement of stakeholders in data analysis and report preparation	3.2
Participation in feed backing sessions	25.8
Monitoring and evaluation information used for project improvement	29.0
Utilization of stakeholder recommendations in project improvement	29.0
Total	100.0

Table 4.8 shows that the stakeholders were not involved in designing of monitoring and evaluation tools as the response stood at 0.1 %. The findings on involvement of stakeholders in data collection during the implementation of the project were at 12.9 %. However, the findings on stakeholder involvement on data analysis and preparation of reports again went down at 3.2 %. Nevertheless, the stakeholders were well involvement in feed backing sessions at 25.8 %. The respondents agreed that monitoring and evaluation information was used for improvement of the project and also that the recommendations of the stakeholders were utilized to make improvements in the project to ensure sustainability at 29.0 %.

The study implied that donor organizations did not fully involve all stakeholders in monitoring and evaluation of the project during implementation. The respondents noted that they were not involved in designing of monitoring tools which concurred to the responses of the project coordinators that they did not involve the other stakeholders in development of monitoring tools. The study revealed that information generated from monitoring and evaluation of the water projects during implementation was used to make adjustments in the project with an aim of improving it to ensure success. At the same time, the recommendations of the stakeholders during monitoring and evaluations were used to make improvements in the project implementation which brought about success and sustainability thereafter. There is need for full involvement of the stakeholders in the monitoring and evaluation of the project as it builds experience of them to monitor the progress of the same project after implementation which will thus ensure that it is sustainable.

CHAPTER FIVE

SUMMARY, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter five presents a summary of the findings for this study, discusses the findings and gives conclusion on the influence of participatory project management on sustainability of donor funded water projects in Mwala Sub County. It also gives recommendations of the study and suggestions for further studies.

5.2 Summary of Research Findings

This study sought to establish the influence of participatory project management on sustainability of donor funded water projects in Mwala Sub County. The objectives of the study was to establish how participatory planning influences sustainability of donor funded water projects, determine how participatory design influences sustainability of donor funded water projects, establish how participatory implementation influences sustainability of donor funded water projects and finally ascertain how participatory monitoring and evaluation influences sustainability of donor funded water projects in Mwala Sub County.

5.2.1: Influence of participatory planning on sustainability of donor funded water projects

The study revealed that donor organizations involved the community and other key stakeholders during the planning stage especially in need assessment and identification. It established that the community was involved at the initial stages of the planning where the stakeholders were engaged in assessment. This is because 25.0 percent of the

respondents agreed that they were involved in need assessment and identification. On average, 20.02 percent of the average agreed that they were involved in planning stage of the water projects. The study also revealed the stakeholders were involved in goal setting, allocation of resources though it was relatively low compared to identification of needs. It was found that the opinions of the community members were highly valued and they were put into consideration in the planning of water projects. However, there was notable low representation of community members in some planning teams as some donor organizations after need identification and analysis did much of the other planning and presented the plan to the community for implementation.

5.2.2: Influence of participatory design on sustainability of donor funded water projects

The study revealed that an average of 20 percent of the respondents agreed that they were involved in design of the water projects. The study established that the donor organizations involved stakeholders design in setting of project activities and scheduling. It also reveals that the respondents were involved in allocation of activities and that the opinions of the community members were put into consideration in the design stage of the projects. The study also revealed that the stakeholders were not involved in preparations of the project budgets. The donors developed the water project budgets and presented them to the community during the implementation. Many donor organizations did not consider inclusion of the community and other stakeholders in the preparations of the project they fund.

5.2.3: Influence of participatory implementation on sustainability of donor funded water projects

The study revealed that the community was involved during the implementation of the water projects. The community was fully involved selection of their leaders as water management committee. Further, it was found that the community participated in contribution of local materials which included land, sand, water, unskilled labour amongst others towards the implementation of water projects. However, the study also found that apart from the donor, the other stakeholders were not fully involved in procurement of goods and services. The response of participation in this process was as low as 2.1 %. At the same time, it was disclosed that the water management committee was trained to manage the water project either during or after the project implementation.

