

**FACTORS INFLUENCING SUSTAINABILITY OF DONOR
FUNDED PROJECTS: A CASE OF WENJE WATER
PROJECTS IN TANA RIVER COUNTY, KENYA**

BY

FLORENCE MUTHOKI NTHENGE

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

University of Nairobi

2014

DECLARATION

This is my original work and has never been submitted for an award of a degree in any other university

Florence Muthoki Nthenge

Date

Reg. No.: L50/74983/2009

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

Name: Dr. Angeline Mulwa

Date

Lecturer

Department of Extra Mural Studies

University of Nairobi

DEDICATION

I dedicate this study to my late parents; Esther and Nthenge whose unforgettable inspiration helped me to realize the full potential of education, Reverend Elaine W. Mckinnon, friends and family members for moral and financial support.

ACKNOWLEDGEMENT

I take this opportunity to thank my supervisor, Dr. Angeline Mulwa who critically analysed my work, guided in designing, planning and execution of the research work. I also would like to appreciate the encouragement and support received from all departmental lecturers and my fellow students who in one way or other contributed towards success of this study. Special thanks go to the School of Continuing and Distance Education of the University of Nairobi for giving me an opportunity to further my studies.

My gratitude also goes to my respondents who were very cooperative, offered their time and their willingness in providing the required information in filling in of the questionnaires. I am also grateful to my colleagues for their assistance in selection of study topic which helped me in development of this study. I would like also to appreciate the Tana River County Planning Office, Livestock department, Ministry of Health, Water and Sanitation for their support with the required information on profile of Water Projects and implementing agencies in Wenje Division, and County reference books on subject under study.

TABLE OF CONTENT

Declaration	ii
Dedication.....	iii
Acknowledgement.....	iv
List of tables.....	ix
List of figures.....	x
Abbreviations and acronyms	xi
Abstract.....	xii
CHAPTER ONE: INTRODUCTION	1
1.1 Background to the Study	1
1.2 Statement of the Problem	4
1.3 Purpose of the Study	5
1.4 Objectives of the Study.....	5
1.5 Research Questions.....	5
1.6 Significance of the Study.....	6
1.7 Limitations of the Study	6
1.8 Delimitations of the Study.....	7
1.9 Basic Assumptions.....	7
1.10 Definitions of Significant Terms.....	8
1.11 Organization of the Study.....	9

CHAPTER TWO: LITERATURE REVIEW	10
2.1 Introduction.....	10
2.2 Influence of Monitoring and Evaluation on Sustainability of DFwPs	10
2.3 Influence of Stakeholders Involvement on Sustainability of DFwPs	14
2.3.1 Involvement of Community as stakeholders and Sustainability of DFwPs.....	14
2.3.2 Involvement of Line Ministries as stakeholders and Sustainability of DFwPs	23
2.4 Influence of Level of funding on Sustainability of DFwPs.....	24
2.5 Theoretical Framework.....	28
2.6 Conceptual Framework.....	29
CHAPTER THREE: RESEARCH METHODOLOGY	31
3.1 Introduction.....	31
3.2 Research Design	31
3.3 Target Population.....	32
3.4 Sample Size and Sampling Procedures	32
3.4.1 Sample Size	32
3.4.2 Sampling Procedures	33
3.5 Data Collection Instruments	33
3.5.1 Questionnaires for Water Point Committee Executive Members.....	34
3.5.2 Interview Guide for Line Ministries and NGO/Donor Representatives	35
3.6 Validity and Reliability of the Instrument	35
3.6.1 Validity	35
3.6.2 Reliability	36
3.7 Data Collection Procedures	37

3.8 Data Analysis	37
3.9 Ethical Issues.....	38
3.10 Operational Definitions of the Study Variables.....	39
CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION	41
4.1 Introduction	41
4.1.1 Questionnaire Returns Rate	41
4.1.2 Socio-demographic Characteristics of Study Participants.....	41
4.2 Influence of Monitoring and Evaluation on Sustainability of DFVPs	44
4.3 Influence of Level of Funding on Sustainability of Donor Funded Projects	47
4.4 Influence of Involvement of Stakeholders on Sustainability of DFVPs	49
4.5 Indicators of Sustainability of Donor Funded Water Projects	54
CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION & RECOMMENDATIONS ...	59
5.1 Introduction.....	59
5.2 Summary of the Findings	59
5.3 Discussions of the Study Findings	60
5.4 Conclusion	62
5.5 Recommendations.....	63
5.6 Suggestion for Further Studies	66

REFERENCES	68
APPENDICES.....	74
APPENDIX I: Transmittal Letter.....	74
APPENDIX II: Questionnaire for Water Point Executive Committees	75
APPENDIX III: Interview Guide for Line Ministries and Donor Representatives.....	77
APPENDIX IV: Research Authorization Permit.....	79
APPENDIX V: Permit Letter	80

LIST OF TABLES

Table 2.1: Project Scenarios Derived from CoP-CA Model.....	28
Table 3.1: Categories of Respondents	32
Table 3.2: Operational Definitions of Study Variables	40
Table 4.1: Distribution of Respondents by Highest Level of Education	42
Table 4.2: Frequency of M and E of Wenje Donor Funded Water Projects.....	44
Table 4.3: Influence of M and E on Sustainability of Donor Funded Water Projects	45
Table 4.4: Influence of Donor Funding on Sustainability of Donor Funded Projects	48
Table 4.5: Stakeholders' Involvement on Sustainability of DFWP-Line Ministries.....	50
Table 4.6: Stakeholders' Involvement on Sustainability of DFWP by Beneficiaries.....	52
Table 4.7: Indicators of Sustainability of Donor Funded Water Projects.....	55
Table 4.8: Sources of WPEC Funds for Maintenance of the Water Structure	57

LIST OF FIGURES

Figure 1: Conceptual Framework	29
--------------------------------------	----

ABBREVIATIONS AND ACRONYMS

ACF	Action Contre la Faim Action
CIDP	County Integrated Development Project
DFWP	Donor Funded Water Projects
GIZ	Germany Agency for International Cooperation
IFAD	International Fund for Agricultural Development
IWRM	Integrated Water Resource Management
M & E	Monitoring and Evaluation
NERCORMP	Northern Eastern Region Community Resource Project for Upland Areas
NGO	Non-governmental Organization
NRMP	National Resource Management Authority
O & M	Operation and Maintenance
RBO	River Basin Organizations
ToC	Theory of Change
UN	United Nations
USAID	United States Agency for International Development
WESCOORD	Water Environment Sanitation Coordination
WPEC	Water Point Executive Committees
WRMA	Water Resource Management Authority
WRMR	Water Resource Management Rules
WWP	Wenje Water Projects
WWPEC	Wenje Water Point Executive Committees

ABSTRACT

This study investigated factors influencing sustainability of donor funded water projects in Tana River County, Kenya. The guiding objectives include; establishing the influence of Monitoring and Evaluation (M&E) on sustainability of donor-funded projects, to assess the influence of level of funding and establish how the involvement of stakeholders influences sustainability of donor funded water projects in Tana River County. The study applied quantitative research design, which makes use of questionnaires to gather information. Quantitative research incorporates the statistical elements designed to quantify the extent to which the target group is aware of, thinks and believes. The study targeted fifty (50) respondents; comprising of Ten (10) technical persons from line ministries, Ten (10) donor agency representatives and thirty (30) Water Point Executive Committee (WPEC) members; comprising of (Chairman, Secretary and Treasurer). The representatives were aware about the management, technical decisions within their departments of work, and are involved in daily operation and had the required information for the success of this study in Wenje Donor Funded Water Projects in Tana River County. Census sampling method involving inclusion of all target population into the sample followed by purposive sampling methods was applied. Purposive sampling method which relies on the researcher's judgment; in selecting respondents regarding those special participants who had specific information of interest to the study was applied. The information of number of Water Point Executive Committees was sourced from WESCOORD Coordination body in Tana River and Conslog Engineering Services, a consultancy firm/NGO operating in Wenje Division. Data collected was analysed using descriptive statistics where relative frequency distribution tables as well as mean and standard deviations values were calculated with the help of Likert scale ratings of (1,2,3,4 and 5) in the analysis. Standard deviations were calculated to denote the variability of responses around mean values in the likert rating scale so as to ascertain consistency of responses among respondents. The findings of the study were presented in frequency distribution tables. It could be concluded that; all donor funded water projects were not sustainably managed. The researcher recommended for a more strategic oriented water projects management, which would be the pro-active approach, to be adopted in the community water projects management. This would help by negating the current water management practices that are still focused on reacting to events that have already occurred: the re-active approach. The researcher suggested that further studies on factors influencing sustainability of donor funded water projects both in Kenya and the rest of the world should be conducted. A study on various water use and demand sites such as the: domestic, agriculture, livestock and other uses would help the policy makers/donor agencies or the water projects developers on the approximate water demands per community. Also a study on the community preparedness to participate and manage the donor funded water projects long after the completion of the projects, regardless of other sources of cheap water among other obstacles was suggested.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Over last two decades, Non-governmental Organizations working in areas of development have increased their presence locally, nationally, and internationally. NGOs have come to be recognized as important in development, from the reconstruction efforts in Indonesia, India, Thailand and Sri Lanka after the 2004 tsunami disaster, to international campaigns for aid and trade reform such as ‘Make Poverty History’. NGOs are known for various activities which include: the delivery of basic services to people in need, and organizing policy advocacy and public campaigns for change. At the same time, NGOs have also become active in a wide range of other more specialized roles such as emergency response, democracy building, conflict resolution, human rights work, cultural preservation, environmental activism, policy analysis, research and information provision (Lewis, 2009).

The United Nations (UN) Secretary-General in 1995 Boutros Boutros-Ghali defined Non-governmental Organizations as basic element in the representation of the modern world, and their participation is in a way, a guarantee of political legitimacy. On all continents, Non-governmental Organizations are today continually increasing in number. And this development is inseparable from the aspiration to freedom and democracy which today animates international society. From the standpoint of global democratization, we need the participation of international public opinion and the mobilizing powers of non-governmental organizations (Togbolo, 2005). In reference to the UN Secretary General Speech, at Global World Summit in 1995, he explains that NGOs must build outwards

from concrete innovations and ideas at grassroots or community level to connect with the forces that influence patterns and trend of poverty, exclusionary economics, discriminatory politics, selfish and violent personal behaviour, and the capture of the world of knowledge and ideas by elites. The aforementioned is what NGOs involve in by integrating micro and macro-level action in their project and activities focused towards support of the vulnerable communities (Togbolo, 2005).

NGOs are constrained by limited financial resources and period hence unlikely challengers of many developments in the societies. “The essence of Non-governmental Organizations remains the same: to provide basic services to those who need them. Many NGOs have demonstrated an ability to reach poor people, work in inaccessible areas, innovate, or in other ways achieve things better than by official agencies. Some are membership organizations of poor or vulnerable people; others are skilled at participatory approaches. Their resources are largely additional; they complement the development effort of others, and they can help to make the development process more accountable, transparent and participatory. They not only "fill in the gaps" but they also act as a response to failures in the public and private sectors in providing basic services” UN Secretary General 1995 (Togbolo, 2005).

A survey done in one of the Eastern Africa countries which is Uganda and Rwenzori region in particular indicates that despite the increase in donor funding to government and NGOs in Africa towards poverty reduction programs, the poverty is on the increase (Busiinge, 2008). The aim of the study was to critique projects implemented through donor funding, social and economic contribution to the target communities and

recommend possible ways of implementing strategies towards increasing impact. The common ground between donors and NGOs can be expected to grow, especially as donors seek to make more explicit their stated objectives of enhancing democratic processes and strengthening marginal groups in civil society.

NGOs started attracting attention in 1980's when they applied to different sections in community development. Western donors who had become frustrated by bureaucracy and ineffectiveness of government to government project based. As a result, NGOs provided an alternative and a flexible funding channel with a high chance of local level implementation and grassroots participation (Lewis, 2009). In Tana River County, donor funds through NGOs have been used since 1980's (Community Resource Person). Late 1980's is the period in which onwards, NGOs gradually became part of the research agenda of 'development studies', the interdisciplinary field of scholarship which includes economists, sociologists, political scientists and anthropologists working on development issues(Lewis, 2009) with sustainability being influence by a number of factors which was investigated in this study.

According to Water, Environment, Sanitation Coordination Forum (WESCOORD), Tana River, Minutes, November 2013, the need for rehabilitation of water supply system is still high, with recommendation to the actors being rehabilitation of existing structures before constructions of new ones, for instance earth pans and shallow wells. The water supply systems are either owned by Water Project Committees or Self Help Groups registered under Ministry of Gender, Culture, Sports and Social Services. Under the Vision 2030 Social Pillar; Environment, Water and Sanitation Sector; the main aim is enhancing

Access to a Clean, Secure and Sustainable Environment, Water and Sanitation. Kenya suffers from water scarcity since demand outstrips the stock of renewable fresh water. The available water is often inadequate for domestic as well as livestock and commercial use. This scarcity has intensified competition among various users and usually results into conflict. Some of the available water resources are normally not maintained after completion by implementing agency hence conflicts and threat to human beings in terms of hygiene and drawing methods (Millennium Development Goals Status Report 2011, National Development and Vision 2030).

The purpose of this study is to establish how Monitoring and Evaluation (M&E), level of funding and involvement of key stakeholders influence sustainability of donor funded projects in Tana River County. The information was gathered by collecting information from development actors in Tana River County. The study target populations include NGOs Managers, Ministry Heads of Departments, CBOs and Water Service Providers Boards which include Tana Water Resources Service Company, Water Project Committees Heads in Tana River Sub-County.