5.2.4: Influence of participatory monitoring and evaluation on sustainability of donor funded water projects

The study revealed that although the stakeholders were involved in collection of data during implementation of the projects, they were not involved in designing of monitoring and evaluation tools. They were solely developed by the donor organization and presented to them for use. In addition, the stakeholders were involved in feed backing sessions. It was also found that monitoring and evaluation information was used to make improvements in the project and also that the recommendations of the stakeholders were fully utilized to make improvements in the project to ensure that it is successful and sustainable.

5.3: Discussions of findings

From the findings of the study, stakeholders were involved in the donor funded water project during planning, design, implementation, and monitoring and evaluation of the projects though not fully in some areas. The contributions of the stakeholders were instrumental in ensuring that the projects are successful and sustainable. The findings agreed with Chappel (2005), who argued that the support of the community enhances success of a project through combined efforts to enlarge and exercise control over resources.

During implementation of the water projects, stakeholders noted that they participated through contribution of local materials. The materials included land for facility initiation, sand, unskilled labour amongst others. This brought about ownership of the projects hence sustainability of the projects. According to International Finance Corporation (2000), there is direct link between participation, partnership and sustainability of specific projects. This happens when the community takes an active role and interest in contributing towards the project implementation.

The findings also concurred with Roseland et al. (2005), who argued that sustainability of project involves community participation in a joint decision making process that addresses social, cultural, environmental and economic needs of the community. The community valued the projects and invested in them as they provided them with clean drinking water. This has made the community to guard them in order to continue reaping the benefits thereby ensuring sustainability of the projects. The donors involved the community by allowing them to contribute locally available materials with an aim of creating a sense of ownership of the projects.

The findings also revealed that although the donor organization involved the stakeholders in the cycle of the projects, there were some gaps that need to be addressed to ensure participatory project management and sustainability of the water projects. In one of the findings, the donor organizations did not involve the stakeholders in preparation of the project budgets. In another finding, the donor organization did not fully involve the stakeholders in development of monitoring and evaluation tools. Capacities of communities are built through involvement and training as donor organization should involve the communities in order to create enabling environment for learning and replication hence sustainability of the water projects.

5.4: Conclusions of the study

The researcher made conclusions of the study according to the objectives of the study which included participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation as outlined below.

5.4.1 Participatory planning and sustainability of donor funded water projects

The study concluded that the stakeholders were involved planning of the donor funded water. The donor organizations involved the stakeholders in need identification and analysis. It also concluded that the donor organizations valued the opinions of the community members and put them in the plan of the projects. Resultantly, many of the water projects are progressing on well and are sustainable. This implies that community and stakeholder involvement in the initial planning stage is very critical in ensuring sustainability of the projects. It was concluded that the donor organization did not fully include the community representatives in the planning committee.

5.4.2 Participatory design and sustainability of donor funded water projects

The study concluded that donor organization involved the stakeholders in design but partially. While the donor organization utilized the opinions of the community in the design of the water projects, they did not involve them in preparations of project budgets. It also concluded that the donor organization only prepared budgets and presented them to the community during project implementation. Donor organization hence partially involved the stakeholders in design of the projects.

5.4.3 Participatory implementation and sustainability of donor funded water projects

The study concluded that donor organization involved the stakeholders in the implementation of the water projects. The community participated in selection of the project committee as they knew them and knew who can better manage the projects. The community provided local materials including land, sand, stones, unskilled labour and other locally available resources during project implementation. Sustainability of the water project can therefore be attributed to their participation during the implementation of the water projects. It was also concluded that donor organization did not fully involve the community in procurement of goods and services for the projects. The water management committee was well trained on management of the water projects during and after implementation of the projects.