1.2 Statement of the Problem

Despite, the provision of donor funding, water projects in arid and semi-arid lands (ASALs) have performed poorly in terms of organizational management, operation and maintenance after handing over of the projects by the implementing partners and donor agents. Therefore, many donor agents would continue their operations and cease slowly day by day often due to lack of local sustainable funding for maintenance and repairs of the water structures. Some other donor agents fall into the pitfall of un-sustainability of

the water projects, as they operate for a few years or months and then fade away. Therefore, this study sought to investigate the factors influencing sustainability of donor funded projects focussing on Wenje Water Projects in Tana River County, Kenya.

1.3 Purpose of the Study

The purpose of this study was to investigate factors influencing sustainability of donor funded development projects in Tana River County.

1.4 Objectives of the Study

The study was guided by the following objectives;

- a) To establish the influence of monitoring and evaluation (M&E) practices on sustainability of donor funded water projects in Tana River County.
- b) To assess how level of funding influences sustainability of donor funded water projects in Tana River County.
- c) To establish the influence of stakeholders' involvement on sustainability of donor funded water projects in Tana River County.

1.5 Research Questions

The study sought to answer the following research questions;

- a) To what extent do M & E practices influence the sustainability of donor funded water projects in Tana River County?
- b) How does level of funding influence the sustainability of donor funded water projects?
- c) To what extent does stakeholders' involvement influence the sustainability of donor funded water projects?

1.6 Significance of the Study

The findings of this study; would be used by development actors who include; the government, NGOs, Community and donor funding agencies in the whole project management cycle. The government would be able to identify and review current policies on project implementation in terms of monitoring and evaluation, involvement of stakeholders in order to enhance sustainable development of water projects. NGOs or water project and donor funding agencies that support the communities and government efforts would benefit from the study through the documented lessons learnt in order to adapt to the best practices. The community would benefit from the study through enhanced knowledge and information on their roles as they are the key stakeholders in implementation of any donor funded water project. The community water project management committee members would use the water projects as a tool to influence change in knowledge, attitude and practice in managing their water projects or structures. The study findings might become a reference tool and a guide to development actors like, donor funding agencies in implementation, monitoring and evaluation of strategic plans for water supply projects leading to adapting best practices contributing to sustainability.

1.7 Limitations of the Study

It was anticipated that; the study would only target the County Heads of department and NGOs operating in Tana River Sub-county due to limitation of time and financial resources. Thus, it was not possible to carry out a survey on the larger Tana River County. However, the assumption that this category of respondents would be available was not factual. Thus, the research resulted to use of email as a method of data collection as opposed to interviewing of this category of respondents. It was also assumed that

flooding which is a disaster prone to the area under study would not occur within the research period. In order to mitigate the occurrence of the flooding; the study was planned and started at Wenje division which is prone to flooding and end at Hola town, Tana River Sub-County, which has no history of flooding.

1.8 Delimitations of the Study

The study targeted key County stakeholders who included: departmental heads within the County government, NGOs and Water Project Committees (community) within the research period of two months as opposed to the proposed one month. The study was carried out in Tana River Sub-county, which is in Tana River County. Thus the study was only limited to Galole and Wenje divisions of Tana River Sub County. The Water Project Committees under study were the only ones in Wenje division within Tana River Sub County. Use of elaborate literature review, conducting face-face interview with the respondents to get fast hand information about factors that contribute to sustainability of the donor funded projects, use of the local community members as enumerators or translators, use of key informants, and follow up using telephone enhanced success to the data collection process. The study was concluded within a period of 2 months.

1.9 Basic Assumptions

The researcher assumed that the information gathered from the respondents provided reliable and accurate information and would yield information leading to meaningful conclusions. The researcher-consulted expert opinions on the data collection instrument; from the supervisor and other lecturers in the department and subjected the data into split halve method.

1.10 Definitions of Significant Terms

- Community:** is any group of people sharing common purpose, are interdependent for the fulfillment of certain needs, are in proximity and interact on regular basis
- Project:** is any endeavor in which human, material and financial resources are organized in a novel way, to undertake a unique scope of work, of given specification, with constraints of cost and time, so as to achieve beneficial change defined by quantitative and qualitative objectives
- Development:** is to lead long and healthy lives, to be knowledgeable, to have access to the resources needed for a decent standard of living and to be able to participate in the life of the community.
- NGO:** refers to the private organizations not established by government or by inter governmental agreement which are capable of playing a role in international affairs by virtue of their activities or as a private international organizations that serve as a mechanism for cooperation among private national groups in international affairs
- Sustainability:** is the organizational, technical and financial capacity of programs to continue beyond [the program funding] period
- Sustainable** development is sustainable if it meets the developmental and
- Development:** environmental policy needs of the present without compromising the ability of future generations to meet their own needs.

1.11 Organization of the Study

The research report is organised into five chapters. This Chapter contains the background of study, the statement of the problem, purpose of study, objectives, research questions, significance, limitations, delimitations, assumptions, definition of terms and organization of the study and summary. Chapter two presents a review of literature and relevant research on the problem under study and the theoretical framework. Chapter three presents the research methodology involving study design, location of study, target population, sampling procedures and sample size, research instruments/tools and their validity and reliability, procedures used for data collection, methods of data analysis, ethical issues and operationalization of the study variables. Chapter four contains data analysis, interpretation presentation and discussions. It also includes personal information of the respondents, followed by findings arranged according to the objectives of the study. Chapter five contains the summary of the study, conclusions and recommendations of the study including the lessons learnt from the findings leading to suggestions of further investigations on the factors influencing sustainability of development of donor funded projects.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews a small number of publications addressing the issues of sustainability which include Monitoring and Evaluation, involvement of stakeholders and Level of funding in development. The chapter is divided into critical literature review and publications in Kenya and other parts of the world. The other part highlights the conceptual and operational framework that guides the study.

The role or work the NGOs do can be summarized in terms of three main sets of activities that they undertake, and these can be defined as three roles: implementers, catalysts and partners. The implementer role is concerned with the mobilization of resources to provide goods and services to people who need them. The catalyst role can therefore be defined as an NGO's ability to inspire, facilitate or contribute to improved thinking and action to promote change. The role of partners reflects the growing trends of NGOs to work with government, donor and provide sector on joint activities such as providing specific inputs and capacity building (Lewis 2007). NGOs as implementers are involved in Monitoring and Evaluation of the on-going donor funded projects. NGO funding comes from mobilisation of resources from potential donors in their catalyst role. Below is an examination of the influence of the factors under study.

2.2 Influence of Monitoring and Evaluation on Sustainability of DFWPs

Project monitoring is the continuous and periodic review and overseeing of the project to ensure that input deliveries, work schedules, target output and other required actions

proceed according to project plan (Mulwa, Kyalo et al, 2012). Evaluation attempts to determine as systematically and objectively as possible the worth or significance of an intervention, strategy or policy. Evaluation findings should be credible, and be able to influence decision-making by programme partners on the basis of lessons learned. For the evaluation process to be 'objective', it needs to achieve a balanced analysis, recognise bias and reconcile perspectives of different stakeholders (including intended beneficiaries) through the use of different sources and methods (Guijt I, Hilhorst T, 2006). According to Guijtand Hilhorst (2006), Monitoring and Evaluation is assessing actual change against stated objectives, and making a judgement whether development efforts and investments were worthwhile or 'cost-effective'

Participatory Monitoring and Evaluation (PM&E) refers to "a process where primary stakeholders – those who are affected by the intervention being examined – are active participants, take the lead in tracking and making sense of progress towards achievement of self-selected or jointly agreed results at the local level, and drawing actionable conclusions (Guijt I, Hilhorst T, 2006).

The effectiveness and sustainability of Participatory Monitoring and Evaluation requires that it be embedded in a strong commitment towards corrective action by communities, project management and other stakeholders in a position to act. Monitoring and Evaluation, is particularly important to sustainability since it allows an on-going review of project effectiveness (Hodgkin, 1994). Hodgkin (1994) gives examples of indicators to be monitored would be verifying that communities are maintaining an adequate Operation and Maintenance fund or a continued supply of spare parts to project area.

Such indicators must be established early in the project and used in monitoring activities to assure that actions are carried out when needed. Monitoring and Evaluation should involve beneficiaries, giving them the opportunity to decide on the criteria of success. Evaluations should be used as a management tool to identify any deficiencies and to establish a course of action to remedy problems which results to sustainability.

According to UNDP (1997a) “Monitoring enables management to identify and assess potential problems and success of a program or project. It provides the basis of corrective actions, both substantive and operation to improve the program or project design, manner of implementation and quality of results (Karanja G, 2013). In addition it enables the reinforcement of initial positive results.”It is a major aspect that cannot be overlooked because it determines the sustainability of any venture or project. According to Standish Group Project Chaos Report (2005), one of the reasons for project failure is lack of project monitoring and control. The success and sustainability of any project or program largely depend on constant feedbacks about project on going activities (Mark, Henry, & Julnes, 2000).

A study done on influence of management practices on sustainability of youth income generating projects in Kangema District, Murang’a County, Kenya findings revealed that majority of the youth projects in Kangema were only evaluated twice a year and 23% had not been evaluated at all. Monitoring and evaluation is important in the sustainability of a project and therefore the frequency of monitoring and evaluation should be enhanced in all the project stages (Gitonga, 2013). This was also supported by views of (Patton, 1997) who argued that, monitoring forms an integral part of all successful projects and without

access to accurate and timely information, it is difficult if not impossible to manage an activity, project or program effectively. In the same study the findings indicate that Monitoring and while a small proportion of the groups evaluated by expertise in M&E (Gitonga, 2013).

A study done by Kenya Rain Water harvesting, Wanyonyi (1998) on possibilities and challenges of rainwater harvesting in both and urban areas of Kenya points out technical issues as one of elements affecting sustainability. According to (Wanyonyi, 1998) no matter how well designed a rainwater harvesting system, if it is not technically efficient, it will not deliver or perform the anticipated functions. This is the reason why many projects, especially in the areas, are not sustainable or cannot be replicable due to inadequate technical interventions. The absence of such technical instructions (during follow up and monitoring) at project level implies inadequate technological transfer and poor project management resulting in a high failure rate.

The same reports mentions that assessment of the infrastructure shows that the communities were not fully involved in the planning and technology selection. The method of fixing gutters, taps, tank construction valves and operation and maintenance guidelines are not fully understood nor issued to the community on the commissioning of the project (Wanyonyi, 1998).

Stakeholders analysis which is a common tool to enable development facilitators to evaluate how well they intend to respond to different interests of key stakeholders in Monitoring and Evaluation, stakeholders analysis is usually used to identify different types and forms of monitoring and evaluation information demanded by different stakeholders who place

varying degree to different types of information in relation to their needs and interests (Gitonga, 2012).

2.3 Influence of Stakeholders Involvement on Sustainability of DFWRPs

Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. Stakeholders may include locally affected communities or individuals and their formal and informal representatives, national or local government authorities, politicians, religious leaders, civil society organizations and groups with special interests (Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets, 2007). This research only investigated involvement of two key stakeholders who include; community, and government line ministries.

2.3.1 Involvement of Community as stakeholders and Sustainability of DFWRPs

Participation of the community in development influences the success of development projects; when members of the community are involved, at the initial stages to up to a point when they are left to manage the project; identification and conceptualization (Gitonga 2012). Community participation in monitoring and evaluation is defined as the collective examination and assessment of the program or project by the stakeholders and beneficiaries.

It takes into account the importance of taking local people's perspective into account and giving them a greater say in planning and managing the evaluation process. Local people, community organizations and other stakeholders decide together how to measure results

and what actions should follow once this information has been collected and analysed (Gitonga 2012).

The efficient and sustainable management of water resources has been the key to sustainability of supply of safe drinking water in the required quantity and quality in the developed world (SEI, 2005). It is estimated that 35% of all rural water supplies in sub-Saharan Africa are not functioning (Baumann, 2005). The widespread failures in water supplies have been attributed to a number of flaws in the water projects such as; undesired intervention by the community, the capital and/or recurrent costs being too high for the community, lack of ownership results in neglect of maintenance and repairs, the promised benefits don't materialize, education programmes are too short and trained members of the community move away or lose interest (Carter, Tyrrel and Howsam, 1999).

Other factors such as the on-going use of traditional sources of water, poor systems of cost recovery and the distaste for water from the improved source also contribute to undermining sustainability (Parry-Jones et al, 2001). Practical responses to the challenge of sustainability are being tested and used by development practitioners' world over. Due to the widespread trend in developing countries of the devolution of responsibility for water schemes from governments to Water Project Committees, many of the interventions aimed at improving sustainability are taking place at the Water Point Executive Committees level (Parry-Jones et al, 2001).

Appropriate technologies that are low cost, easy to maintain, simple to use and readily available are some responses to the challenge of sustainability. Appropriate technologies are integral to the concept of Water Point Executive Committees Level Operation and

Maintenance (VLOM) which emerged in the 1981 – 1990 Water Decade (Reynolds, 1992). Many of its basic principles are still guiding the water sector today, though a tension persists between the ease of maintaining a system and its durability (Reynolds, 1992). The VLOM conceptualization of the community as an island also neglects to recognize the role of external support agencies, such as the government, in achieving sustainability (Wurzel, 2001).

It is common practice for Water Point Executive Committees water schemes to be managed by a Water Point Executive Committees committee of some sort; the creation of which is intended to enable communities to have a major role in the project, to have a sense of ownership over the scheme and to ensure its ongoing operation and maintenance (Harvey & Reed, 2006). It has been suggested that ‘beneficiary participation is the single most important factor contributing to project effectiveness’ (Narayan, 1994). Without participation, it has been claimed that systems are unlikely to be sustainable even if spare parts and repair technicians are available (Harvey and Reed, 2006).

Participation can take different forms, including the initial expression of the demand for water, the selection of technology and its siting, the provision of labour and local materials, a cash contribution to the project costs, the selection of the management type and even the water tariff (Harvey and Reed, 2006). It is thus the process through which demand-responsiveness is exercised, and empowerment achieved. Participation is viewed as a tool for improving the efficiency of a project, assuming that where people are involved they are more likely to accept the new project and partake in its ongoing

operation (Harvey and Reed, 2006). It is also seen as a fundamental right; that beneficiaries should have a say about interventions that affect their lives (FAO, 2005).

Kumar (2002) asserts that community participation is a key instrument in creating self-reliant and empowered communities, stimulating Water Project Committees-level mechanisms for collective action and decision-making. It is also believed to be instrumental in addressing marginalization and inequity, through elucidating the desires, priorities and perspectives of different groups within a project area.

Participatory methods now dominate in the implementation of development interventions at the Water Point Executive Committees level, the most common method being Participatory Rural Appraisal. Participation is also aimed at increasing the sense of ownership over the water supply within community members. A history of top-down service delivery by governments and NGOs frequently leaves a legacy of dependency in the Water Project Committees on external assistance. Consequently, in the event of a failure in the water supply the Water Project Committees do not make any attempt at repairs as it is not perceived to be their responsibility (Kumar, 2002).

A study by Nyaguthii and Oyugi (2013) on influence of community participation on successful implementation of Constituency Development Fund (water) projects in Kenya: case study of Mwea constituency findings indicates there is low community members' participation in identification, implementation, evaluation and monitoring of Constituency Development Fund (water) projects, and there is need to improve on the same.

The recommendations made out of this study is that community members whether influential or not be involved in identification of the WATER projects (Nyaguthii and Oyugi 2013). According to Natural Resource Management Programme (NRMP) 2010-2014, the arid and semi-arid lands of Kenya are home to 10 million Kenyans, 70% of whom live below the poverty line (on 1.25 US Dollars per day/person). The ASAL areas are subject to frequent droughts, which have been intensified by climate change.

The NRMP consequently provides support to development of these areas in close partnership with the Ministry of State for Northern Kenya (Current National Drought Management Authority) and other arid lands development partners and donor agents like NGOs and other international humanitarian organizations (NRMP- 2010-2014).

In reference to National Population Leaders conference held in November 15th to 17th, 2010, some of the emerging issues were that the communities were aware of the steps and effort done by the government and other stakeholders. Some of the emerging issues were persistent scarcity to water. According to Tana River Development Plan (2008-2012), and also current County Integrated Development Plan (CIDP, 2013-2017), water scarcity remains an issue of concern. How does the involvement of the communities in identification of their needs and solutions to their problems influence sustainability?

Vision 2030 First Medium Plan 2008-2012 reports that involvement of local communities in the management of water resources through formation of Water Point Executive Committees (WRUAs) has resulted in rehabilitation of catchment areas and water sources in Kenya. Rehabilitation of water sources continues to be an objective and recommendation in the monthly National Drought Management Authority bulletin, for

Tana River County. This put a question or concern into level of involvement of target communities in need identification and prioritization; project designing, management and organization, operation and maintenance, monitoring and evaluation of water supply structures as part of community sustainability mechanism. (Vision 2030)

A study done to North Eastern Region Community Resource Management Project for Upland Areas, (NERCORMP) funded by The International Fund for Agricultural Development (IFAD) in 1999 in India also focused on sustainability. The project sought to improve the livelihood of vulnerable groups in a sustainable manner through improved management of their natural resource base that would restore and protect the environment.

To achieve their goal, IFAD and its government, NGOs and community partners created community-based organizations and engaged them in income generating activities, supported the development of transportation, market and health/sanitation infrastructure, and promoted environmental protection. This gives some highlights on subject to focus under sustainable development through diversification of income bases. (IFAD-India. 2007)

“IFAD included NERCORMP in a set of case studies on project sustainability being developed throughout the Asia and Pacific Division. This case study served to identify the enabling factors that contributed to the sustainability of NERCORMP or, in case of negative findings, the constraints that the project had faced in achieving sustainability. The study involved; Collection and documentation of findings and suggestions of the various projects’ stakeholders on what sustainability means for them; Understanding

how project designs, planning, monitoring and evaluation (M&E) systems, supervisions and overall implementation relates to the issue of sustainability; and documentation and sharing of lessons learned on the specific approaches which enhance sustainability.

The findings of the study were that NERCORMP employed many appropriate strategies which enhanced sustainability; all steps of project management cycle were followed by involving communities in need identification and prioritization to the project evaluation. Secondly, a participatory community approach was applied in which communities cost shared in resources of project implementation which included local contributions of labour, materials, and sometimes cash. The communities had a feeling of sense of ownership since they contributed. Thirdly, Community Managed Disaster Risk Reduction and Resilience approach was applied with an aim of making people develop their own community action plans to deal with their own problems in a continuous and sustainable manner.

Resilience building also enhances communities' capacities to deal with shocks and disaster since they are prepared in prevention and mitigation measures. Additionally, by successfully integrating government stakeholders into the District Societies (Essentially project field offices), NERCORMP helped establish local ownership of the project and significantly increased awareness among government stakeholders. Finally, Project managers and IFAD supervisors were flexible in their approach, allowing design modifications and an extension period in an attempt to assure sustainability (IFAD, 2007). For community members, it was particularly important that the new enterprises would remain viable and grow, and that the opportunities provided to them by the project

would continue to be available. Project staff and partners shared these views and also noted the importance of empowerment of beneficiaries, particularly women, to future sustainability...” Despite some gaps, there was high level of sustainability (IFAD, 2007).

IFAD Strategic Framework 2007-2010 (IFAD, 2007) explain the concept of sustainability being contributed to or distracted by a number of factors which include political, social, ownership of projects by target groups, institutional, economic and financial elements, technical soundness, and environmental factors. The purpose of this study is to investigate how Monitoring and Evaluation influences sustainability of development of donor funded projects in Tana River County, assessing the influence of NGOs funding on projects and establishing the involvement of stakeholders on sustainability of donor funded projects

In order to understand the factors influencing project sustainability, there is a need to monitor the important aspects of project financial sustainability which include; stability and growth rate of the organization. This can be achieved through monitoring of net income: the surplus of revenue over expenses, and liquidity; which is the ability to meet the cash requirements of pay bills, and relationship between assets and debts. Secondly, there is need for the stakeholders appropriately recognising and sharing of benefits. Organizations have many stakeholders including community leaders.

No organization can be sustainable without analysing and understanding stakeholders they are involved with, their needs, expectations, priorities, and responding to the needs .The other important aspect is that sustainability efforts remains in harmony with stakeholders interests. Organizations must recognise that needs of their stakeholders are

subject to change and the change needs to be adopted so is the priorities, and interest. Finally, communication is a very important factor to the process of achieving sustainability. Sustainability revolves around good communication and feedback, and responding to the felt needs of the target community (Gitonga, 2011). Donor-led and top-down projects generally fail to bring sustainable benefits because they do not lead to stakeholder ownership and commitment (Promoting Practical Sustainability September 2000, The Australian Government's Overseas Aid).

Some of the development process factors affecting sustainability include project designs and planning set the stage for all future activities. Designing with sustainability in mind is dearly an important factor. Designs should be produced with as much input from involved organizations as possible. This includes everyone who is expected to play a role in project implementation and operations. Input from beneficiaries and users is especially important but, unfortunately, is too often minimised because of the time and effort involved (Gitonga, 2012).

The commitment of resources, particularly financial resources, by beneficiary communities is seen as an important indicator of the expected value of the project to these communities. Cost recovery contributes and even establishment of Income Generating Activities like sale of water or horticultural establishment can contribute to sustainability not only through increasing resources available for sustaining and expanding benefits, but also by establishing relationships of accountability for resource use (Hodgkin, 1994).

2.3.2 Involvement of Line Ministries as stakeholders and Sustainability of DFWPs

These are government officials who are the people who can devise, pass, and enforce laws and regulations that may either fulfill the goals of your effort or directly cancel them out. An evaluation done in Tana River by a Consultant Dirk Zerhusen, contracted by Welthungerhilfe, an International Non-governmental Organization operating in Tana River had mentioned some lesson learnt in the evaluation report. The evaluated project objective was to address the immediate need for essential hygiene kits in Dadaab and the supply of water in Tana River, Marsabit, Makueni, and Kitui Counties.

The German Agency for International Cooperation or (GIZ) which is an international enterprise owned by the German Federal Government, operating in many fields in international cooperation for sustainable development. The project was a component of Drought Response in the Health Sector in Kenya, resulting from drought in the horn of Africa in 2010/11. The report recommends that the links between the community and the relevant line ministries and institutions are prerequisite for an effective and sustainable development in the target region. This is to ensure continuity through linkage to local service providers.

Some of the water projects are implemented within a very short period and funding of emergency nature for instance, the project aforementioned was only for 9 (nine) months. After the implementation of the project, it is normally expected that the community will sustain it. Therefore, it was recommended that linking the beneficiaries to the relevant line ministries and other stakeholders is necessary for sustainable development. Zerhusen also recommended that, there should be active involvement of local stakeholders

(government line ministries, community elders, chiefs, religious leaders) which facilitates access to the project area and eases familiarization with the target beneficiaries throughout the project management cycle. (Zerhusen, 2012)

2.4 Influence of Level of funding on Sustainability of DFWPs

Donor policies can be important because they influence how contracts are prepared, the duration of funding, and what is funded (Promoting Practical Sustainability September 2000, The Australian Government's Overseas Aid Program). The role of stakeholders is a critical role in promotion of sustainability. Sustainability cannot be achieved without their involvement and support. Stakeholders, who should actively participate to influence the direction and detail of design and implementation. Allocating adequate time and resources for participatory analysis and responding to demand-led approaches are important ways to improve participation.

An evaluation of Welthungerhilfe, an International NGO operating in Tana River County, Projects funded by GiZ and USAID recommendations (Dirk Zerhusen, 2012), indicate that; short-term projects cannot ensure sustainable capacity building of important organisational structures within target groups. The integration of poverty reduction measures (capacity building, improvement of water availability) into the emergency program has convinced and motivated the beneficiaries to participate actively in the programme execution and has engaged people in self-development efforts, which in turn raises ownership.

Change agents also need to have a deep understanding of the social cultural dynamics is important for integrating consideration and awareness into the planning and design of

projects, to avoid conflicts, and to ensure effective implementation among communities. Zerhusen also recommends that programmes should be aware of adverse external factors (such as climatic conditions) and take into account unfavourable periods for starting and financing activities, especially in construction sectors like construction work of earth dams which comprise components that depend entirely on the climatic season. In order to maximize the implementation effectiveness and efficiency of project and programs, the GIZ (funding agency) should deliberate the harmonization and alignment of rules and procedures of monitoring and reporting.

ACF Water, Sanitation and Hygiene Policy defines sustainability as the continuation or maintenance of structures or initiatives created, or benefits of inputs distributed, beyond the lifetime of the project and is key to whether a project will achieve a wider and longer-term impact. Availability of donors or funding sources has been identified as one of the external factors that influence sustainability (Hodgkin, 1994).

Other external factors influencing sustainability of projects include; Legislation, policies & political Support, Efficiency of intermediate level actors – Government, NGOs, private sector and Availability of spares and materials such as Water, Sanitation and Hygiene Policy (ACF-IN) resources especially raising and maintaining adequate funds for water supply facilities and activities are of importance to sustainability. Insufficient financing is a major factor in poor maintenance which, in turn, is often cited as a reason for project failure (Hodgkin, 1994).

Project benefits will not be produced without adequate resources; financial, human, natural, and technical to sustain them. Since development projects typically provide

financial, and often human and technical resources, benefits cannot continue post project unless resources have been transferred to or can be acquired by the appropriate host country organizations. Natural resources are finite and must be used responsibly to ensure their continued availability for the development of future generations (Oregon, 2005)

The other factor influencing development process is the resources of financing process, which includes raising and maintaining adequate funds for water supply structures which is a critical importance to sustainability. Insufficient financing is a major factor in poor maintenance which, in turn, is often cited as a reason for project failure. The commitment of resources, particularly financial resources, by beneficiary communities is seen as an important indicator of the expected value of the project to these communities. When communities recover from costs or stabilise in raising funds for maintenance, this contributes to sustainability not only through increasing resources available for sustaining and expanding benefits. This is also coupled by responsibility and accountability (Hodgkin, 1994).

Priority interventions, sometimes dependent on physical characteristics within the project area, such as length of pipeline or depth of drilling needed to reach potable water sources. These choices, in turn, determine capital requirements and recurrent financing needs. Capital costs are equipment, labour, and material costs associated with initial project activities, including any and all construction activity. (Hodgkin, 1994). Recurrent costs are those associated with operation, maintenance, repair, and replacement of system components, and any on-going health education or community extension activities related to the project. Where income levels are sufficiently high and/or continued subsidies are

not assured, these costs are largely dependent on technology choice, but project location, labor costs, and administrative costs also have an impact. Complete life cycle accounting methods should be used to ascertain the total costs involved. Such an approach will provide a solid understanding of the financial burden associated with technological choices and avoid surprises later in the operating life of the system (Hodgkin, 1994).

It is important that the beneficiary community have the capacity to generate the resources necessary to support the water supply interventions. 'In-kind' contributions can be valuable additions to a project, but cash is required for many items including equipment and fuel. Beneficiary contribution to capital costs, either labor or money, may be a significant indicator of system sustainability. Contributions are likely to indicate a sincere desire for the benefits which accrue from water supply and sanitation interventions. However, a willingness to contribute to capital expenditures, in cash or in-kind, does not of itself ensure sustainability (Hodgkin, 1994).

In Tana River, according to National Water, Environment and Sanitation Coordination forum, which is a coordination body for Water, Sanitation and Environment Interventions Actors (November 2013, Minutes); Tana River had over ten (10) active actors in the period 2008 to 2013. The problems on water supply continue to emerge with many actors concentrating their efforts on rehabilitation of water structures. The question remains why a lot of level of funding is channelled towards rehabilitation of water structures despite the fact that, communities' ought to sustain their projects after completion and handing over? (National Population Conference, *Managing Population to achieve vision 2030: Final Report*. KICC, 15-17th November, Nairobi Kenya).