5.4.4 Participatory monitoring and evaluation influences sustainability of donor funded water projects

The study concluded that donor organizations partially involved stakeholders in monitoring and evaluation of water projects. The stakeholders were not involved in development of monitoring and evaluation tools although they were involved in

collection of the data. The stakeholders were not involved in analysis of the data but they participated in feed backing sessions and also the information was utilized to make improvement adjustments of the water projects.

5.4.5: Influence of participatory project management on sustainability of donor funded water projects

The study concluded that participatory planning, participatory design, participatory implementation and participatory monitoring and evaluation involvement influences sustainability of donor funded water projects. Community participation through contribution of locally available resources including land, sand, stones, unskilled labour amongst others brings about ownership of the projects. Training of the committee members increases their managerial skills and knowledge hence increasing chances of project sustainability. When the stakeholders fully participate in the management of the projects, the project is successful and its chances of sustainability are increased.

5.5: Recommendations of the study

Based on the findings of the study, the following are the recommendations:

All the stakeholders who include users of the water, donor organizations, government officers, the political class, relevant ministry officials and community representatives should be fully involved in all planning aspects of the project from the onset. Their involvement should be objective and not partial for contribution of each one of them determines either the success or failure of the project and eventually sustainability.

The donor organization should fully involve the stakeholders in the design of the projects. This is because they have a wealth of knowledge and know what can work best to solve

their problems. The community should not be left out with the notion that they are not educated; their opinions matter in the design of the project and utilization of their indigenous knowledge can be great assistance for the sustainability of the water project. Community representatives should be involved in the preparations of project budgets to increase their financial skills and knowledge.

Donor organizations should ensure that all stakeholders are fully involved in the implementation of the project. The project management committee needs to participate in the procurement of goods and services. Selection of the management committee members should be entirely left on the community for they understand the members better than any outsider.

The donor organizations should fully involve the stakeholders during monitoring and evaluation of water projects to build the capacities of the community members to better monitor the progress of the project and avert any potential threats that can bring the project down. The committee should be trained on monitoring and evaluation to enable them to monitor the progress of the project.

5.6: Suggestions for further research

The following are suggestions for further study:

- i. Influence of participatory project management approaches on sustainability of donor funded water projects should be conducted in Mbooni Sub County, Makueni County, Kenya.
- ii. Influence of participatory project management approaches on sustainability of County funded water projects, a case of Nyaanyaa Water project, Mwala Sub County, Machakos County, Kenya.
- iii. Influence of youth and women involvement on sustainability of community water projects in Mwala Sub County, Machakos County, Kenya.

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APPENDICES

APPENDIX I: TRANSMITTAL LETTER

FROM:

DOMINIC KYALO,
P.O. BOX 1411-90100,
MACHAKOS.
0724941646

Dear Respondent,

RE: PARTICIPATION IN RESEARCH

I am a post graduate student at the University of Nairobi pursuing Master of Arts in Project Planning and Management. I am carrying out a research on influence of participatory project management on sustainability of donor funded water projects in Mwala Sub County as part of requirements for the award of this degree. Your organization has been selected and consequently you have been sampled as part of the respondents.

I therefore humbly request you to respond to the questions as asked in the questionnaires.

I assure you that the information provided will be solely used for academic purposes of this study.

Thank you in advance.

Yours faithfully,

Dominic M. Kyalo

L50/80688/2015

APPENDIX II: QUESTIONNAIRE FOR WATER MANAGEMENT COMMITTEE MEMBERS

The questionnaire is designed to gather information on the influence of participatory project management on sustainability of Donor Funded water projects in Mwala Sub County, Machakos County, Kenya.