2.5 Theoretical Framework

The relationship between external (Donors & Government) funding and internal (Water project Committee Management) contribution is the subject of investigation. This study applied a Community-of-Practice (CoP) approach towards understanding donor funded rural water sustainability. In combining CoP with Sen (1999) Capabilities Approach (CA) and Roy (1993) Power Relations Theory, Sen (1999) generated a dichotomy between the project development or goals and the project implementation or practices and whether they are locally or externally driven as shown in Table 2.1).

Table 2.1: Project Scenarios Derived from CoP-CA Model

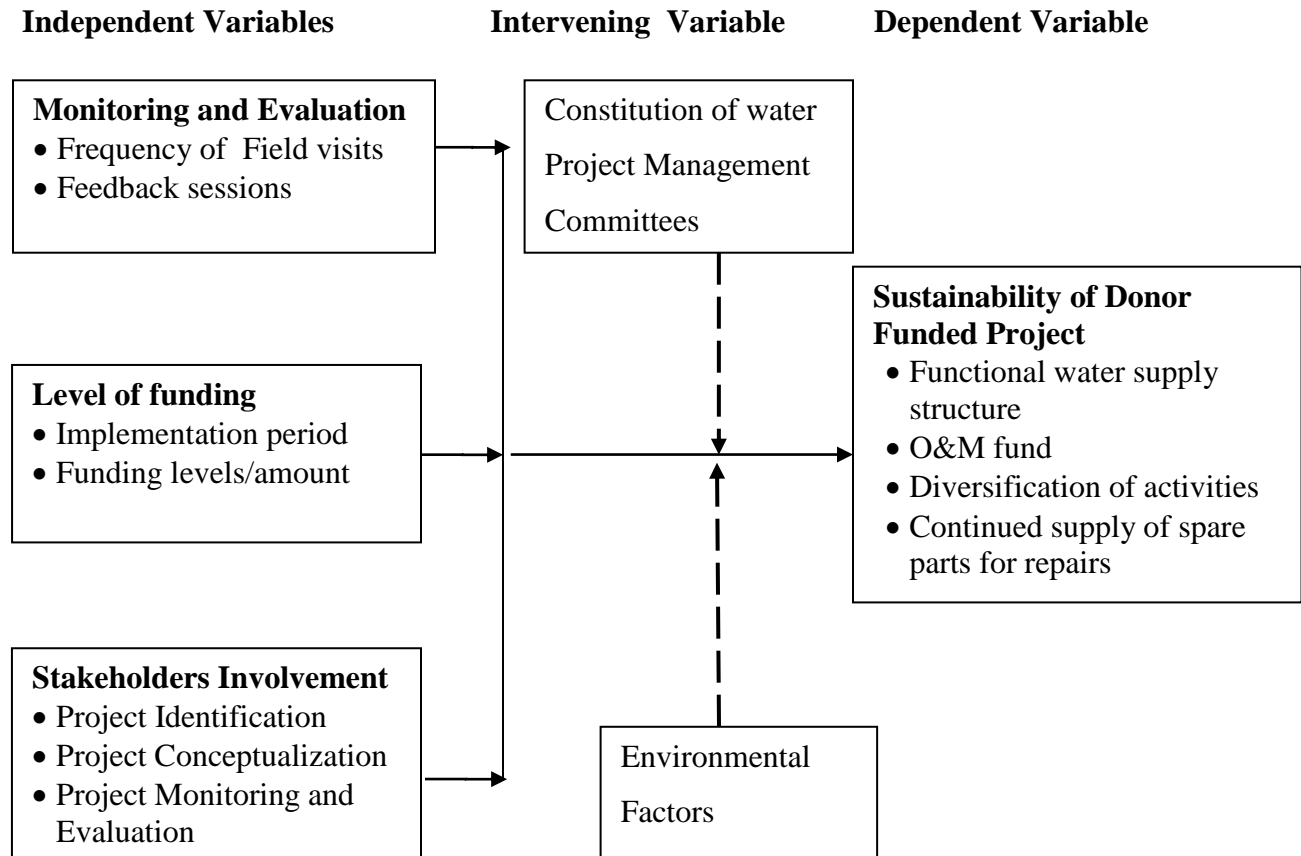
		Project Motivation(The “Goal”)	
		Local	External
Project Implementation (Practiced)	Local	Empowerment Development as <i>facilitative and freedom</i>	Apprenticeship Development as planned and guided
	External	Assistencialism Development as consultative	Determinism Development as dependence

Source: Sen, (1999)

Through this dichotomy, Sen (1999) developed four project scenarios: Empowerment (local goals and practices), Apprenticeship (local practices and external goals), Assistencialism (external practices and local goals), and Determinism (external goals and practices). Empowerment and Apprenticeship are small-scale projects run at the village level (Sen, 1999). Determinism and Assistencialism tend to be large-scale projects that run at the national level. In terms of the sustainability indicators, Determinism and Empowerment are the most environmentally sustainable. Assistencialism is the most economically sustainable, and Empowerment is the most engineering sustainable.

2.6 Conceptual Framework

In this study, the researcher conceptualized the factors influencing sustainability of donor funded water projects in Tana River County, Kenya as shown in Figure 1.



Source: Researcher, 2014

Figure 1: Conceptual Framework

As shown in Figure 1 the researcher had conceptualized: The independent variables as the influence of monitoring and evaluation practices, level of funding as in the donor agency interaction and training programmes and stakeholders' involvement in project identification, conceptualization and project monitoring and evaluation on sustainability

of donor funded water projects in Tana River County, which will be the dependent variable of the study. Others factors are classified as environmental, demographic, socio-cultural, political, economic, and technological. In the context of the study, I considered environmental factors. The intervening variable is environmental factors and the moderating variable is the constitution of the WPECs in Wenje donor funded water projects in Tana River County.

Technical repair and maintenance services as indicated by presence of health workers and Trained water extension officers from the line ministries departments to enhance water supply reliability. Otherwise, there will be low sustainability as failures are due to insufficient operational attention and maintenance (Harvey & Reed, 2004).

Community participation as indicated by Water Point Executive Committees to enhance water supply reliability through, project's subscription and record keeping. If the community is freely and willingly involved water projects provide long-term benefits to the members which increase sustainability. However, ineffective water supply is due to poor community management after the donor agency has left (Teezed, 2002). Level of funding would help in capacity building of local beneficiaries' WPECs ownership of Donor Funded Water Projects should not be the end in itself, but the prerequisite for simple, service-oriented and financially sustainable systems (Reynolds, 1992).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that was used in this study. The first section describes the research design, target population, sample size and sampling procedure, data collection instruments, validity, reliability and data analysis.

3.2 Research Design

A research design is the plan and structure of investigation so conceived as to obtain answers to research question (Munyoki and Mulwa 2012). The researcher in this study applied descriptive/survey research methods involving quantitative research approach and design. Descriptive survey design is concerned with the what, where, when or how much of a phenomena. The researcher was fairly knowledgeable about the key aspects of a phenomenon but had little knowledge if any regarding their characteristic nature or details (Munyoki and Mulwa, 2012). This research design enabled the researcher to generate knowledge that may be used to describe or develop a profile of what is being studied.

The researcher applied quantitative design which makes use of survey questionnaires and interviews to gather data that is analysed and tabulated in numbers, which allows the data to be characterised by the use of statistical analysis (Hittleman, 1997). Quantitative research is applied when the research incorporates the statistical (how many?) elements designed to quantify the extent to which a target group is aware of, thinks, and believes (Kombo, 2013). Quantitative data were analyzed using frequency distribution tables

preceded by explanations of the findings. Frequencies of responses were used to explain meaning of phenomenon from numerical data collected.

3.3 Target Population

Population refers to an entire group of individuals, events or objects having a common observable characteristic (Mugenda and Mugenda 2003). This study targeted all the 10 Wenje Donor Funded Water Projects in Tana River County. There were ten (10) funding agency representatives and ten (10) line ministries technical persons and thirty (30) Water Project Committee (WPEC) members who included: Chairman, Secretary and Treasurer in each committee among the Wenje water donor funded projects in Tana River County.

3.4 Sample Size and Sampling Procedures

This section explains the sample size and the sampling procedure applied during the study.

3.4.1 Sample Size

The sample size was fifty (50) respondents comprising of ten (10) funding agents' officials and ten (10) line ministries water technical personnel and thirty (30) Water Project Committee (WPC) members as shown in Table 3.1.

Table 3.1: Categories of Respondents

Category	Respondents	Water Points	Sample Size
Donor Financiers	Level of funding Agency representative	10	10
Line Ministries	Line ministries' water technical persons	10	10
WPC members	Chairman, Secretary and Treasurer	10×3	30
Sample Size (n)			50

This sample was adequate because the study was a case study of Wenje Water Projects in Tana River County. Table 3.1 indicates categories of respondents interviewed.

3.4.2 Sampling Procedures

Census sampling was used to select all the ten (10) donor funded water projects among Wenje water projects in Tana River County. Purposive sampling technique was used to select 10 funding agency representatives and ten (10) line ministries technical persons from each of the ten (10) donor funded water projects among Wenje water projects in Tana River County.

Purposive sampling method was also used to select three (3) WPEC members from each of the 10 selected water projects which included the: Chairman, Secretary and Treasurer to the Water Project Committee in Wenje Donor Funded Water Projects in Tana River County.

3.5 Data Collection Instruments

The main data collection techniques used in this research study include; oral literature reviews, interviews using questionnaires, interview guide and visual observations during data collection in Tana River Sub County, Tana River County. The observation method assisted in for instance; to confirm if the particular water structure or Income Generating Activity answered by the interviewee/respondent was physically evident or functional.

3.5.1 Questionnaires for Water Point Committee Executive Members

A questionnaire was used to gather information from water project committee members' respondents who were the local people (Chairman, Secretary and Treasurer) mandated with the task of the management of the Ten (10) Wenje Donor Funded Water Projects after the end of the projects' implementation period. The questionnaire comprised of four (4) sections which include background information of the respondent, Influence of Monitoring and Evaluation, Involvement of Stakeholders, Level of funding and Sustainability Indicators.

Each question in the questionnaire was developed to address one of the three research questions. Structured or closed ended questions were developed. There were five (5) different questions with sub-sectional items which were in two different formats the closed ended likert rating scaled items as found in questions 2, 3 and 4 which were also accompanied by possible alternative rating scale from (1,2,3,4,5) under a rating scale of 1-strongly agree, 2-agree, 3-undecided/neutral 4-disagree and 5-strongly disagree.

Questionnaires are commonly used to obtain important information about a large sparsely distributed sample or population because they can be emailed to the respondents and the respondents email them back to the researcher. Therefore, the questionnaires are cost effective, time saving and upholds individual opinions with minimal interference from the researcher (Mugenda and Mugenda 2003).

A questionnaire can be emailed to the respondents. This is because of the low cost involved, free from biases of the interviewer, respondents have well thought answers and

the fact that respondents who are not readily available can be reached through emails. Further, a covering letter was attached and in case of any clarification, the sender responded (Kothari, 2004).

3.5.2 Interview Guide for Line Ministries and NGO/Donor Representatives

This method involves collecting information through personal interviews in a structured way. An interview guide with predetermined questions was used (Kothari 2004). An interview guide was used for the line ministries government officials and the donors representatives. The interview guide comprised of four (4) sections, which included: Influence of Monitoring and Evaluation, Involvement of Stakeholders, Level of funding and Sustainability Indicators.

The total number of questions in the interview guide were five (5) which were in two different formats the closed ended likert rating scaled items as found in questions 2, 3 and 4 which were also accompanied by possible alternative rating scale from (1,2,3,4,5) under a rating scale of 1-strongly agree, 2-agree, 3-undecided/neutral 4-disagree and 5-strongly disagree in which the respondents were guided by the interviewer through the scaled ratings for them to select the best suited for their situation.

3.6 Validity and Reliability of the Instrument

This section describes the validity and reliability of the research instruments.

3.6.1 Validity

Validity is the accuracy and meaningfulness of inferences, which are based on the research results (Mugenda and Mugenda 2003). Validity is also the degree to which

results obtained from the analysis of the data actually represent the phenomenon under study. The validity of the research instrument was established through consultation with research supervisor. The content of the questionnaire was examined to enhance validity. After selecting the appropriate group for the subject, the questionnaire was administered, to ascertain if the data collected is true reflection of the variables under study and if the data was accurate and meaningful.

3.6.2 Reliability

Reliability is a measure of degree to which a research instrument yields consistent results after several trials. In order to enhance reliability of the data to be collected, consultation with line supervisor was done. Split half method was used to pretest the reliability of the questionnaire items. Pilot study participants were 2 WPC members, 2 line ministry technical officials and 2 donor funding agency representatives randomly selected from the neighbouring Sub County to Wenje in Tana River County.

Since participants in the pilot study should be excluded from the actual study sample. In this study census sampling was used to include all stakeholders as participants in the sample within Wenje Donor Funded Water Projects in Tana River County. The 50 questionnaires items were divided into two halves 25-25 odd/even numbers. The scores from the 2 splits were correlated using Pearson Product Moment Correlation Coefficient

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{\{n \sum x^2 - (\sum x)^2\} \{n \sum y^2 - (\sum y)^2\}}}$$

The correlation coefficient was 0.80 which implies that there was high pretest reliability of the questionnaire items. This concurred with Mugenda and Mugenda (2003) who

support the fact that if the calculated correlation coefficient is above 0.79 it implies that there is high pretest reliability of the questionnaire items.

3.7 Data Collection Procedures

The researcher obtained a permit from the Headquarters National Council for Sciences and Technology, Nairobi in order to be allowed to collect data. A copy of the permit was submitted to the ministry of education and water department in Tana River County. The researcher pre-visited the Wenje water projects to establish rapport before the actual data collection date. This made her familiar with the respondents.

Before engaging the respondent, informal consent from the respondents was obtained and after explaining the purpose and objective of the visit confidentiality was assured to all respondents. Where difficulties in answering the interview questions were established, probing was done. The interviewees were both technical persons from the line ministries and funding agent's representative. The questionnaires were personally administered by the researcher as well as interviewing the WPECs in person.

3.8 Data Analysis

The descriptive statistics was used to analyse the data collected where relative frequencies or distribution of scores as well as mean scores were determined in the analysis. Data was analyzed using descriptive statistics like frequency distributions; percentages and averages (mean = $\Sigma fx / \Sigma f$ values). Statistical tally system was used to generate frequency counts from the responses so as to prepare frequency distributions. Percentages of the 5-point rating likert scale response out of the total study sample

response per item were calculated. Averages or (mean values) were also calculated in respective items. The mean values were calculated using the formula $\Sigma fx/\Sigma f$ where Σfx is the sum of product of f = frequency of responses and x = the likert scale range of values from (1, 2, 3, 4 and 5) and Σf is the sum of f = frequency of respondents who had attested to a particular rating scale among the range of (1-5) in their responses. As a measure of central tendency, (mean = $\Sigma fx/\Sigma f$) was used to decide the concentration side of responses within the 5-point likert rating scale range of (1-2-3-4-5).

In this study three categories of responses' concentrations by range were used as {(mean= $\Sigma fx/\Sigma f$ = 1-2.4999) for agreement; (mean = $\Sigma fx/\Sigma f$ = 2.5-3.4999) for undecided/neutral; and (mean = $\Sigma fx/\Sigma f$ = 3.5-5) for disagreement)} so as to support the calculated percentages in depicting the general trend of the study findings. Standard deviations (Std dev) were also calculated to show variability or consistency among respondents in responding to an item. The Std dev= $(\Sigma f(x-3)^2/\Sigma f)$ where 3 was used as the assumed mean. The results were presented in frequency distribution tables with explanations.

3.9 Ethical Issues

It was important to consider the ethical implications of study work. Many findings may be of a personal or potentially confidential nature, and as such, there was a responsibility to adhere to certain guidelines. Confidentiality and privacy of information collected was communicated to the respondents before the start of the interviewing process. The questionnaires did not indicate the identity of interviewees, because the disclosure of confidential information might have stigmatised the respondent.

The other ethical issue considered was the physical and psychological harm ethics. Mugenda and Mugenda (2003) note that physiological harm occurs when embarrassing questions are asked, expressing shock or disgust while using threatening statements or compelling people to do something they don't believe in. This was achieved through designing the questionnaires in a user friendly manner that there was no physical or psychological harm. Any physical or physiological harm was established during pre-testing and corrections done to the questionnaire. Interviewers were trained and sensitised on need to avoid physical and psychological harm to the respondents and even to oneself. To ensure informed consent; the questionnaires were only administered to respondents who had consented and were willing to participate in the interviews. The purpose of the study was explained to the interviewees. The interviewers ensured that permission was sought as per the cultural values and practices of the target population.

3.10 Operational Definitions of the Study Variables

A variable is any characteristic, trend or nature that assumes different values among the subject. The independent variables as the influence of monitoring and evaluation practices, level of funding and stakeholders' involvement on sustainability of donor funded water projects in Tana River County, which was the dependent variable of the study. Other variables were the intervening variable; the environmental factors and the moderating variable; the constitution of the WPECs whose influence on donor funded water projects was insignificant in this study. Table 3.2 shows operationalization of the study variables.

Table 3.2: Operational Definitions of Study Variables

Objectives	Independent Variable	Dependent Variable	Indicators	Measurement tools/Level of Scale	Type of tool
To establish the influence of (M&E) on sustainability of development of donor funded water projects in Tana River County.	Influence of Monitoring & Evaluation	Sustainability of donor projects	Number of participatory M&E carried out, Feedback sessions	- Nominal - Ordinal - Interval	Descriptive statistics - Frequency distribution tables
To assess the influence of level of funding on sustainability of donor funded water projects in Tana River County.	Influence of donor funding	Sustainability of donor projects	No of operational water supply structures end, If O & M Funds Diversify activities Continued supply of spare parts for repairs	- Interval - Nominal	Measures of central tendency Mean Frequency distribution tables
To assess how involvement of stakeholders influence sustainability of donor funded water projects in Tana River County.	Influence of stakeholders' involvement	Sustainability of donor projects	Participatory M&E Involved in project identification and conceptualization	-Nominal -Interval	Descriptive statistics Frequency distribution tables

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter consists of the data analysis, presentation, interpretation and discussion. The chapter is organized according to the objectives of the study. The analyzed data is presented using frequency distribution tables preceded by interpretation and explanations of findings on management and sustainability of Donor Funded Water Projects (DFWPs) among Wenje Water Projects in Tana River County.

4.1.1 Questionnaire Returns Rate

This section consists of the questionnaire and interview response rates. The questionnaire returns and interview responses were received from the entire sample of 50 respondents where there were 30 Water Project Committee members and 20 line ministries and funding agents' officials at the Wenje Donor Funded Water Project in Tana River County. This was 100 per cent participation rate. This sample was adequate because the study was a case study of Wenje Water Projects in Tana River County.

4.1.2 Socio-demographic Characteristics of Study Participants

In question one the respondents were asked to indicate their gender from either the Male or Female choice given on the questionnaire. The responses showed that majority (76.7%) were female against 23.3% of male representation among the 30 selected Water Point Executive Committees members from Wenje Donor Funded Water Projects in Tana River County. Female's domination among the Water Point Executive Committees

members over and above men’s representation in the Wenje Donor Funded Water Projects shows that more women than men are the ones concerned with supply of water in their families.

Since from the reviewed literature there was no past research evidence that had linked gender of the participants with any influence on sustainability of donor funded water projects. Therefore, although women were the majority among the sampled Water Project Committees members; gender was an insignificant variable in as far as the influence of sustainability of donor funded water projects was concerned in this study. In question two Water Point Executive Committee members selected were asked to indicate their highest level of education that they had attained. The guidelines on the levels of education in the question were given as follows: No schooling; primary; secondary; certificate; diploma and degree and/or above. The findings were tabulated as shown in Table 4.1.

Table 4.1: Distribution of Respondents by Highest Level of Education

Level of Education	Frequency (f)	Percentage (%)
No Schooling	21	70.0
Primary	4	13.3
Secondary	3	10.0
Certificate	2	6.7
Diploma	0	0.0
Degree And Above	0	0.0
Total	30	100.0

As shown in Table 4.1, the study findings revealed that majority 70.0 percent of the Water Point Executive Committees members had not attended any level of education so they had no schooling at all. There were only 23.3% of these respondents who had attained primary and secondary school education where only 13.3% had attained primary school education and 10.0% had attained secondary school education. There were no respondents among the Water Point Executive Committees members selected who had attained diploma or university degree education levels.

The number of years in formal education for the Water Resource Users ranged from null = 0 for no schooling, 8 for primary level of education, 12 for secondary level of education, 15 for diploma level of education and 16 for those who had attained degree level of education.

Therefore the average number of years of schooling among the Water Point Executive Committees members selected was equal to: $(\text{none} = 21 \times 0) + (\text{primary education} = 4 \times 8) + (\text{secondary education} = 3 \times 12) + (\text{diploma level} = 2 \times 15) / 30 = 98 / 30 = 3.27$ years. Therefore, on average the results showed that the Water Point Committee members had only 3.27 years of formal schooling. Thus most of these respondents had attained only attained 3.27 years of primary school education.

The low level of education attained by these respondents was likely to have had a negative influence on the sustainability of donor funded water projects due to inadequacy of management skills among the group members after the donors leave. However, there was no past research evidence that had linked the participants mean number of years in

formal education with sustainability of donor funded water projects. Formal years of schooling were insignificant in influencing sustainability of donor funded water projects.

4.2 Influence of Monitoring and Evaluation on Sustainability of DFWPs

In question one the line ministries and donors participants were asked to say how often monitoring and evaluation was conducted during the water project implementation process. Also question three on the questionnaire the water point executive committee members were asked to indicate how often monitoring and evaluation was conducted during the water project implementation process. The results were provided as shown in the Table 4.2.

Table 4.2: Frequency of M and E of Wenje Donor Funded Water Projects

Period	Ministries & Donors Responses		Waters users/SHGs Responses	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Yearly	6	30.0	8	26.7
Quarterly	11	55.0	19	63.3
Monthly	3	15.0	3	10.0
Weekly	1	5.0	0	0.0
Total	20	100.0	30	100.0

According to results shown in Table 4.2, majority 90.0 percent (where 63.3% indicated quarterly and 26.7% indicated yearly) of the Water Point Executive Committees members and 85 percent of the line ministries and donor financiers sampled had indicated that the monitoring and evaluation exercise was conducted once or four times per year (where 55.0% indicated quarterly and 30.0% indicated yearly). The findings revealed that the

frequency of conducting monitoring and evaluation was insufficient because a lot of operations could have taken place without supervision in between a period of 3 months or one year.

Respondents from line ministries and donors representatives were asked to rate to what extent they thought monitoring and evaluation influences sustainability donor funded water projects by rating how satisfactory the M & E process was conducted during and after implementation of the projects. The findings from the responses obtained were illustrated as shown in Table 4.3, which shows the influence of monitoring and evaluation on sustainability of donor funded water projects.

Table 4.3: Influence of M and E on Sustainability of Donor Funded Water Projects

Influence of M and E on Sustainability of DFPs	1	2	3	4	5	Mean	Std Dev
Monitoring & evaluation process feedback was fully utilized for improvement							
Frequency (f)	4	6	1	7	2	2.85	1.85
Percentage (%)	20.0	30.0	5.0	35.0	10.0	100.0	
Monitoring & evaluation in dissemination of information was satisfactory							
Frequency (f)	2	10	3	5	1	2.80	1.35
Percentage (%)	10.0	50.0	15.0	25.0	5.0	100.0	
Monitoring & evaluation was fully participatory in community involvement							
Frequency (f)	1	2	1	13	3	3.75	1.55
Percentage (%)	5.0	10.0	5.0	65.0	15.0	100.0	
Mean of 3 means on (1-5)						3.13	1.58

According to results in Table 4.3 there were 50 percent of the respondents from line ministries and donor's agency representatives who agreed that monitoring and evaluation process feedback was fully utilized for improvement, 60 percent of the respondents from line ministries and donor's agency representatives agreed that monitoring and evaluation in dissemination of information was satisfactory and 80 percent of the respondents from line ministries and donor's agency representatives had disagreed with the fact that monitoring and evaluation was fully participatory in community involvement.

For item one in Table 4.3; the mean value was calculated using the formula $\Sigma fx/\Sigma f$ where Σfx is the sum of product of f = frequency of responses and x = the likert scale range of values from (1, 2, 3, 4 and 5) and Σf is the sum of f = frequency of respondents who had attested to a particular rating scale among the range of (1-5) in their responses. The mean value was calculated as $\Sigma fx/\Sigma f = (4 \times 1 + 6 \times 2 + 1 \times 3 + 7 \times 4 + 2 \times 5)/20 = 57/20 = 2.85$. The rest of the mean values in the study were calculated in the same way.

Standard deviations (Std dev) were also calculated to show variability or consistency among responses per item. The Std dev = $(\Sigma f(x-3)^2/\Sigma f)$ where 3 was used as the assumed mean. For item one in Table 4.3; the standard deviation value was calculated as $\Sigma f(x-3)^2/\Sigma f = (4 \times 4 + 6 \times 1 + 1 \times 0 + 7 \times 1 + 2 \times 4)/20 = 37/20 = 1.85$. The rest of the standard deviation values in the study were calculated in the same way.

The mean value of 3.13 on average from the likert scale range of (1-5) indicates that the respondents were undecided/neutral about whether monitoring and evaluation had any significant influence on sustainability of donor funded water projects in Wenje water projects at Tana River County. The fact that the standard deviation calculated (Std Dev =

1.58) was within one deviation from mean shows that we can be 99% confident that that all respondents were consistent in their responses.

In the previous reviewed literature the local community management groups, known as Water Point Executive Committees (WPECs) were formed and used as the lowest institutions in water supply management. The WPECs were reported to exist for all water projects studied in Zimbabwe (Teezed, 2002). However, despite the existence of WPECs at all water projects, it was claimed that the WPECs were ineffective in managing the operation and maintenance of the water projects (Dayal, van Wijk and Mukherjee, 2000).

4.3 Influence of Level of Funding on Sustainability of Donor Funded Projects

In question three on the questionnaire, the Water Point Executive Committee members were asked to rate how they agreed/disagreed with the fact that the level of funding received for their water project had significant influence on sustainability of DFVPs at Wenje. The results were as shown in Table 4.4, which shows the influence of level of funding received on sustainability of donor funded projects at Wenje, Tana River County.

Table 4.4: Influence of Level of funding on Sustainability of Donor Funded Projects

Activity	1	2	3	4	5	Mean	Std Dev
Satisfied that the Budget line items funded were as needed							
Frequency (f)	2	5	1	10	12	3.83	2.37
Percentage (%)	6.7	16.7	3.3	33.3	40.0	100.0	
Dissatisfied that Budget allocation per item/ was not adequate							
Frequency (f)	11	10	0	3	6	2.43	2.7
Percentage (%)	36.7	33.3	0.0	10.0	20.0	100.0	
Dissatisfied with funds received							
Frequency (f)	15	11	3	1	0	1.67	2.4
Percentage (%)	50.0	36.7	10.0	3.3	0.0	100.0	
Mean of 3 means on (1-5)						2.64	2.49

According to the results shown in Table 4.4, 73.3 percent of the water committee members respondents had disagreed that they were satisfied that the budget line items were funded as needed, 70.0 percent of the water committee members respondents had agreed that they were dissatisfied with the fact that budget allocation per item was adequate and 86.7 percent of the water committee members respondents had agreed that they were dissatisfied with the amount of funds received from the donors.