SECTION A: Background Information

1. What is your gender (Please tick appropriate)

a) Male

b) Female

2. What is your age bracket?

a) 18 – 30 years

b) 31 – 40 years

c) 41 - 55 years

d) Above 55 years

3. What is your level of education? (Please tick appropriate)

a) No schooling

b) Primary

c) Secondary

d) Certificate

e) Diploma

f) University Degree

4. For how long have been in this Management Committee:

a) Less than 1 year

b) 1 - 3 years

c) 3 – 5 years

d) More than 5 years

SECTION B: Indicators of Sustainability of Donor Funded Water Project in Mwala Sub County

5. Please indicate if these statements are true or false as indicators of sustainability of donor funded water intervention

No.	Activity	True	False
a)	Water Supply Structure is functional throughout the year		
b)	The water management committee has Operation and Maintenance fund		
c)	Is there reliable water supply from the facility		
d)	Is the water clean and safe for drinking		

SECTION C: Influence of participatory planning on sustainability of donor funded water projects in Mwala Sub County

The following is seeking to determine the influence of participatory planning on sustainability of donor funded water projects in Mwala Sub County. Kindly respond to the following Likert Scale starting from strongly agree, agree, neutral, disagree and strongly disagree.

6. Please indicate if you agree to the statements below on level of community involvement in the project planning process by Circling() your response in the appropriate box/space.

Key: 1-Strongly Agree 2-Agree 3-Neutral 4-Disagree 5-Strongly Disagree

No.	Statement	Strongly agree	Some what agree	Neutral	Somewhat disagree	Strongly disagree
1.	The implementation team involved all stakeholders in assessment and identification of needs	1	2	3	4	5
2.	The implementation team engaged the community goal setting	1	2	3	4	5
3.	The donor organization involved all stakeholders in resource allocation	1	2	3	4	5
4.	Are there community representatives in the planning committee	1	2	3	4	5
5.	Are the opinions of the community considered in the plan	1	2	3	4	5

7. Who were involved in the planning of this water supply project? (Tick as many as possible)

- a) Chiefs / Assistant chiefs
- b) The community
- c) The project committee
- d) The donor
- e) Village elders
- f) Clergy/ Member of County Assembly
- g) All of the above

8. How can you rate the planning of the project?

- a) Excellent
- b) Very good
- c) Good
- d) Fair
- e) Poor

9. Did the project continue well even after the funding was withdrawn?

Yes No Not sure

10. If yes explain _____

11. If no explain _____

12. How would you rate the leadership of this water and sanitation project by the management committee?

- a) Excellent
- b) Very good
- c) Good
- d) Fair
- e) Poor

SECTION D: Influence of participatory design on sustainability of donor funded water projects in Mwala Sub County

The following is seeking to determine the influence of participatory design on sustainability of donor funded water projects in Mwala Sub County. Kindly respond to the following Likert Scale starting from strongly agree, agree, neutral, disagree and strongly disagree.

13. Where you involved in the following:

Key: 1-Strongly Agree 2-Agree 3-Neutral 4-Disagree 5-Strongly Disagree

No.	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
a)	Setting activities and scheduling that will be done in the project implementation	1	2	3	4	5
b)	Allocating responsibilities for the project implementation	1	2	3	4	5
c)	Preparations of the budget	1	2	3	4	5
d)	Is there a community representative in the design team	1	2	3	4	5
e)	Are the opinions of the community representatives put in consideration in the design	1	2	3	4	5

SECTION E: Influence of participatory implementation on sustainability of donor funded water projects in Mwala Sub County

The following is seeking to determine the influence of participatory implementation on sustainability of donor funded water projects in Mwala Sub County. Kindly respond to the following Likert Scale starting from strongly agree, agree, neutral, disagree and strongly disagree.

14. Where you involved in the following:

Key: 1-Strongly Agree 2-Agree 3-Neutral 4-Disagree 5-Strongly Disagree

No.	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
a)	Selection of the implementing committee	1	2	3	4	5
b)	Procurement of goods and services	1	2	3	4	5
c)	Does the community contribute local materials like sand, stones or unskilled labour	1	2	3	4	5
d)	Training of committee on management of the facility	1	2	3	4	5

SECTION F: Influence of participatory monitoring and evaluation on sustainability of donor funded water projects in Mwala Sub County

15. Please by a (√) indicate how often monitoring and evaluation is conducted during the water project implementation process up-to the completion using the key provided in the table below.

- a) Yearly ()
- b) Quarterly ()
- c) Monthly ()
- d) Weekly ()
- e) None ()

The following is seeking to determine the influence of participatory monitoring and evaluation on sustainability of donor funded water projects in Mwala Sub County. Kindly respond to the following Likert Scale starting from strongly agree, agree, neutral, disagree and strongly disagree.

16. Where you involved in the following:

Key: 1-Strongly Agree 2-Agree 3-Neutral 4-Disagree 5-Strongly Disagree

No.	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
a)	Designing of monitoring and evaluation tools	1	2	3	4	5
b)	Data collection during project implementation	1	2	3	4	5
c)	Analysis of data and preparation of reports	1	2	3	4	5
d)	In participating in feed backing sessions	1	2	3	4	5
e)	Monitoring & evaluation feedback was utilized for improvement	1	2	3	4	5
f)	Are your recommendations used in improving the project	1	2	3	4	5

17. Who was involved in the Monitoring and Evaluation?

End

Thank you.

APPENDIX III: KEY INFORMANT INTERVIEW GUIDE

The questionnaire is designed to gather information on the influence of participatory project management on sustainability of Donor Funded water projects in Mwala Sub County, Machakos County, Kenya.

SECTION A: Background Information

1. What is the name of the organization/Ministry you work with

2. What position do you hold _____

SECTION B: Indicators of Sustainability of Donor Funded Water Project in Mwala Sub County

- a) Is the water Supply Structure functional throughout the year?
- b) Is the water supply sufficient and reliable?
- c) Does the water management committee have Operation and Maintenance fund?
- d) Does the water management committee have diversified water use activities?

SECTION C: Influence of participatory planning on sustainability of donor funded water projects in Mwala Sub County

3. Briefly describe who participates in the planning of the water intervention?
4. Where all stakeholders involved in the following:

Key: 1-Strongly Agree 2-Agree 3- Neutral 4-Disagree 5-Strongly Disagree

No.	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
a)	Identification of the needs	1	2	3	4	5
b)	Stakeholder mapping	1	2	3	4	5
c)	Training / Skill development	1	2	3	4	5

5. Who came up with the idea of the project?
6. How can you rate the planning of the project?

- a) Excellent ()
- b) Very good ()
- c) Good ()
- d) Fair ()
- e) Poor ()

7. Did the project continue well even after the funding was withdrawn?
Yes () No () Not sure ()

8. How would you rate the leadership of this water and sanitation project by the management committee?

- a) Excellent ()
- b) Very good ()
- c) Good ()
- d) Fair ()
- e) Poor ()

SECTION D: Influence of participatory design on sustainability of donor funded water projects in Mwala Sub County

9. Who was involved in the following:

- a) Setting activities and scheduling that will be done in the project implementation _____
- b) Allocating responsibilities for the project implementation _____
- c) Preparations of the budget _____

SECTION E: Influence of participatory implementation on sustainability of donor funded water projects in Mwala Sub County

10. Who were involved in the following:

- a) Identification and appointment of project managers / coordinators _____
- b) Selection of the implementing committee _____
- c) Procurement of goods and services _____

SECTION F: Influence of participatory monitoring and evaluation on sustainability of donor funded water projects in Mwala Sub County

11. Please by a (√) indicate how often monitoring and evaluation is conducted during the water project implementation process up-to the completion using the key provided in the table below.

- a) Yearly ()
- b) Quarterly ()
- c) Monthly ()
- d) Weekly ()
- e) None ()

12. Who participated in the following:
- a) Designing of monitoring and evaluation tools
 - b) Data collection during project implementation
 - c) Analysis of data and preparation of reports
 - d) Feed backing sessions
13. Was Monitoring & evaluation feedback used for project improvement?
14. Who was involved in the monitoring and evaluation of the water project?

End

Thank you.

APPENDIX IV: FOCUS GROUP DISCUSSION INTERVIEW GUIDE

1. Does the community get reliable water from this project?
2. Would you say this project is successful?
3. Is the project dealing with water scarcity in this area?
4. Is the committee active?
5. Are there finances for maintaining and running the project without external input?
6. Who was involved in the project planning?
7. How was the (above mentioned), involved?
8. Was this involvement in planning sufficient?
9. Could there be another way of doing it better?
10. Who was involved in activity setting?
11. Who was involved in sharing of responsibilities?
12. Who was involved in scheduling of project activities?
13. Who was involved in preparation of project budgets?
14. How were the stakeholders involved in implementation?
15. Did the community provide locally available resources like sand, stones, unskilled labour?
16. Who was involved in selection of implementation committee?
17. Who were involved in procurement of goods and services?
18. Who was involved in coordination of activities?
19. Who was involved in monitoring and evaluation?
20. Where all stakeholders involved in designing monitoring and evaluation tools?
21. Who were involved in data collection?
22. Who were involved in analysis of the collected data?
23. Who were involved in feed backing sessions?

End: Thank you.

APPENDIX V: BIO DATA FORM FOR FOCUS GROUP DISCUSSION

NAME OF PROJECT.....

DATE.....

START TIME.....

END TIME.....

S/NO (R=RESPONDENT)	AGE (YRS)	GENDE R	EDUCATIO N LEVEL	OCCUPATIO N	MARITA L STATUS
R1					
R2					
R3					
R4					
R5					
R6					
R7					
R8					
R9					
R0					
R11					
R12					

APPENDIX VI: TABLE FOR DETERMINING SAMPLE SIZE

TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION									
N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size
 "S" is sample size.]

Krejcie, Robert V., Morgan, Daryle W., "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 1970.

APPENDIX VII: RESEARCH AUTHORIZATION LETTER.



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 3310571, 2219420
Fax: +254-20-318245, 318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/17/71247/17298**

Date: **2nd June, 2017**

Dominic Musembi Kyalo
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Influence of participatory project management on sustainability of Donor Funded Water Projects in Mwala Sub County, Machakos County, Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Machakos County** for the period ending **2nd June, 2018.**

You are advised to report to **the County Commissioner and the County Director of Education, Machakos County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

**GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner
Machakos County.

The County Director of Education
Machakos County.

National Commission for Science, Technology and Innovation is ISO9001:2008 Certified


APPENDIX VIII: RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MR. DOMINIC MUSEMBI KYALO
of UNIVERSITY OF NAIROBI , 0-90100
MACHAKOS, has been permitted to
conduct research in Machakos County

on the topic: INFLUENCE OF
PARTICIPATORY PROJECT MANAGEMENT
ON SUSTAINABILITY OF DONOR FUNDED
WATER PROJECTS IN MWALA SUB
COUNTY, MACHAKOS COUNTY, KENYA

for the period ending:
2nd June, 2018

Permit No : NACOSTI/P/17/71247/17298
Date Of Issue : 2nd June, 2017
Fee Received :Ksh 1000




Applicant's Signature


Director General
National Commission for Science,
Technology & Innovation

CONDITIONS

- 1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.**
- 2. Government Officer will not be interviewed without prior appointment.**
- 3. No questionnaire will be used unless it has been approved.**
- 4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.**
- 5. You are required to submit at least two(2) hard copies and one (1) soft copy of your final report.**
- 6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice**



REPUBLIC OF KENYA



National Commission for Science,
Technology and Innovation

RESEARCH CLEARANCE
PERMIT

Serial No.A 14250

CONDITIONS: see back page