The mean value of 2.64 on average from the likert scale range of (1-5) indicates that the respondents were slightly undecided/neutral about whether level of funding had any significant influence on sustainability of donor funded water projects in Wenje water projects at Tana River County. The fact that the standard deviation calculated (Std dev = 2.49) was within two deviation from mean shows that we can be 95% confident that all respondents were consistent in their responses.

In the previous reviewed literature the local community management groups, known as Water Point Executive Committees (WPECs) were formed and used as the lowest institutions in water supply management. The WPECs were reported to exist for all water projects studied in Zimbabwe (Teezed, 2002). However, despite the existence of WPECs at all water projects, it was claimed that the WPECs were ineffective in managing the operation and maintenance of the water projects (Dayal, van Wijk and Mukherjee, 2000).

Some of the indicators cited for their ineffectiveness included poor record keeping and inability to mobilize the community, especially in times of breakdown of the water projects. In most cases, WPECs did not have records of borehole breakdowns, maintenance expenditure, and revenue subscription collected (Dayal, van Wijk and Mukherjee, 2000).

4.4 Influence of Involvement of Stakeholders on Sustainability of DFWPs

In question four the participants from line ministries and NGOs or donors representatives were asked to rate to what extent they thought involvement of stakeholders influences sustainability donor funded water projects by saying if they agreed/or disagreed with given statements on level of community involvement in the project implementation process. The findings were illustrated as shown in Table 4.5, which shows the influence of involvement of stakeholders on sustainability of donor funded projects.

Table 4.5: Stakeholders' Involvement on Sustainability of DFWP-Line Ministries

Statement	1	2	3	4	5	Mean/ Total	Std Dev
Involvement of WPECs in water project conceptualization and identification	2	3	2	8	5	3.55	1.95
Frequency (f)							
Percentage (%)	10.0	15.0	10.0	40.0	25.0	100.0	
Community was involved in Project implementation by cost sharing	9	10	1	0	0	1.60	2.30
Frequency (f)							
Percentage (%)	45.0	50.0	5.0	0.0	0.0	100.0	
Community involvement in decision making by financial transactions	0	1	1	15	3	4.00	1.40
Frequency (f)							
Percentage (%)	0.0	5.0	5.0	75.0	15.0	100.0	
Community involvement in sharing of water project benefits	2	18	0	0	0	1.90	1.30
Frequency (f)							
Percentage (%)	10.0	90.0	0.0	0.0	0.0	100.0	
Mean of 4 means on (1-5) & Std						2.76	1.74

According to the results shown in Table 4.5, 65.0 percent of the respondents from line ministries and donor's agency representatives had disagreed that there was involvement of WPECs in water project conceptualization and identification, 95.0 percent of the respondents from line ministries and donor's agency representatives had agreed that the community was involved in project implementation by cost sharing, 90.0 percent of the respondents from line ministries and donor's agency representatives had disagreed that the community was involved in decision making and in financial transactions; 100.0 percent of the respondents from line ministries and donor's agency representatives had agreed that the community was involved in sharing of water project benefits.

The mean value of 2.76 on average from the likert scale range of (1-5) indicates that the respondents were slightly undecided/neutral about whether community involvement had any significant influence on sustainability of donor funded water projects in Wenje water projects at Tana River County. The fact that the standard deviation calculated (Std dev = 1.76) was within two deviation from mean shows that we can be 95% confident that the respondents were in agreement in their responses.

In the previous reviewed literature the local community management groups, known as Water Point Executive Committees (WPECs) were formed and used as the lowest institutions in water supply management. Water Point Executive Committees projects' ownership of the donor funded water projects should not be the ends in itself, but the prerequisite for simple, service-oriented and financially sustainable systems (Reynolds, 1992). The line ministries technical officials' water projects services in the study were indicated by its effectiveness in management, procurement guidelines and water projects' evaluation and monitoring. These factors would enhance service-oriented and financially sustainable systems of donor funded water projects.

In question four the participants from the Water Point Executive Committees were asked to rate to what extent they thought involvement of stakeholders influences sustainability donor funded water projects by saying if they agreed/or disagreed with given statements on level of community involvement in the project implementation process. The findings from the responses obtained were illustrated as shown in Table 4.6, which shows the influence of involvement of stakeholders on sustainability of donor funded projects.

Table 4.6: Stakeholders' Involvement on Sustainability of DFWP by Beneficiaries

Statement	1	2	3	4	5	Mean	Std Dev
WPEC involved identifying project & conceptualization							
Frequency (f)	2	7	0	11	10	3.67	2.20
Percentage (%)	6.7	23.3	0.0	36.7	33.3	100.0	
Community was involved in Project implementation by cost sharing							
Frequency (f)	0	0	0	21	9	4.30	1.90
Percentage (%)	0.0	0.0	0.0	70.0	30.0	100.0	
Community involved in financial transactions							
Frequency (f)	0	0	0	19	11	4.37	2.10
Percentage (%)	0.0	0.0	0.0	73.3	36.7	100.0	
Community involvement in sharing project benefits							
Frequency (f)	20	10	0	0	0	1.33	3.00
Percentage (%)	66.7	33.3	0.0	0.0	0.0	100.0	
Mean of 4 on (1-5) & Std						3.42	2.3

According to the results shown in Table 4.5, 70.0 percent of the water project committee members respondents had disagreed that they were involved of WPECs in water project conceptualization and identification; 100.0 percent of the water committee members respondents had disagreed that the community was involved in project implementation by cost sharing; 100.0 percent of the water project committee members respondents had disagreed that the community was involved in decision making by financial transactions 100.0 percent of the water project committee members respondents had agreed that there was community involvement in sharing of water project benefits.

The mean value of 3.43 on average from the likert scale range of (1-5) indicates that the respondents were slightly undecided/neutral about whether level of funding had any significant influence on sustainability of donor funded water projects in Wenje water projects at Tana River County. The fact that the standard deviation calculated (Std dev = 2.30) was within two deviation from mean shows that we can be 95% confident that the respondents were in agreement in their responses.

In the previous reviewed literature the local community management groups, known as Water Point Executive Committees (WPECs) were formed and used as the lowest institutions in water supply management. Water Point Executive Committees projects' ownership of the donor funded water projects should not be the ends in itself, but the prerequisite for simple, service-oriented and financially sustainable systems (Reynolds, 1992). Participation can take different forms, including the initial expression of the demand for water, the selection of technology and its sitting, the provision of labour and local materials, a cash contribution to the project costs, the selection of the management type and even the water tariff (Harvey and Reed, 2006). It is thus the process through which demand-responsiveness is exercised, and empowerment achieved. Participation is viewed as a tool for improving the efficiency of a project, assuming that where people are involved they are more likely to accept the new project and partake in its ongoing operation (Harvey and Reed, 2006). It is also seen as a fundamental right; that beneficiaries should have a say about interventions that affect their lives (FAO, 2005).

Kumar (2002) asserts that community participation is a key instrument in creating self reliant and empowered communities, stimulating Water Project Committees-level

mechanisms for collective action and decision-making. It is also believed to be instrumental in addressing marginalization and inequity, through elucidating the desires, priorities and perspectives of different groups within a project area.

Participatory methods now dominate in the implementation of development interventions at the Water Point Executive Committees level, the most common method being Participatory Rural Appraisal. Participation is also aimed at increasing the sense of ownership over the water supply within community members. A history of top-down service delivery by governments and NGOs frequently leaves a legacy of dependency in the Water Project Committees on external assistance. Consequently, in the event of a failure in the water supply the Water Project Committees do not make any attempt at repairs as it is not perceived to be their responsibility (Kumar, 2002).

A study by Nyaguthii and Oyugi (2013) on influence of community participation on successful implementation of Constituency Development Fund (water) projects in Kenya: case study of Mwea constituency findings indicates there is low community members' participation in identification, implementation, evaluation and monitoring of constituency development fund (water) projects. Nyaguthii and Oyugi (2013) recommended that there was need to improve on the level of public participation in the CDF funded water projects to enhance accountability and public ownership of water project among the beneficiaries.

4.5 Indicators of Sustainability of Donor Funded Water Projects

In question four the participants from line ministries and donor's agency representatives were asked to say whether the some indicators of sustainability of donor funded water projects given by interviewer were true or false. The findings from the responses obtained

were illustrated as shown in Table 4.7, which shows the indicators of sustainability of donor funded water projects at Wenje donor funded water projects in Tana River County.

Table 4.7: Indicators of Sustainability of Donor Funded Water Projects

Activity/Statements	True	%	False	%
Water supply structure functional for all year	8	40.0	12	60.0
Group Operation and Maintenance fund	11	55.0	9	45.0
Group has diversified water use activities	3	15.0	17	85.0
Continued spare parts supply for repairs	0	0.0	20	100.0

According to the results shown in Table 4.7, 60.0 percent of the respondents from line ministries and donor’s agency representatives had disagreed that water supply structure functional for all year; 55 percent of the respondents from line ministries and donor’s agency representatives had agreed that the WPECs operation and maintenance fund was functional; 85.0 percent of the respondents from line ministries and donor’s agency representatives had disagreed that group has diversified water use activities in Wenje water projects.

All 100.0 percent of the respondents from line ministries and donor’s agency representatives had disagreed that there was continued spare parts supply for repairs of water structures. These study findings were not different from the previous reviewed literature where some of the reasons cited for the delays in pump repairs were lack of spares and poor collection of subscriptions for water point repairs. These two factors are somehow linked to the effective operation of the water point service providers. The

existence of ineffective WPECs reduces opportunities for sustainable water supply as it may prolong the downtime of water projects (Teezed, 2002).

The study findings were similar to earlier reviewed literature in which four main categories of revenue collection had been identified in a Tanzanian water projects study and ranked in order of effectiveness 1: No revenue collection at all 2: Money collected when there is a breakdown 3: Revenue collection taking place, but 4. Either money is not collected from all users or money is disappearing post-collection. However in Tanzania the revenue collection was far from perfect (Hazelton, 2000).

It was revealed that contributions were made only when there was a breakdown. This situation resulted in long downtimes due to the need to mobilize resources in the event of a breakdown. There was also noticeable poor financial record keeping and management. It was found that there was need to develop strategies to enhance willingness to pay by the users as they were the water project's beneficiaries (Harvey and Reed, 2006).

The ways to improve financial management in the Water Point Executive Committees in Tanzania which should have a significant positive impact on sustainability of water projects were found to be important (Harvey and Reed, 2006). Therefore good revenue collection was very crucial to improve the financial management of the water projects, but in Tanzania the revenue collection was far from perfect (Hazelton, 2000).

In question five the participants from line ministries and level of funding representatives were asked to say where they thought the WPECs got funds from to maintain the existing water supply structures at Wenje donor funded water projects in Tana River County.

The findings from the responses obtained were illustrated as shown in Table 4.8, which shows the sources of WPECs funds for maintenance of the water structure at Wenje donor funded water projects in Tana River County.

Table 4.8: Sources of WPEC Funds for Maintenance of the Water Structure

Sources of WPEC Funds	Frequency (f)	Percentage (%)
a) Operation and maintenance fund/account	4	20.0
b) Sale of water	13	65.0
c) Group contribution	2	10.0
d) External support from NGOs and government	1	5.0
Total	20	100.0

According to the results shown in Table 4.7, 85.0 percent of the respondents from line ministries and donor’s agency representatives had agreed that the sources of funds for maintenance of water supply structures were from the: Water sales with 65% of the respondents from line ministries and donor’s agency representatives in agreement and operation and maintenance fund/account with 20% of the respondents from line ministries and donor’s agency representatives in agreement.

However, these findings do not concur with reviewed literature in that due to poverty small income is generated from the water sales among the donor funded water projects in Kenya. This has been occasioned by poverty which forces most of the people to get the unsafe riverine free water far away from their homesteads at no cost (Borst and De Haas, 2006). Therefore the income generated from the donor funded water projects is not enough to finance the repair and maintenance of the water pumps (Borst and De Haas, 2006).

With only 45 percent of Kenyans having access to clean water for domestic use and even fewer have access to water that is fit to drink (Borst and De Haas, 2006). In most of the ASALs only 6 percent of the inhabitants have access to potable water. Water is the most essential development commodity in any rural set-up (FAO, 2005). The main sources of water are the seasonal rivers. Water scarcity forces women and girls to walk up to 10-20 kilometers in dry seasons of the year to get water from the scarce water sources such as scooped holes within the sand on dry seasonal river beds (FAO, 2005).

The line ministries technical officials' water projects services in the study were indicated by its effectiveness in management, procurement guidelines and water projects' evaluation and monitoring. These findings concur with Borst and De Haas (2006) that the WPCs and ministries technical services' collaboration in implementation of donor funded water projects enhance self maintenance service-oriented and financial sustainability.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter consists of summary of the study findings, conclusion, recommendations and the suggestions for further studies on factors influencing sustainability of donor funded water projects both in Kenya and the rest of the world.

5.2 Summary of the Findings

This study investigated factors influencing sustainability of donor funded water projects in Tana River County, Kenya. The guiding objectives included; establishing the influence of Monitoring and Evaluation (M&E), to assess the influence of NGO funding and establish how the involvement of stakeholders' influences sustainability of donor funded projects in Tana River County. The study applied descriptive quantitative design. The study targeted 50 respondents.

The study conclusions that training of various WPEC involved in monitoring and evaluation was to equip them with pre-requisite skills and improve communication of data, defining clear structures for monitoring and evaluation including an appointment of monitoring and evaluation personnel, delineation of monitoring budget from capacity building, involvement of primary beneficiaries at all stages of the project cycle other than conceptualization and limiting political influence in the water projects. The study also recommends establishment of whether monitoring and evaluation is effective in other sectors other than water sector. Also there was need to look at modalities of strengthening primary stakeholders in order to optimize their participation in monitoring and evaluation of the donor funded water projects.

5.3 Discussions of the Study Findings

On average the results showed that the Water Point Committee members had only 3.27 years of formal schooling. Thus most of these respondents had attained only attained 3.27 years of primary school education. The low level of education attained by these respondents was likely to have had a negative influence on the sustainability of donor funded water projects due to inadequacy of management skills among the group members after the donors leave.

However, there was no past research evidence that had linked the participants mean number of years in formal education with sustainability of donor funded water projects. Formal years of schooling were insignificant in influencing sustainability of donor funded water projects. Only 45 percent of Kenyans have access to clean water for domestic use and even fewer have access to water that is fit to drink (Borst and De Haas, 2006). In Tana River County only 6 percent of the inhabitants have access to potable water. Water is the most essential development commodity in any rural set-up (FAO, 2005).

The main source of riverine water in Tana River County is Tana River where other major sources of water are the ephemeral rivers. Water scarcity forces women and girls to walk up to 10-20 kilometers in dry seasons of the year to get water from the scarce water sources such as scooped holes within the sand on dry seasonal river beds (FAO, 2005). Due to poverty small income is generated from the water sales among the donor funded water projects in Kenya. This has been occasioned by poverty which forces most of them to get the unsafe riverine free water far away from their homesteads at no cost (Borst and

De Haas, 2006). Therefore the income generated from the donor funded water projects is not enough to finance the repair and maintenance of the water pumps (Borst and De Haas, 2006).

The study findings were not different from the previous reviewed literature where some of the reasons cited for the delays in pump repairs were lack of spares and poor collection of subscriptions for water point repairs. These two factors are somehow linked to the effective operation of the water point service providers. The existence of ineffective WPECs reduces opportunities for sustainable water supply as it may prolong the downtime of water projects (Teezed, 2002). However in Tanzania the revenue collection was far from perfect (Hazelton, 2000). It was revealed that contributions were made only when there was a breakdown. This situation resulted in long downtimes due to the need to mobilize resources in the event of a breakdown. There was also noticeable poor financial record keeping and management.

It was found that there was need to develop strategies to enhance willingness to pay by the users as they were the water project's beneficiaries (Harvey and Reed, 2006). Therefore the interpretation was that almost all respondents were strongly in disagreement with the positive indicators: the existence of good revenue collection and management; existence of cost recovery of the donor funded water projects and the existence of effective community's water price determination were being practiced in the study area. This was interpreted that projects income was negatively influencing sustainability of Donor Funded Water Projects, the case of Wenje Water Point Executive

Committees in Tana River County. The study findings closely concurred with the some of the past studies earlier reviewed in literature.

The ways to improve financial management in the Water Project Committees in Tanzania which should have a significant positive impact on sustainability of water projects were found to be important (Harvey and Reed, 2006). Therefore good revenue collection was very crucial to improve the financial management of the water projects, but in Tanzania the revenue collection was far from perfect (Hazelton, 2000).

5.4 Conclusion

The researcher concluded that if the local community participation as indicated by Formation of committees, Project's subscription and Record keeping is freely and willingly involved the water projects would provide long-term benefits to the members which would increase the projects' sustainability. However, ineffective water supply would be due to poor community management after the donor agency has left.

Technical repair and maintenance services as indicated by presence of Water Point Executive Committees, health workers, trained extension officers and Water Point Executive Committees skilled private persons in water boreholes; wind energy, generators and solar panels would enhance water supply reliability and enhance sustainability of donor funded water projects. Otherwise, there would be low sustainability of the water projects as there would be failures resulting due to insufficient operational attention and maintenance.

The researcher also concludes that inadequate projects' income management undermines sustainability of water supplies. Proper financial records, pricing flexibility, revenue collection and its incentives as well as cost recovery skills ensures improvement in generation and use of project's income.

In addition, the local beneficiaries "Water Point Executive Committees projects" ownership of the donor funded water projects should not be the ends in itself, but the prerequisite for simple, service-oriented and financially sustainable systems (Reynolds, 1992).The line ministries technical officials' water projects services in the study were indicated by its effectiveness in management, procurement guidelines and water projects' evaluation and monitoring. These factors would enhance service-oriented and financially sustainable systems of donor funded water projects.

5.5 Recommendations

The researcher recommended for a more strategic oriented water projects management, which is the pro-active approach to be adopted in the community water management. The study recommends training of the various WPEC involved in monitoring and evaluation, to equip them with requisite skills and improve communication of data, defining clear structures for monitoring and evaluation including an appointment of monitoring and evaluation personnel, delineation of monitoring budget from capacity building, involvement of primary beneficiaries at all stages of the project cycle other than conceptualization and limiting political influence in the water projects.

This would help by negating the current water management practices that are still focused on reacting to events that have already occurred: the re-active approach. Currently the pro-active approach is hardly adopted by water managers and policy makers which have led to low water projects' sustainability. The ineffective water supply is due to poor community management of the donor funded water projects after the donor agency has left.

It was also recommended that the shift from re-active to pro-active water project management approaches using the appropriate methodologies need to be adopted. The Integrated Water Management Support Methodologies are needed that go beyond the traditional operational support tools. They include conceptual issues, theories, combining technical and socio-economic aspects. The proposed pro-active water project management approach comprises three different components: a water allocation component, a physical based component and a decision support component.

Another important recommendation of this study involves the institutional management framework surrounding the donor funded water projects. In Donor Funded Water Projects the case of Wenje Water Resource Users Projects in Tana River County the management framework should comprise several actors on various institutional levels as were recommended by the researcher. The responsibilities, the level of cooperation and the coordination structure of the different actors showed that three institutional levels such as NGO level, community level and government level are required.

The study recommends a bottom-up approach to water projects management, where community participation plays an important role. The donor organization should only facilitate construction materials, knowledge and the required funding, keeping the total costs as low as possible. At the end of the pre-constructive phase, the community should select a committee who is responsible for the organization of the site and for the long-term utilization of the water project. During construction and in the post-constructive phase several trainings should be given. These sub-locational training sessions should cover subjects like project management, natural resource management and catchment development.

The community committee has the responsibilities, including supervision of the site, organizing the community, and managing and maintaining the water project. The other actors should also be actively involved such as: the highest institutional level is the Kenyan government. The various levels of government (ranging from national to County and sub counties or even wards) are not only regulatory institutions, but should also be active in setting up projects in sectors as agriculture, irrigation and health. This is mostly done through extension officers who visit communities and give advice on various topics. For this reason, the ministries could play a major factor in making the donor funded water projects successful and sustainable.

The Ministry of Water and Irrigation should be responsible for the development of water resources, and therefore closely connected to the development of donor funded water projects. Although the Ministry has little cooperation with the donor agencies; making the outcome of the project less effective due to insufficient support and follow-up

services from the Ministry. The Water Act 2002 is a new policy concerning the management of the water resources. The act supports a minimal role of the government and greater community participation. In the near future, water user groups may become an important entity at county level and it is recommendable that these groups work together with the community committees.

This study also recommended the involvement of the county Development Committee in the sustainability of water projects. In Tana River County, since 2002 the District Development Committee was incorporated into the development and maintenance of water projects as quoted in the Districts Development Plan (DDP for 2002-2008). The study also recommended increased community awareness through the government's extension services to the water point managing community committees that are better matched with their situation and proper utilisation of the resources.

5.6 Suggestion for Further Studies

The researcher suggested that further studies on factors influencing sustainability of donor funded water projects both in Kenya and the rest of the world should be conducted. A study on various water use and demand sites such as the: domestic, agriculture, livestock and other uses would help the policy makers and donor agency who are the water projects developers on the approximate water demands per Water Point Executive Committees community. In the reviewed studies it was noted that domestic water use is the most important, and it has the highest priority. Second important use is livestock, third is agriculture and the other uses have least priority

A study on the rainfall-runoff model dealing with water supply/water availability with a fixed amount flowing into the study area as so-called head flows and outflows from the study area would help in understanding the sustainability of the water projects in the area. This would help in educating the Water Point Executive Committees community water managers on their vulnerability to water shortages throughout the year. This study would consider the catchments, which are simplified rainfall-runoff processes and a detailed output for each area of these rainfall-runoff processes and the amount of water generated to supply the water reservoirs (as water projects).

Finally, the researcher suggested a study on the community preparedness to participate in and manage the donor funded projects regardless of any obstacles such as availability of cheap source of water among others. This would help in improving on the required community training which would boost the management of donor funded water projects.

REFERENCES

- Ali I.A. (2011). *Factors influencing sustainable funding of non-governmental organizations in Kenya: A case study of sisters' maternity home (Simaho) in Garissa, Kenya.*
- Armanios, D. (2009). *Sustainable development as a community-of-practice: insights from rural water projects in Egypt.* A PhD Thesis, Management Science & Engineering Stanford Technology Ventures Program: Stanford University Unpublished.
- Baumann, E. (2005). Common RWSN context, *Discussion Paper, St. Gallen, SKAT/RWSN.*
- Borst, L. and De Haas, S.A. (2006). *Hydrology of sand storage dams: A case study in the Kiindu catchment, Kitui District, Kenya.* The Netherlands, Amsterdam: MSc. Thesis, Free University.
- Busiinge, C. (2010). *The Impact of Donor Aided Projects through NGOs on the Social and Economic Welfare of the poor: What do donors want?* Case study: Kabarole Research & Resource Centre, Uganda Martyrs University.
- Carmines, E., and Zeller, R. (1979). *Reliability and Validity Assessment.* Sage Publications, Beverly Hills, California.
- Carter, R. C. (1996). *Strategies for hand pump water supply programmes in less developed Countries.* Journal of the Chartered Institution of Water and Environmental Management 10 (2), 130–136.
- Carter, R.C. (2006). *Ten-step guide towards cost-effective boreholes.* Field Note RWSN/WSP.:<http://www.rwsn.ch/documentation/skatdocumentation>. Accessed on 1st 8. 2014.
- Chen, Fang, Jr., Nicholas C. R. (2003). *A Collaborative Project Management Architecture.* In: HICSS 2003. p15.
- Creswell, J.W. (1994). *Research design: Qualitative and quantitative approaches.* Thousand Oaks, CA: Sage Publications.
- Dayal, R., van Wijk, C. and Mukherjee, N. (2000). *Methodology for participatory assessments with communities, institutions and policy makers.* Linking sustainability with demand, gender and poverty. The World Bank Water and Sanitation Program, Washington DC.
- De Bruijn, E. and Rhebergen, W. (2006). *The Kitui sand dam project Kenya; The Institutional Framework, Bachelor report, Amsterdam: Vrije Universiteit.*

- DFID. (2001). *Addressing the Water Crisis: Healthier and more productive lives for poor people, Strategies for achieving the international development targets*. Department for International Development: UK.
- Driscoll, F.G. (1995). *Groundwater and Wells*. Johnson Screens, St. Paul, Minnesota, USA.
- DWD (2002). *Issue Paper 1: Overview of the Water Sector, Reform, SWAP and Financial Issues*. Directorate of Water Development, Ministry of Water, Lands and Environment, The Republic of Uganda.
- FAO. (2005). *Environment and Natural Resources Service (SDRN)*, Working Paper No. 20 New LocClim v. 1.06. Available in http://www.fao.org/sd/dim_en3/en3_051002en.htm Retrieved on March 29th, 2011.
- Farhana, Y. (2001). *NGOs and International Environmental Law: A Critical Evaluation of the Responsibilities of Children and Families* Blackwell Publishers Ltd.
- Foster, S., Chilton, J., Moench, M., Cardy, F. and Schiffler, M. (2000). *Groundwater in Rural Development*. World Bank Technical Paper No. 463. The World Bank, Washington.
- Frankfort, N., and Nachimias D. (1996). *Research Methods in Social Sciences, 5th Edition*. St. Martins Press Inc. Great Britain.
- Gitonga B.A. (2012). *Introduction to Community development; With Applied Management*. Project Support Information consultant, Nairobi, Kenya.
- Gitonga B.A. (2012). *Project Monitoring, Evaluation, Control and Reporting: Community Development Approach*. Project Support Information Consultants Publications, Revised Edition, Nairobi.
- Guijti, H.T. (2006). *Participatory Monitoring and Evaluation : A process to Support Governance and Empowerment at the Local Level*.
- Harvey P. A. (2006). *Borehole sustainability in rural Africa: an analysis of routine field data*. People-centred approaches to water and environmental sanitation. Loughborough University, Loughborough, LE11 3TU; email: P.A.Harvey@lboro.ac.uk.
- Harvey, P. A. and Reed, R. A. (2006) Community-managed water supplies in Africa: sustainable or dispensable? *Community Development Journal* Advance Access 10.1093/cdj/bs1001

- Harvey, P.A. and Reed, R.A. (2004). *Rural Water Supply in Africa: Building blocks for hand pump sustainability*. WEDC, Loughborough University, UK.
- Hazelton, D. (2000). *The development of community water supply systems using deep and shallow well hand pumps*. WRC Report No, TT132/00, Water Research Centre, South Africa.
- Heath, T. (2009). *Developing a Borehole Costing Model to Evaluate Cost Savings*. Cranfield University, Cranfield, UK Unpublished MSc Thesis. Cranfield University. Available from library@cranfield.ac.uk. Retrieved on 12th February 2011.
- Herman C, Taylor-Powel, E. (2000). *Collecting Evaluation Data: Surveys*. Program Development and Evaluation, University of Wisconsin-Extension Cooperative Extension Madison, Wisconsin
- Hodgkin. (1994). *The sustainability of donor-assisted water supply projects*. Bureau for Global Programs, Field Support, and Research, Center for Population, Health, and Nutrition U.S. Agency for International Development, under WASH Task No. 251 <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy Documents/Handbook%20on%20Stakeholder%20Consultaion.pdf>
- Hoko, Z. and Hertle, J. (2006). *An evaluation of the sustainability of a rural water rehabilitation project in Zimbabwe*. The case of Mwenezi, Gwanda, Bulilima and Mangwe. *Physics and Chemistry of the Earth*, 31(15-16), 699-706.
- IFAD. (2007c). *IFAD's Approach to Sustainability*. Draft of a presentation subsequently made by IFAD (2007j) IFAD Strategic Framework 2007-2010. Rome. Sustainability of Development projects
- IFAD-India. (2007). *North Eastern Region Community Resource Management Project for Upland Areas: Annual Status Report*. International Fund for Agricultural Development, Shillong, India.
- Karanja G. (2013). *Influence of management practices on sustainability of youth income generating projects in Kangema District, Murang'a County, Kenya*.
- Katz, T. and Sara, J. (1998). *Making rural water supply sustainable*. Recommendations from a global study UNDP-World Bank, Water and sanitation program. The World Bank, Washington, DC.
- Kerlinger, F.N. (1979). *Behavioural research: A conceptual approach*. New York: Holt, Rinehart & Winston.
- Kerno Jr., S. (2008). Tapping into Communities of Practice: Enjoying the Benefits and Avoiding the Pitfalls. *Mechanical Engineering* 130 (10):22-27.

- Kombo, D, and Tromp D. (2013). *Proposal and Thesis Writing; An introduction*. Pauline Publications Africa, Nairobi, Kenya.
- Kothari C.R. (2003). *Research Methodology; Methods and Techniques*. Second Edition, New Age Publishers, India.
- Kraai N. (2012). *Sustainability of National Development Agency funded projects, Best Practice*, November, Parktown North.
- Kumar, S. (2002). *Methods for community participation: a complete guide for practitioners*. ITDG, London, U.K.
- Lewis D. (2009). *Non-Governmental Organizations and Development*, Routledge, Taylor and Francis Group, London and New York.
- Maranz, D. E. (2001). African friends and money matters: Observations from Africa. *International Academic Bookstore*
- Martin, E.A. (2005). *Social Science Research, Conception, Methodology and Analysis*, Makerere University Printer, Kampala, Uganda.
- Mazibuko J.B. (2007). *Enhancing project sustainability beyond donor support*. An Analysis of grassroots democratisation as a possible Alternative, University of South Africa
- Millennium Development Goals Status Report 2011. (2012). *Ministry of state for Planning, National Development and Vision 2030, Supported by UNDP*.
- Government of Kenya. (2006). *Mid-Term Review of the Economic Recovery Strategy for Wealth and Employment; Monitoring and Evaluation Directorate, Ministry of Planning and National Development*, Nairobi: Government Printers.
- Mugenda, O. and Mugenda, G. (2003). *Research methods; Quantitative & Qualitative Approaches*, Nairobi: Acts Press.
- Munyoki J, and Mulwa A. (2012). *Social Science Research: A Hand Book*, First Edition, Downtown Publishers and Printers, Nairobi, Kenya.
- Murcott, S. (1997). *Sustainable development: A meta-review of definitions, principles, criteria indicators, conceptual frameworks and information systems*, Annual Conference of the American Association for the Advancement of Science, IIASA Symposium on Sustainability Indicators, Seattle, WA.
- National Drought Management Authority. (2014). *Tana River-Monthly Bulletin, A National Population Conference, Managing Population to achieve vision 2030: Final Report*. KICC, 15-17th November, Nairobi Kenya.

- Nyaguthii E, and Oyugi A. (2013). *Influence of Community Participation on successful implementation of Constituency Development Fund Projects in Kenya: Case Study of Mwea Constituency*
- Nyonje, Kyalo & Mulwa. (2012). *Monitoring and Evaluation of Projects and Programs*, Aura Publishers, Nairobi, Kenya.
- Oregon P. (2011). “*Project sustainability manual*” How to incorporate sustainability into the project cycle. Mark O. Hatfield School of Government, Portland State University Programme 2010- 2014, File 104. 806
- Parry- Jones, S., Reed, R. and Skinner, B. H. (2001). *Sustainable hand pump projects in Africa: A literature review*. WEDC, Loughborough University, UK
- Patton, M. Q. (1997). *Utilization-focused evaluation: The new century text*. Sage Publications, Thousand Oaks, CA.
- Puttemans, S., van Orshoven, J. and Raes, D. (2004). *Potential for small scale irrigation from groundwater dams in South Kitui, Kenya*. Belgium, Leuven: MSc. Thesis, Leuven University.
- Rutten, M. (2005). *Shallow wells: A sustainable and inexpensive alternative to boreholes in Kenya*. ASC Working Paper 66/2005
- Saeta, P. and Martonosi, S. (2009). *Building a solar-powered pump to deliver clean water to villagers in Ngomano, Kenya*. Nairobi: Unpublished Report.
- Sara J, and Katz T. (1997). *Making Water Supply Sustainable: Report on the Impact of Project Rules*, UNDP - World Bank Water and Sanitation Program, Washington.
- Scott, W. R. (2008). *Institutions and organizations: ideas and interests*. 3rd ed. Los Angeles: Sage Publications.
- Sen, A. K. (1999). *Development as freedom*. Oxford: Oxford University Press.
- Sev, A. (2009). How Can the Construction Industry Contribute to Sustainable Development? A Conceptual Framework; *Sustainable Development* 17 (3):161-173.
- Soko J, Mphande F. et al. (2012). *Management for Social Transformation*, Paulines Publications Africa, Nairobi
- Stakeholder Engagement: *A Good Practice Handbook for Companies Doing Business in Emerging Markets*, (2007) International Finance Corporation
- Sutton, S. (2004). Self-supply: A fresh approach to water for rural populations. *Water and Sanitation Programme in* http://www.wsp.org/publications/af_selfsupply.pdf

- Tana River District Development Plan 2008-2012. (2009). *Ministry of State for Planning, National Development, and Vision 2030, Kenya.*
- Taylor. (2008). *Performance and Capacity of River Basin Organizations*, UNESCO – IHE Institute for Water Education.
- Teezed, T. (2002). *Monitoring food relief in developing countries: Somalia*, St Pac Press, Delfray.
- Tibenderana, P. (2009). *Borehole drilling cost analysis: development of a costing model and analysis of cost reduction.*, Cranfield. Cranfield University, UK/Rural Water Supply Network, Switzerland. Available from library@cranfield.ac.uk
- Togbolo U.S. (2005). *The Role of Non-Governmental Organizations; Movement for Youth Actualization International (MYAI) a Non-Governmental Organization (NGO) in Nigeria (NGOs) in Development, Nigeria.*
- Turner, J R, and Cochrane, R A. (1993). Goals-and-methods matrix: coping with projects with ill-defined goals and/or methods of achieving them. *International Journal of Project Management* 11(2):p95.
- Umbach, P.D. (2005). “Getting back to the basics of survey research.” *New Directions in Institutional Research*, no. 127: 91-100.
- UNDP. (1997). *Results-Oriented Monitoring and Evaluation: A Handbook for Programme Managers.*
- UNICEF. (2003). *Programme Policy and Procedures Manual: Programme Operations*, New York: UNICEF, pp. 109-120.
- Van Loon, T & Droogers, D. (2006). *Satellite image of water catchment in the South Eastern part of Kenya* (inset the Kitui County inside the Black line boundary) (Courtesy of USGS and NASA).
- Wanyonyi, J.M. (1998). *Rainwater Harvesting Possibilities and Challenges in Kenya*, Kenya Rainwater Association, (KRA), Nairobi, Kenya
- Waters, T. (1986). *Development aid, project planning and community participation; making the system work: Vita News.*
- Weiss, C.H. (1995). *Nothing as Practical as Good Theory: Exploring Theory-Based Evaluation for Comprehensive Community Initiatives*
- WHO. (2010). *Guidelines for Drinking-Water Quality*. World Health Organisation, Geneva.

APPENDICES

APPENDIX I: Transmittal Letter

Florence Muthoki Nthenge

P.O. Box 1512-90200,

Kitui.

Cell Phone:+254 721567906,+254 734 567906

Email: florencemuthoki@yahoo.com, fnthenge@gmail.com

To,

Head of Department,

Ministry of Water,

Tana River Sub County,

Tana River County

Dear Sir/Madam,

RE: TRANSMITTALLETTER

I am a student at the University of Nairobi currently pursuing a Master's degree Programme in Project Planning and Management. I invite you to take part in a survey aimed at establishing factors influencing to sustainability of development of donor funded projects in Tana River County. The questionnaire will take approximately 30 minutes. Information collected was treated confidential and was used specifically for academic purpose and will benefit humanitarian practitioners in coming up with more suitable guidelines for planning, implementing, monitoring and evaluating donor funded projects.

Thank you in advance,

Yours Sincerely,

Florence Muthoki Nthenge

L50/74983/2009

APPENDIX II: Questionnaire for Water Point Executive Committees

The questionnaire is designed to gather information about the factors influencing sustainability of Donor Funded Projects, the case of Wenje Water Projects in Tana River County of the former Coast Province, Kenya.

SECTION I: Background Information

1. Gender of respondent (Please tick appropriate)
 - a) Male ()
 - b) Female ()
2. What is your level of education?(Please tick appropriate)
 - a) No schooling ()
 - b) Primary ()
 - c) Secondary ()
 - d) Certificate ()
 - e) Diploma ()
 - f) University Degree ()

SECTION II: Influence of Monitoring and Evaluation on DFWPs

3. 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 ()

SECTION III: Influence of Level of Funding

4. Please indicate the extent to which you agree/disagree with satisfaction of the NGO funding received for your project by ticking (✓) your response in the appropriate box/space

Key: 1-Strongly Agree (SA) 2-Agree (A) 3-Undecided (UD) 4-Disagree (D) 5-Strongly Disagree (SA)

No	Activity	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
a)	I am satisfied that the Budget line items/activities funded were as per need					
b)	I am dissatisfied that Budget allocation per item/activity was not adequate					
c)	I am not satisfied with the Funding levels (amount) received					

SECTION IV: Influence of Stakeholders Involvement and sustainability of DFWP

5. Please indicate if you agree to the statements below on level of community involvement in the project implementation process by ticking (✓) your response in the appropriate box/space.

Key: 1-Strongly Agree (SA) 2-Agree (A) 3-Don't Know (DK) 4-Disagree (D) 5-Strongly Disagree (SA)

No	Statement	Strongly agree	Agree	Don't know	Disagree	Strongly disagree
a)	The implementation team involved group members on Project identification/Conceptualization					
b)	Community was involved in Project implementation through cost sharing					
c)	I am involved in decision making of financial transactions of group account					
d)	I am not involved in Sharing of benefits					

APPENDIX III: Interview Guide for Line Ministries and Donor Representatives

My name is Florence Muthoki Nthenge, a student at the University of Nairobi taking a Masters Degree in Project Planning and Management. As part of the requirements for the course I am carrying out a research on sustainability of Donor Funded Projects, the case of Wenje Water Resource Users Projects in Tana River County. I am requesting you to assist me in answering a few questions about Donor Funded Water Projects

SECTION I: Influence of Monitoring and Evaluation in Donor Funded Water Projects

1. 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 ()

2. Please rate to what extent do you agree/or disagree with the fact that monitoring and evaluation during the implementation of Wenje donor funded water projects will be satisfactory.

Key: 1-Strongly Agree (SA) 2-Agree (A) 3-Unaware (UN) 4-Disagree (D) 5-Strongly Disagree (SA)

Activity	Strongly Agree	Agree	Unaware	Disagree	Strongly Disagree
a) Monitoring & evaluation feedback was utilized for improvement					
b) Monitoring & evaluation process in dissemination of information was satisfactory					
c) Monitoring & evaluation was fully participatory with community involvement					

SECTION II: Influence of Stakeholder’s Participation on Sustainability of DFWP

The following statements seek to find out if you agree/or disagree with the statements.

Please tick (√) the statement that agrees with the situation.

Key: 1-Strongly Agree (SA) 2-Agree (A) 3-Neutral (N) 4-Disagree (D) 5-Strongly Disagree (SA)

No	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a)	The implementation team involved community/group members in Project identification/Conceptualization					
b)	Community was involved in Project implementation through cost sharing					
c)	Community was involved in financial transactions of group account					
d)	Community is not involved in sharing of benefits of donor funded water project					

SECTION III: Indicators of Sustainability of Donor Funded Water Project

3. Please indicate if these statements are true or false as indicators of sustainability of DFWP

Activity	True	False
a) Water Supply Structure is functional throughout the year		
b) The group has Operation and Maintenance fund		
c) The group has diversified water use activities		
d) There is continued spare parts supply for repairs		

4. Please indicate where these groups’ committees get funds to maintain their DFWP structure by using the following response key:

- a) Operation and maintenance fund/account ()
- b) Sale of water ()
- c) Group’s contribution ()
- d) External support from NGOs and government ()

End

Thank you in advance

APPENDIX IV: Research Authorization Permit



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@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.

Date:

13th November, 2014

NACOSTI/P/14/3151/3883

Florence Muthoki Nthenge
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Factors influencing sustainability of Donor Funded Projects: A case of Wenje Water Projects in Tana River County, Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Tanariver County** for a period ending **5th December, 2014.**

You are advised to report to **the County Commissioner and the County Director of Education, Tanariver 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.


DR. S. K. LANGAT, OGW
FOR: SECRETARY/CEO

Copy to:

The County Commissioner
Tanariver County.

The County Director of Education
Tanariver County.

National Commission for Science, Technology and Innovation is ISO 9001:2008 Certified

APPENDIX V: Permit Letter

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

THIS IS TO CERTIFY THAT:
MS. FLORENCE MUTHOKI NTHENGE
of UNIVERSITY OF NAIROBI, 0-90200
Kitui, has been permitted to conduct
research in Tana River County.

Permit No : NACOSTI/P/14/3151/3883
Date Of Issue : 13th November, 2014
Fee Received :Ksh 1,000

on the topic: FACTORS INFLUENCING
SUSTAINABILITY OF DONOR FUNDED
PROJECTS: A CASE OF WENJE WATER
PROJECTS IN TANA RIVER COUNTY,
KENYA

for the period ending:
5th December, 2014



Applicant's
Signature

Secretary
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 Officers 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 3617

CONDITIONS: see back page

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION