INFLUENCE OF COMMUNITY PARTICIPATION ON PERFORMANCE OF CONSTITUENCY DEVELOPMENT FUNDED RURAL BOREHOLE WATER PROJECTS: A CASE OF KERWA SUB-LOCATION, KIAMBU COUNTY, KENYA

BY

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DECLARATION

This research project report is my original work and has not been presented for examination in any University or any other institution of higher learning.

……..... **.....……**

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This research project report has been submitted with my approval as the University supervisor.

……..... **.....……**

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DEDICATION

I dedicate this research project report to my beloved parents Godffrey Kimani Thindiu and Mary Nyambura Kimani, my brothers Thindiu Kimani and John Muriithi Kimani and my sister Catherine Wangui Kimani for their love, prayers and moral support in making my dream a reality.

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ABBREVIATIONS AND ACRONYMS

ADF Africa Development Fund

CDF Constituency Development Fund

CP Community Participation

DFID Department for International Development

KEFRI Kenya Forest Research Institute

MDGs Millennium Development Goals

IWSC International Water and Sanitation Centre

JICA Japan International Cooperation Agency

M&E Monitoring and Evaluation

O&M Operation and Maintenance

SPSS Statistical Program for Social Sciences

TASAF Tanzania Social Action Fund

UN United Nations

UNDP United Nations Development Programme

USAID United State Agency for International Development

WC Water Committee

WHO World Health Organization

ABSTRACT

Community water projects in Kerwa sub-location play a significant role in provision of water for domestic use and small-scale farming. The area is generally characterized by lack of significant amount of surface water. This condition has lead various stakeholders such as the government through the Constituency Development Fund, donors and the local community to pull resources together in an effort to provide safe and clean water to the residents by establishing community borehole water projects. However, some of the water projects had not performed up to the expectations of the residents at the time of the study. The purpose of the study was to investigate the influence of community participation on performance of Constituency Development Funded rural borehole water projects in Kerwa sub-location, Kiambu County, Kenya. The objectives of the study centered on the following issues in regard to the performance of CDF funded water projects in Kerwa; the influence of Community Participation in Financial management, participation in project Governance, participation in Operation and Maintenance and participation in Monitoring and Evaluation. Descriptive survey research design was employed in the study, where questionnaires were administered to household representatives and management committee members interviewed. The data collected from questionnaires was coded, cleaned and analyzed using descriptive data analysis and cross tabulation in order to generate mean, frequency tables and percentages. Purposive sampling procedure was applied to select Podo and Nyakianda water projects out of the five CDF funded community borehole water projects based on their homogeneity at the time of the study. The target population of the study was 238 and it consisted of 220 household representatives and 18 management committee members from Nyakianda and Podo water projects. Simple random sampling technique was applied to select 66 household representatives and 6 management committee members from the two water projects. The findings of the study revealed that where Community Participation in Financial management, Governance, Operation & Maintenance and Monitoring & Evaluation of community water projects was high, the performance of the projects in terms of effectiveness and efficiency, functionality, sustainability and improvement of livelihood was high and vice versa. It was therefore inferred that the high ranking of performance of Podo water project was linked to the high level of Community Participation in the identified parameters. On the other hand, the low ranking of performance of Nyakianda water project was allied to the low level of community participation. Some of the recommendations made for the study include the need for training and capacity building programmes to sensitize the community to actively participate in community water projects.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

It is a truism that mankind cannot survive without water. Moss (2009) emphasized that water is essential for human life because it plays a vital role for the survival of human beings and all forms of life. He added that, people tend to possess a subconscious concern to maintain, preserve and defend access to water which they need for their own survival. Gebrehiwot (2006) added that water supports health and livelihoods, grows our food, powers our industry, and cools our generating plants and these different uses can no longer be seen in isolation from each other.

Lack of water supply and sanitation services are alarming globally. WHO (2010) noted that more than 1.1 billion of the world`s population do not have access to safe and clean drinking water. This accounts for 15.49% of the world population. Scarcity of this basic commodity has mostly affected people from developing countries and 84% of them live in rural areas.

Most developing countries in Asia-Pacific do not have access to safe drinking water. A report by WHO (2010) identified that 37 of 49 countries in Asia-Pacific suffer from low levels of water security. It also identified that more than 75% of Asia-Pacific countries face an imminent water crisis. Furthermore, it was identified that more than 60% of households in Asia-Pacific still live without safe piped water supply and improved sanitation. In Europe, 120 million people do not have access to safe drinking water and even more lack access to sanitation.

Due to the scarcity of water supply and sanitation services, Pruss-Ustun et. al., (2008) observed that around 10% of total burden of diseases are related to consumption of unsafe water and that it costs 3.6 million lives annually. Diseases from unsafe water and lack of basic sanitation kill more people every year than all forms of violence including war. Children are most vulnerable, as their bodies are not strong enough to fight diarrheas, dysentery and other illnesses. UN (2010) further observed that at any given moment, half of the developing world's population suffers from diseases associated with inadequate water supply and sanitation services. Another report by the Department for International Development (2009) emphasized that more than half of hospital beds in the world are

occupied by people suffering from water related diseases. Therefore, access to improved water and sanitation is the cornerstone for healthy communities and plays a vital role in maintaining health, economic and social gains.

Achieving sustainable water supply remains one of the goals of Third World Countries. In Africa, one way of getting clean water is through use of boreholes, but a big question on their functionality and sustainability remains not fully answered. The council also observed that poor performance of community borehole water projects may be related to factors such as poor project design and construction, lack of community participation and lack of a sense of ownership of the projects by the beneficiaries (Montgomery et. al., 2009; Water Supply & Sanitation Collaborative Council, 2012).

Community based water management system evolved in 1980's. It emerged as a response to the international crisis of water scarcity and dwindling resources. Water management systems that embraced a participatory approach empowered communities to provide, protect and safeguard their own water resources. In this respect, a community based water management system would be concerned with the community's involvement in the planning, design, implementation, and maintenance of a water project or programme. These offered greater chances of effectiveness, efficiency, functionality, sustainability and improvement of livelihood of the projects (Green et. al., 1994; M. Common & Yohalem, 1990).

In Kenya, the Constituency Development Fund (CDF) was created in the year 2003 under the CDF Act 2003, Kenya Gazette Supplement No. 107 Act No.11. Its aim is to bring development to the constituencies on priority basis. Other decentralized funds targeting to address regional disparities include Local Authorities Transfer Fund (LATF) and Roads Maintenance Levy Fund (RMLF), among others. All these funds are based on different legal frameworks and managed by various government agencies.

The CDF programme comprises an annual budgetary allocation equivalent to 2.5% of the total national revenue (Nyaguthii and Oyugi, 2013). Though, in the year 2014, the Kenyan president signed in to law a bill to increase the funds allocated to the local governments up to 40% of the total national revenue. Allocations to the 210 constituencies are clearly spelled out in the CDF Act, where 75% of the fund is allocated equally among all the constituencies

Kerwa sub-location is in Kikuyu Constituency, Kiambu County, Kenya. The rainfall pattern of the region is related to the seasonal movements across the equator of the inter-tropical convergence zones which exhibit considerable rainfall variability in space and time. This in turn affects rainfall, temperatures, humidity and other climatic factors in the region. The Climate of this region is generally humid in character, with seasonal dry and wet periods. Rainfall is bi-modally-distributed by long rains (March-May) and short rains (October-December). Year to year variation in total rainfall is marked by mean annual rainfall that approximates 1000mm. Temperatures are highest in the months of January to mid-March before the rainy season and lowest in the months of July to August. The mean annual evaporation in the area is 1,721 mm. Maximum evaporation occurs in the months of January-February-March and lowest in May-June-July-August. Evaporation in this area exceeds rainfall, resulting to aridity classification of 0.5. (K.A.R.I Station No. 91.36/121). This means that residents of this area cannot depend entirely on rainfall to meet their water needs.

Kerwa sub-location has no significant amounts of surface water in its environs. Residents who are not connected to community borehole water services have to harvest rain water or buy water from the nearby private boreholes at a high cost when the rains cease, hence the need for community water projects. The area is generally characterized by small scale farming. In 1975, the Kikuyu Town Council sunk a borehole in the area, which was to serve 2000 homesteads. The Council was unable to maintain the project effectively. The Kikuyu Water Company took over the management of the project though it still did not succeed to provide reliable and adequate water services to the residents due to management related issues. Since early 1990`s, the community has joined hands with the help of the donors and the government through the Kikuyu Constituency Development fund and established several community borehole water projects (Nyakianda Water Project Proposal, 1991).

Nyakinda water project was initiated in the year 1991 and targeted serving 200 households. The project stands on a 0.101 hectares plot purchased by funds donated by the Kikuyu Constituency Development Fund. The project initially served its members with water from Kenya Institute of Research Institute (KEFRI) up to the year 2005 when it managed to establish its own borehole. At the time of the study the project had a total of 100 registered members (Nyakianda Water Project Proposal, 1991).

Podo water project is named after types of trees that used to grow around the area where the plot is based and was initiated in the year 1995. The project targeted serving 300 homesteads. The project stands on a 0.024 hectares plot, which was donated by one of its members. The project served its members with water from KEFRI up to the year 2007 when it managed to sink its own borehole with the help of Lions Greater Club, CDF and its members` contributions. At the time of the study, the project had a total 120 registered members who were benefiting from its water services (Podo Water Project Proposal, 1995).

1.2 Statement of the Problem

Globally, various stakeholders of water supply and sanitation services such as; national and regional governments, local and international Non-Governmental Organizations (NGOs), community members among others invest large sums of money every year for the construction of community borehole water projects. However, the construction of these projects does not help in some cases since most of them end up not being sustainable. It is important that the rate of failure of community borehole water projects be reduced substantially (Gebrehiwot, 2006; Pruss-Ustun et. al., 2008).

Briscoe and De Ferranti (1988) found out that 25% of all community water projects in developing countries do not work and that in some countries the construction of new facilities does not even keep pace with the failure of existing ones. They suggested that there is need to establish and implement strategies of minimizing the level of failure of community water projects.

A research by USAID (2009) found that more than 1 billion people in the world do not have access to safe drinking water. The research further revealed that in Kenya more than 17 million people did not have access to safe water. These translated to about 48.0 % of the total Kenyan population. Another study by Africa Development Bank (2005) found that Africa has highest number of underperforming rural water supply projects of all the other continents in the world. For instance, the research established that 33% of rural water supply projects in Ethiopia were non-functional. In Tanzania out of 7,000 wells and community borehole water projects surveyed, only 10% of them that were 25 years or older were still functioning. Niyi et. al., (2007) noted that rural water supplies in sub-Saharan Africa often demonstrate low levels of sustainability.

The large percentage of non-functioning community borehole water projects in Africa depicts the lack of adequate operation and maintenance regimes, and the lack of sustainability backstopping services in rural communities. For instance, from eleven countries surveyed in Sub-Saharan Africa by Colvin and Saayman (2007) on average 43.5% of community water facilities were found not functioning.

Without beneficiaries of community water projects participating in management, boreholes water projects do not prove to be sustainable sources of water supply as beneficiaries ability to conserve and properly manage water resources largely determines the lifespan of such a water source. Community issues like perceived lack of ownership, lack of education on water supply and sanitation, poor management system and limited demand are related to low sustainability rates of water supply systems (Harvey and Reed, 2007; Lockwood et. al., 2011).

A considerable number of studies have been conducted on sustainability of community water projects. For instance, a study by Kenya Ministry of Water and Irrigation (2012) found that, among 24 million rural dwellers in Kenya, about 10 million have access to an improved water supply through piped or point source systems. Among those with access, 30% are served by community managed water supply schemes, many of which are developed by self-help groups through donor support. The study further reveals that most of them are inactive yet the Government of Kenya has continued to establish numerous new water projects, while giving little regard to rehabilitating existing non-functional ones. However, the influence of community participation on performance of rural borehole water projects has not been studied adequately. This study was therefore seeking to investigate the influence of community participation on performance of CDF funded rural borehole water projects in Kerwa sub-location, Kiambu County, Kenya.

1.3 Purpose of the Study

The purpose of the study was to investigate the influence of community participation on performance of Constituency Development Funded rural borehole water projects in Kerwa sub-location, Kiambu County, Kenya.

1.4 Objectives of the study

The study was guided by the following objectives:

i. To investigate the influence of community participation in financial management on performance of constituency development funded rural borehole water projects in Kerwa.
ii. To assess the influence of community participation in project governance on performance of constituency development funded rural borehole water projects in Kerwa.
iii. To establish the influence of community participation in operation and maintenance on performance of constituency development funded rural borehole water projects in Kerwa.
iv. To examine the influence of community participation in monitoring and evaluation on performance of constituency development funded rural borehole water projects in Kerwa.

1.5 Research Questions

The study was intending to answer the following research questions:

i. How does community participation in financial management influence performance of constituency development funded rural borehole water projects in Kerwa?
ii. How does community participation in governance influence performance of constituency development funded rural borehole water projects in Kerwa?
iii. How does community participation in operation and maintenance influence performance of constituency development funded rural borehole water projects in Kerwa?
iv. How does community participation in monitoring and evaluation influence performance of constituency development funded rural borehole water projects in Kerwa?

1.6 Significance of the Study

It was assumed that the findings of the study would significantly contribute towards rural development by acting as a benchmark for identifying loopholes and corrective measures at policy level on water projects to achieve the Millennium Development Goal of provision of safe and clean water to all by the year 2015.

The residents of Kerwa sub-location were also to benefit from the findings of the research because it was expected that they would gain knowledge on the important role played by community participation on performance of community borehole water projects. If findings of the study would be embraced, it was assumed that community water projects in the area would perform better in terms of functionality, effectiveness, efficiency, sustainability and hence promote social, economic, and political development in the region.

The findings of the study were also anticipated to provide insight on the critical aspects of CP that influence the performance of community borehole water projects.

It was expected that the study would be an important input for decision making by donor agencies and other relevant county officials.

Lastly, it was hoped that the study would act as a significant tool for researchers and scholars as they endeavor to expand their knowledge on community borehole water projects.

1.7 Basic Assumptions of the Study

The researcher assumed that the respondents would be honest, cooperative, factual (objective) and trustworthy in their response to the research instruments.

1.8 Limitation of the Study

The major limitation of this study was resources including time to cover the region. However, the researcher addressed this challenge by working overtime and effectively and efficiently using the available resources.

1.9 Delimitations of the Study

The study was carried out in Kerwa sub-location, Kikuyu constituency, Kiambu County which is situated in Central Kenya. Its geographical coordinates are 1° 15' 0" South, 36° 40' 0" East (Map data, 2014 Google).

There are many community borehole water projects in Kerwa that constitute the major source of domestic water for area residents. The study only focused on community borehole water projects in the area that were funded by the Kikuyu Constituency Development Fund in the region.

Information was generated from the management committee members and household representatives from the selected projects. The gathered information sought to provide a clear picture on how community participation in financial management, governance, monitoring and evaluation and operation and maintenance influence the performance of CDF funded borehole water projects in Kerwa sub-location.

1.10 Definitions of Significant Terms Used in the Study

Different researchers use different definitions of concepts in their studies differently. The following provides a brief discussion of terms as they were used in study.

Performance

Performance of a project is the evaluation of success with regards to conformance to pre-determined specifications. The current study measured performance of community water projects based on their effectiveness and efficiency, functionality, sustainability and improvement of livelihood.

Sustainability

The ability of beneficiaries of a community water project to maintain and sustain any initiated activities or services of the project so as to last long after the withdrawal of external support.

Financial management

The process of planning, organizing, directing and controlling how finances of community water projects are used to run affairs of the project to enable the project achieve its goals and objectives on time and on the planned budget.

Governance

The framework which ensures that community water projects have been correctly conceived and are being executed in accordance with best project management practices and within the wider framework of the society governance processes. An appropriate governance framework helps enhance transparency and accountability and community participation in decision making. The three pillars of project governance include; structure (management committees), people (beneficiaries) and information (communication).

Maintenance

Refers to activities aimed at supporting a water supply in a proper working condition. They include repairing and fixing any sort of mechanical, plumbing or electrical device should it become out of order or get broken.

Monitoring

Is the systematic and continuous process that allows critical observation of events related to a certain activity and to track indictors, thereby enabling us to check the project's progress.

Evaluation

Refers to continuous assessment of the progress of a project in relation to achievement of it goals and objectives. Evaluation may be done at different stages of a project such as before the project is initiated, at the middle of the project or at the end of the project.

Effectiveness and Efficiency

The extent to which time, effort or cost are well used for the intended task or purpose. It is the ability of a specific application of effort to produce a specific outcome effectively with a minimum amount or quantity of waste, expense, or unnecessary effort.

1.11 Organization of the Study

The study is organized in five chapters. Chapter One covers background of the study, problem statement, purpose of the study, objectives and research questions. It also covers the significance of the study, basic assumptions, limitations and delimitations of the study and finally the organization of the study. Chapter Two covers literature review. Chapter Three spells out the research methodology. This includes introduction, research design, target population, sample size and sample selection procedure, research instruments, data collection procedures and data analysis procedures. Chapter Four covers data presentation, data processing and interpretation, while Chapter Five covers summary of the research findings, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter attempts to review how past researchers have attributed performance of borehole Water projects to community participation. This enabled the study to develop new knowledge from the gaps identified in the literature reviewed which if bridged would contribute to successful operation of community water projects. The conceptual framework was used to demonstrate the relationship between the variables.

2.2 Performance of Community Borehole Water Projects in Relation to Community Participation

For many years, Community Participation (CP) has been considered vital for efficiency and effectiveness of community water projects. As observed by IWSC (2003), in rural sector CP has achieved widespread acceptance and some rural water supply and sanitation projects from all over the world are applying it. CP as a demand driven community-led approach incorporates participatory method and decentralization strategy to deliver rural water supply services better than supply driven government-led models.

Community water projects tend to be more effective and sustainable when they adopt a participatory approach. Indeed, USAID (2009) observed that water and sanitation systems become sustainable if they act in response to genuine demand, builds capacity for operation and maintenance, enhances sharing of costs, involve community members directly in all key decisions and if they develop a sense of communal ownership of the projects.

CP help projects meet their targets within planned budget and enhance sustainability of rural water supply management. Active CP in various borehole project`s activities is recommended to enhance their positive impact to smaller rural communities. Developing countries tend to adopt CP initiatives as they help in creating a sense of ownership, settle internal differences, increase technical knowledge and management experiences of the beneficiaries of community water projects (Doe and Khan, 2004; Lockwood, 2004; Opare, 2011).

On the other side of the coin, Mazango and Munjeri (2009) critiqued CP by arguing that it is identified as a short to medium term success tool of water and sanitation projects. Further,

Carter (2012) observed that CP runs smoothly at the initial stage of community projects but problems begin within 1-3 years after the commissioning of systems leading to the breakdown of management systems thereafter.

To enhance successful CP in community water projects, adequate strengthening by external support is needed prior to assumption of full community control of water supply systems and assumption of responsibilities should be pursued gradually. In addition, Jiménez and Pérez-Foguet (2011) observed that capacity building, construction supervision and providing support to the community water project management committees during the first year of implementation are recommended for maintaining long term community participation in community water projects.

Rural communities in developing countries should take full responsibility for sustainability of water projects in their regions. The community should manage the operation, maintenance and repairs of all water projects provided in their communities. This paradigm allocates responsibility for the continual operation of community water projects from government and donor agencies to rural communities (Burgi and Rydbeck, 2010; World Vision Ghana, 2003).

Other factors affecting the performance of community water projects apart from community participation are; lack of regulations, lack of legal status and authority of the water committees, absence of liaison with local government institutions and inability to replace most of capital items (Whittington et. al., 2009).

2.3 Influence of Community Participation in Financial Management on Performance of Community Borehole Water Projects

Budgets are an important element in financial management. A good financial system must be supported by a budget that realistically reflects expected income and expenditure of the project. Petersen et al., (2006) observed that budgets act as a control system so that project funds are not used for activities beyond the purchasing power of the project.

Where budgets are not prepared and followed, chances of misappropriation, misallocation and over expenditure of finances become quite high. Harvey & Reed, (2007) noted that without a budget, it is not possible to plan how money collected will be used. They further observed that absence of a budget makes it difficult to know who should account for what expenditures.

Community participation in budgeting process strengthens and broadens partnerships and also creates spaces for mutual learning. Baiocchi (2005) illustrated that participatory budgeting process produce actual welfare effects by improving the effectiveness of public investments, emphasizing a pro-poor orientation and reducing possibilities for 'pork-barrel politics' and other forms of clientelistic policy-making processes.

Transparency is a vital ingredient for building trust and maintaining the commitment of individual members of community water projects. When the beneficiaries actively participate in financial management of community projects, the management committees tend to be more accountable and transparent in their operations. A study done by Twebaze (2010) on community mobilization in rural water supply and sanitation programs in Wakiso District Uganda established that the high knowledge by water beneficiaries on the way funds were spent increased transparency in the way that the Water User Committees of the programs operated.

Brike (1997) observed that for effective operation and maintenance of community water projects, it is important that financial management be in the hands of community members. Mwakila William (2008) made an assessment of Community Participation in Water Supply and Sanitation Services: The Case of Yombo Dovya and Barabara ya Mwinyi, community water projects, Temeke District, Tanzania. The study revealed that the projects` financial management was in the hands of community members through water committees. Money collected from user charge fees was used to cover operation and maintenance costs. However, the study further found out that the Water Committees were not holding regular meetings with the rest of community members to disclose the financial matters of the projects. Income and expenditure were not disclosed to the community members during public meetings. This compromised the functionality and sustainability of the projects since cases of misappropriation of funds were frequently reported.

2.4 Influence of Community Participation in Governance on Performance of Community Borehole Water Projects

The 2000 Hague Ministerial Declaration called for governing water wisely to ensure good governance, so that the involvement of the public and the interests of all stakeholders are included in the management of water resources. The Global Water Partnership defines water governance as the range of political, social, economic and administrative systems that are in

place to develop and manage water resources, and the delivery of water services at different levels of society (Rogers and Hall, 2002).

Water governance should encourage the inclusion and participation of a local community in managing their water. Water governance affects the management of water at different levels of society. Briscoe and De Ferranti (1998) observed that governments and donors should create an environment in which the local community and the private sector could assume the role of providing water supplies. For governance at this level to be effective, it requires an environment which promotes a bottom-up approach to development and encourages participation of a community at the lowest level in development projects. In a study conducted by Zooneveld (2001) in assessing participation in local governance, it was found that participation worked better when citizens felt they would have a direct impact on local governance or when the initiative had concrete aims that were likely to have a direct positive impact on their daily lives.

The concept of participation in rural development has been evolutionary for the past two decades. The contribution of the community to development projects in the form of unpaid labour was then widely accepted as an important constituent and in most cases the only form of community participation. This widespread acceptance meant that as long as developers could convince a local community to volunteer labour, full participation as well as 'acceptance' of the project was guaranteed. Supporting evidence documented by Kleeimer (2002) notes one donor in Tanzania who even paid villagers to provide unskilled labour. Development agencies and governments alike, involved particularly in rural water supply have had to re-evaluate their active role. From this there emerged a new perspective that allowed the shifting of responsibility of financing and constructing water projects from governments and development agencies to the local level that is, the local community.

Briscoe and De Ferranti (1998) identify 'management of water at the lowest appropriate level' as one of the governing principles of water governance at the local level. The move towards effective community participation has encouraged a shift from the traditional top-down to a bottom-up approach whereby there is a decentralization of unevenly distributed resources and power to empower a community and allow mobility of 'people participation'.

Chogul (2000) in her study on participation in the housing sector in developing countries, found that where initiatives existed in a community to improve living conditions, be they top-down or bottom-up, led to different results depending on the degree of the governmental willingness and/or confidence in the ability of the community to contribute to its own development.

Good local governance should provide the public with democratic and equal opportunities to participate. For decentralization to become a reality, central governments and development agencies alike must be willing to relinquish or share control with a local community. Conditions under which this can take place as identified by Blair (2000) are extensive participation of all stakeholders and mechanisms to ensure that those in authority at the local level are held accountable for their actions.

Communication and information sharing not only impacts on a project but also determines the understanding that a community has of specific issues and the general status of the project. Holding consultations with the community as a whole, rather than engaging in selective consultation provides clear communication channels and disseminates information so that everyone has a similar understanding of the key issues. At the implementation/ construction phase, clear communication channels need to be put in place so as to keep stakeholders informed of any modification to the project design and implementation strategies. For governance to be effective at the community level, Rogers and Hall (2002) point out that a project is required to be inclusive and communicative; with communication channels free flowing so as to enhance transparency. Thus, at the implementation/ construction phase, in particular, clear communication channels need to be highly functional so as to keep the community informed of any modification to the project and implementation strategies at whatever is the cost.

Water committees (WC) are one of the common forms of rural water systems through which beneficiaries are supposed to participate in the management of community projects and share the benefit. A water committee consists of project leaders who oversee the functioning of a project on behalf of the entire community. According to TASAF (2005) some functions of WC include representing the community in contact with the development partners, organize community contribution in form of both labour and cash, keeping project records of expenditure and payment, collecting water tariffs, holding WC meetings to

discuss and decide on issues and problems and informing the community on regular basis on the decisions reached.

Sustainability of water projects can be enhanced through building linkages between national water plans and local water plans. Twebaze (2010) further noted that the local population especially women and youth should take part in operation of community water projects to enhance their sustainability.

Most governments, donor and water supply agencies typically require that communities establish water committees to co-ordinate local management of new water supply systems. The existence of a formal organization like water committee is necessary to enhance water systems' sustainability. Community water projects can be sustained when there is a system for organizing the community. Without proper community organization structures, effective community participation has no hope for sustainability of community water projects. The responsibility to manage water supply system should not be transferred on the community structure that does not have the capacity to operate and maintain it (Brikke, 1993; M. Common et al. 1995; Mogane, 1995; Sara & Katz, 1997).

Tanga and Maliehe (2011) made an analysis of community participation in handicraft projects in Lesotho. The findings of the study revealed that the Handicraft projects had committee members who were not elected by the projects` beneficiaries, yet they were charged with the responsibility of running the day-to-day activities of the projects as well as managing finances. The study further revealed that these committees' members did not work satisfactorily in projects` financial management. They did not involve the community in projects` financial management. Many cases of misappropriation of funds were frequently reported and this was one of the reasons why the projects struggled to achieve their goals. However, the study focused on Handicrafts Projects while the current study will focus on community borehole water projects.

Julia (2010) observed that Transparency and Accountability are vital ingredients for better performance of community water projects. She further suggested that projects should have a forum in which project leaders allow their employees to hold them accountable. The purpose of the meetings is to ensure that the day-to-day practices (as well as policies, procedures, decisions and systems) implemented by water committees are aligned with the project goals and objectives. Mwakila (2008) made an Assessment of Community Participation in Water Supply and Sanitation Services in Temeke, Tanzania. She identified

that water project leaders deal with issues such as preparing necessary budgets, procurement of goods and services, and developing necessary action plans. Such activities normally are best done by a small group of officials elected and mandated by its members and expected to give feedback to the entire community. This study applied co-relational method of data analysis while the current study will employ descriptive data analysis.

Claud (1998) interviewed Tanzania Social Action Fund (TASAF) officials and found out that TASAF operated through Water Committees. The members of WC were democratically elected in the village general assembly attended by over 70% of eligible voters. Data obtained from officials revealed that they operated directly from the beginning with the village level based water committees and this was confirmed by the projects coordinators. It was also observed (through questionnaires) that among the criteria used to select committee members were education (basic education), residence, gender, job accountability, age, participation in project activities, honesty, and willingness to volunteer and this is because most work was done on voluntary basis. Payments were only made when members travelled and it was in form of allowances and transport assistance. The approach enhanced better performance of TASAF water projects.

2.5 Influence of Community Participation in Operation and Maintenance on Performance of Community Borehole Water Projects

Maintenance of borehole water projects includes undertaking repairs of broken pipes, leakages, pumps and other repairs under the system. Bhandari and Grant (2007) noted that maintenance of borehole water projects includes the cost of running the offices of the water boards, the cost of purchasing office suppliers such as computers, printers, receipt books, replacing office appliances and other office logistics.

Auckhinleck (2013) studied boreholes sustainability and poverty reduction in rural communities in Atebubu and Afram Plains Districts of Ghana. He found that 83% of respondents in communities provided with community borehole water projects indicated that the boreholes were promptly repaired by the locally trained Maintenance Technicians when they broke down. This helped to prevent people from reverting to old sources of surface water and resulted to sustained poverty reduction. Furthermore, results from this study indicated that 85% of surveyed respondents pointed to the fact that community borehole water project`s sustainability should essentially be the role of beneficiaries.

A study by World Bank (2010) established that 70% of community water systems in the Eastern Cape of South Africa were not working. Furthermore, 7000 community wells and boreholes surveyed in Tanzania by Eduvie (2006) showed on average that 45% were still functional but only 10% of community water facilities that were 25 years or older were still functioning. The main reason assigned for community water system failures was lack of maintenance after implementation. With continued usage, serious wear and tear occurred until they finally ceased functioning. The study emphasized that management of community borehole water projects by the communities is meant specifically to empower and encourage the beneficiaries to take full responsibility in maintenance and repair of the projects.

Community mobilization efforts should mostly be directed towards enhancing community involvement and promoting a sense of responsibility and ownership of community borehole water projects. Schouten (2006) further noted that while community ownership does not in any way resolve the challenge of ensuring community borehole water projects` sustainability, it creates the avenue for social mobilization for communities to be passionate about the continuous functioning of their boreholes and being prepared to take absolute responsibility.

However, Fosenka (2008) observed that this does not at all times stimulate the willingness required to accept immediate responsibility of contributing funds for repair and maintenance of community borehole water projects in the future. As such, several hundreds of community water boreholes become non-functional when challenges emerge relating to their operation.

The willingness of the community to pay the water tariffs is a major factor responsible for sustainability of their water projects. Bohm and Fox (1993) identified that water tariff collected should cover fully the cost of water services provided. They established that willingness to pay is found working better for improved services like house connection in preference to public facets. Household income and wealth, family size, education, and dissatisfaction with traditional water sources positively influence willingness to pay resulting in increased sustainability of the community borehole water projects. Studies on operational sustainability of water supply systems carried out by Bhandari and Grant (2007) have also concluded that satisfaction, honesty of the water-user committee, and willingness to pay generally important operational sustainability factors.

The importance of generating adequate revenues needs to be recognized by all those responsible for promoting sustainable water supply services. However, Carter et. al., (2010) findings from programme evaluations and reviews undertaken in several African countries indicated that communities soon give up collecting regular user fees. The sums of money raised by water user committees for the maintenance and repair of their borehole water projects are usually insufficient. In those situations where the fundamental issue is unwillingness rather than the inability to pay, there is need for change. However, the discussions on their paper were not based on any formal research methodology. The current study will be based descriptive survey research methodology.

Adow (2013) observed that contribution of funds by the community to operate and maintain rural borehole water projects promote a sense of ownership by the community members. Indeed Roark et. al., (1993) added that O&M may be considered synonymous with sustainability. However, Webster et. al., (1999) noted that sustainable water projects should integrate all the social, economic, cultural and political components surrounding them.

The commitment of the community in operation and maintenance is very significant in any successful project performance. Toyobo and Muili (2013) carried out a study on Sustainability of Borehole Water Schemes through Community Participation in Ejigbo, Nigeria. They found out that majority of members contributed little or no monetary, material, advisory, labour and repairs for the maintenance of community borehole water facility in Ejigbo. About 47.4% and 39.6% of the respondents were petty traders and civil servants respectively. These categories of people were not interested in contributions towards the maintenance of borehole water facility because of government attitude of negligence of water facility after delivery to the community. The study further established that the residents had to look for alternative sources of water such as rivers and lakes when the available boreholes failed to function. This resulted in spread of epidemic diseases such as cholera, dysentery among others. However, the study employed systematic random sampling method while the current study employed purposive and simple random sampling procedure method.

2.6 Influence of Community Participation in Monitoring and Evaluation on Performance of Community Borehole Water Projects

Participatory Monitoring and Evaluation (M&E) is a collaborative process that involves stakeholders at different levels working together to assess a project, programme or policy and take any corrective action required. Monitoring is usually conducted as an ongoing activity throughout the life of a project, whereas evaluations are undertaken at certain times. According to Swanepoel & De Beer (2006) noted that in participatory M&E work, the distinction between monitoring and evaluation can often become blurred. This is because participatory assessments and feedback mechanisms are built-in to project design as a regular component of the work, rather than one-time events.

The stakeholder groups typically involved in a participatory M&E activity include: the end users of project goods and services including both men and women at the community level; intermediary organizations including NGOs; private sector businesses involved in the project; and government staff at all levels (Deepa, 1993).

Monitoring is a continuous assessment of the functioning of the project activities that allows early recognition of the social effects in particular which are regressive or incompatible with equity objectives and enables one to institute the necessary corrective measures. In evaluation, the comparison of actual project impacts against the agreed strategic plans is made (Kotze & Kellerman, 1997; Shapiro, 2001; Swanepoel & De Beer, 2006).

Monitoring and Evaluation help in meeting the internal needs of communities and other primary stakeholders contributing to their empowerment. Mwakila (2008) noted that monitoring and evaluation is used as an instrument for control but focuses on improving the performance of community borehole water projects quality and direction of joint development initiatives and local governance.

Evaluation is usually done shortly after a project has been completed. This provides insight into the initial use of facilities but it is difficult to determine how sustainable these facilities are going to be in the longer term. A good quality water pump may function for five years or more before a component fails. This reinforces the need to establish sustainability indicators that take into account people's perceptions as well as the physical condition of facilities (Deverill et. al., 2001).

Projects cannot easily be sustained by a local organization without systematically monitoring their performance, yet in practice, this issue receives little attention. Post-completion monitoring or evaluations are usually undertaken to inform the implementing organization or its project agent, rather than those responsible for the scheme's operation. What is required is a simple set of useful indicators that can be used locally to measure a scheme's performance, technically, financially and in terms of user satisfaction. Indicators can also be useful for a local management organization to set targets. Attempting to achieve these may provide a committee with purpose and direction, as well as a useful benchmark for it to monitor its performance. This in itself may go some way towards preventing the stagnation of local management organizations which seems to be a significant cause of their demise (Stephen, 2000).

Mukunga (2012) researched on the influence of community participation on performance of Kiserian dam, Kenya. The study engaged quantitative and qualitative research paradigms and involved a sample size of 356. Findings from the research revealed that 80.02% of the respondents did not participate in monitoring and evaluation activities of Kiserian dam, while only 4% had access to progress reports and pamphlets on project progress reporting. From the analysis, it was clear that majority of the local community were not aware of project progress and that the implementing agency had poorly coordinated project reporting activities especially to the beneficiary community. The inadequate participation of the local community in monitoring and evaluation activities limited their participation in decision making about project progress. This influenced negatively the performance of the project in relation to the achievement of its objectives. This study sampled 356 household heads while the current study sampled 66 household representatives and 6 management committee members respectively. The study focused on Kiserian Dam only, while the current study focused on Nyakianda and Podo water projects.

Reporting the progress of community borehole water projects to the beneficiaries enhances transparency and accountability. The community develops trust with the project management and they can willingly contribute funds for the operation of the projects and this makes the projects to be sustainable. Carter (2010) noted that community participation in water supply and sanitation services in assessing their progress is critical for their sustainability. Project progress reporting meetings should be held regularly and the local community mobilized to actively participate. He also observed that the community should

be offered a chance to query on the progress of the community borehole water projects because this reduces chances of misappropriation of project funds.

2.7 Theoretical Framework

The concept of Participatory Development can be traced back to 1950s when most third world countries were gaining their independence from colonial rule. By 1960, it had spread to more than 60 countries in Africa, Asia and Latin America among others (White, 1999). The current study can be based on concepts of Participatory Development which lead to emergence of community-based forms of development. Gandhian notions of village self-reliance and small-scale development were seen as an antidote to the corrosive effects of modernization and colonial rule (Gandhi, 1962). Another influential perspective was that of Paulo Freire (1970). His *pedagogy of the oppressed* argues that the 'oppressed' need to unite and actively participate in social, political and economic development to find a way to improve their own destinies.

The Theory of Reasoned action (TRA) which was developed in 1967 also relates to the current study. It was revised and expanded by Ajzen and Fishbein in the early 1970`s. By 1980, the theory was used to study human behavior and to develop appropriate interventions. The Theory assumes that human beings are rational and that they make systematic use of information available to them before they decide to engage or not to engage in certain behaviour.

The theory looks at behavioral intentions as being the immediate antecedents to behaviour. It is believed that the stronger a person intention to perform a particular behaviour is, the more successful they are expected to be. Intentions are functions of salient beliefs or information about the likelihood that performing a behaviour will lead to a specific outcome. Attitude is populated to be the first antecedent of behavioral intention. It is individual's positive or negative belief about performing a specific behaviour. An individual will intend to perform a certain behavior when he or she evaluates it positively.

This theory can be applied to understand community participation in the sense that it is assumed that people will consider the implication of their actions before they decide to engage or not to engage in certain behaviour. For instance if people perceive that participating in community borehole water projects will yield some benefits, then it is more likely that the community will increase their level of participation and vice versa.

2.8 Conceptual Framework

According to the conceptual framework, low level of community participation in financial management, governance, operation and maintenance and monitoring and evaluation tend to hinder better performance of community borehole water projects. This means that performance of community water projects can be better when there is higher level of community participation in the identified project parameters. Legal and regulatory framework, size of the project and the political environment are other factors that equally influence performance of community water projects.

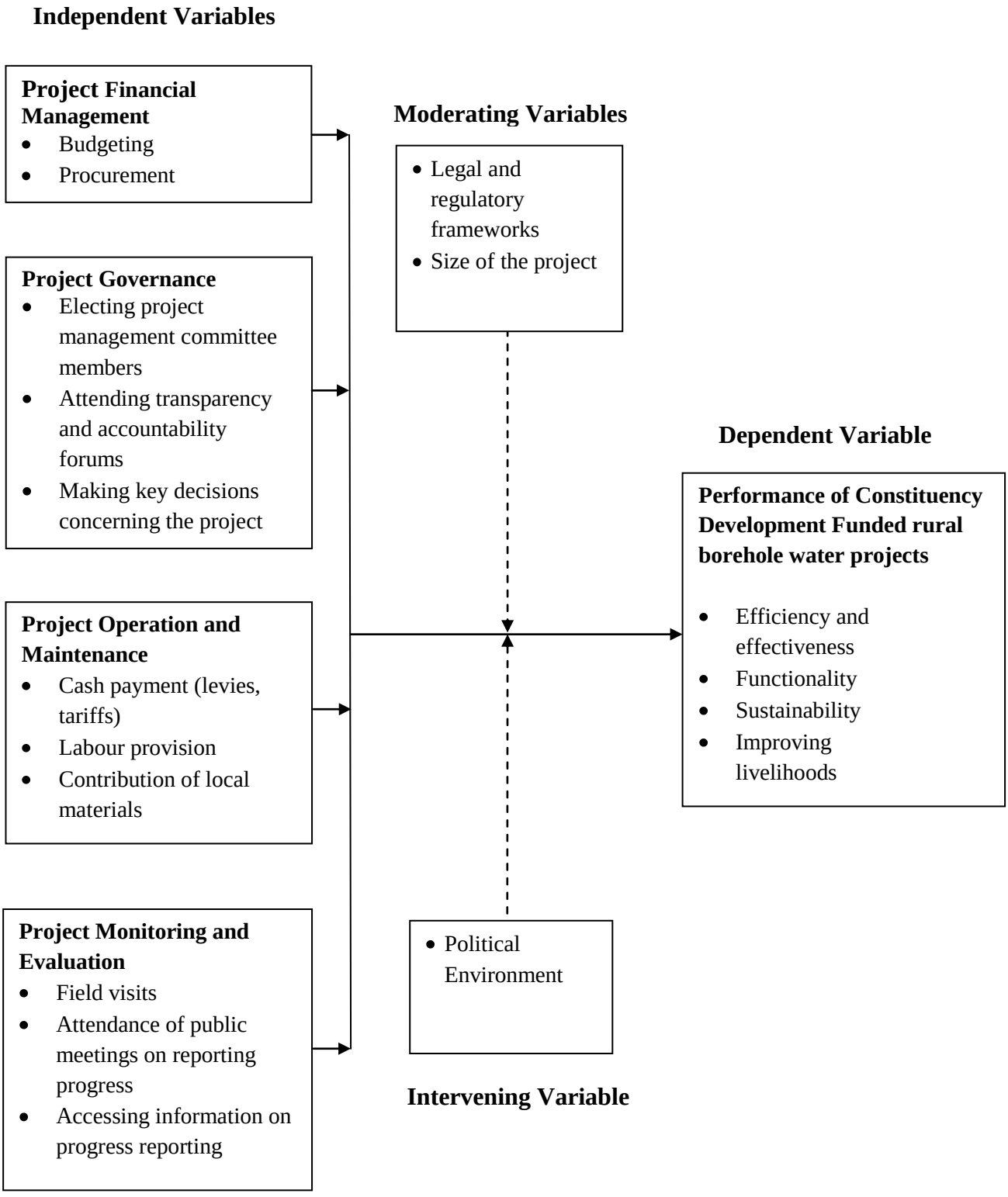

Figure 1: Conceptual Framework

2.9 Summary of Literature Review

The literature reviewed indicated that Projects that did not emphasize community participation were not successful. In successful projects, the beneficiaries actively took part in financial management, Project Governance, Operation and Maintenance, and Monitoring and Evaluation of the community borehole water projects.

CHAPTER THREE

REASEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research design, study population and sampling strategy applied in the research. It also includes data collection tools and the methods of data analysis applied in the study.

3.2 Research Design

Descriptive survey research design was applied in the study. According to Mugenda (2003) descriptive survey design allows description of the behavior of a subject in its unchanged natural environment. It helps in providing a general overview of the subject under study. Descriptive survey research design was used in the current study to provide a synopsis of performance of community water projects in relation to community participation.

3.3 Target Population

According to Ngechu (2004) a population is a well-defined set of people, services, elements and events, group of things or households that are being investigated. The target population of the research was 238 and it consisted of 220 household representatives and 18 management committee members of Podo and Nyakianda water projects. Nyakianda water project consisted of a total of 100 registered household representatives while Podo water project consisted of a total of 120 household representatives. Each project consisted of 9 management committee members.

3.4 Sampling Procedures

Purposive sampling technique was applied to select Nyakianda and Podo water projects out of the five CDF funded community borehole water projects in Kerwa sub-location at the time of the study based on their homogeneity. According to Mugenda and Mugenda (2003) 10% to 30% of accessible population is an adequate representative sample. Since the accessible population size of household representatives and management committee members from both projects was 220 and 18 respectively. 30% of the target population was sampled. A sample size of 66 household representatives was selected using simple random sampling technique. 30 were from Nyakianda water project and 36 were from Podo water

project. The research interviewed the chairpersons, treasures and secretaries of both Nyakianda and Podo water projects, therefore, a total of 6 management committee members were selected.

3.4.1 Research Instruments

Questionnaires and interview guides were employed to obtain data from the respondents. In the questionnaire, both open and closed ended questions were asked to capture information from the household representatives on their level of participation in the identified parameters of the study. Interviews gathered information from the management committee members- chairpersons, treasures and secretaries of both Nyakianda and Podo water projects.

3.4.2 Pilot Study

The study employed Gachuthi water project for pilot study. Gachuthi water project was one of the CDF funded borehole water projects in Kerwa sub-location at the time of the study. Simple random sampling technique was applied to select 3 management committee members (chairperson, treasure and the secretary) and l0 household representatives from the project. The population of the project was obtained from the water user register.

3.4.3 Instrument Validity

Validity of research instruments is intended to determine whether the instruments truly measures that which it was intended to measure. According to Polit and Hungler (1997) validity measures the degree to which results obtained from the analysis of the data represents the truth, credibility, and the right phenomena under the study.

To ensure content-valid data, the researcher started by identifying a domain of indicators which were relevant to the variables of the study. According to Mugenda and Mugenda (2003) a content-valid measure should contain all possible items that should be used in measuring the concept under study. The identified set of indicators were then discussed with the research supervisor and other experts to ensure that it accurately represented the concept of community participation and performance of community water projects.

3.4.4 Instrument Reliability

Reliability refers to the consistency of measurement. Test-retest reliability method was employed to measure the instruments reliability. Reliability was increased by including many similar items on a measure, by testing a diverse sample of individuals and by using uniform testing procedures. The researches utilized the Cronbach's alpha of 0.70 to check internal reliability. According to Mugenda and Mugenda (2003), the higher the alpha, the more reliable the research. The alpha is denoted as:

Alpha=Nr (l+r (N-I))

Where r= the means inter - item correlation

N= number of items in the scale

The corrected data was subjected to reliability analysis test and the Cronbach's bunch alpha coefficient obtained was 0.76. According to Hair et. al., (2010) a 0.6 Cronbach's bunch alpha coefficient is adequate.

3.5 Data Collection Procedures

The study utilized both primary and secondary sources to collect data. Questionnaires were used to collect data from household representatives and management committee members were interviewed. This ensured triangulation and objective data analysis. The researcher engaged two research assistants who were trained and informed on the purpose, objectives and other important aspects of the research to assist in the administration of research instruments to the respondents.

3.6 Methods of Data Analysis

The data collected from questionnaires was coded, cleaned and analyzed using descriptive statistics and in order to generate mean, frequency tables and percentages. Cross tabulation was applied to establish varying performances across the two projects. Data obtained was organized according to categories and merged together with quantitative data to facilitate the writing and composition of the key findings. Analysis of the data enabled the researcher to interpret the information and draw conclusions and recommendations of the study. Statistical Program for Social Sciences (SPSS) was used to process and analyze the data which was presented using frequency tables and percentages.

3.7 Operationalization of Variables

Operational definition of variables is operationally defining a concept to render it measurable. Measures can be objective or subjective (Polit and Hungler, 1997). To ensure that the objectives of the study were measurable, they were operationally defined as show by Table 3.1.

Table 3. 1: Operationalization of variables

Objectives	Variables	Indicators	Measurement	Scale	Data Collection Method	Tools of analysis
To investigate influence of Community participation on performance of CDF funded rural borehole water projects in Kerwa sub-location, Kiambu County, Kenya	**Dependent variable** Performance of CDF funded Rural Borehole Water Projects	-Effectiveness and efficiency -Functionality -Sustainability -Improvement of livelihood	-Level of performance of the community water project	Ordinal	Questionnaire and interview guides	Descriptive analysis
To investigate the influence of Community Participation in Financial Management on Performance of Community Borehole Water Projects.	**Independent variable** Financial management	Budgeting	Level of community participation in project budgeting	Ordinal	Questionnaire and interview guides	Descriptive analysis
		Procurement	Level of community participation in procurement of project`s materials and services	Ordinal	Questionnaire and interview guides	Descriptive analysis

To assess the influence of Community Participation in Governance on Performance of Community Borehole Water Projects.	**Independent variable** Governance	Electing project leaders	Level of community participation in election of management committee members	Ordinal	Questionnaire and interview schedule	Descriptive analysis
		Participating in transparency and accountability forums	Level of community participation in transparency and accountability forums	Ordinal	Questionnaire and interview guides	Descriptive analysis
		Decision making	Level of community participation in decision making	Ordinal	Questionnaire and interview guides	Descriptive analysis
To investigate the influence of Community Participation in Operation and Maintenance		Cash payments (levies, tariffs)	Level of community participation in making cash payments	Ordinal	Questionnaire and interview guides	Descriptive analysis

	Independent variable Operation and maintenance	Labour provision	Level of community participation in provision labour provision	Ordinal	Questionnaire and interview guides	Descriptive analysis
		Contribution of local materials	Level of community participation in contributing local materials	Ordinal	Questionnaire and interview guides	Descriptive analysis
To assess the influence of Community Participation in Monitoring and Evaluation on Performance of Community Borehole Water Projects	**Independent variable** Monitoring and Evaluation	Field visits	Level of community participation in field visits	Ordinal	Questionnaire and interview guides	Descriptive analysis
		Attendance of public meetings on progress reporting	Level of community participation in attendance of meetings reporting project progress	Ordinal	Questionnaire and interview guides	Descriptive analysis

		Access to information on progress reporting	Level of community access to information on project progress	Ordinal	Questionnaire and interview guides	Descriptive analysis

3.8 Ethical consideration

The researcher obtained consent from National Council for Technology. The respondents were informed about the purpose of the study, how they were expected to participate and how the study would affect them directly or indirectly. This enabled them to decide whether or not to volunteer information by filling the questionnaire. The researcher also acknowledged all sources of information from other scholars.

To comply with internationally accepted ethical standards, no names of individuals were recorded on the questionnaire. In this way, no individual was linked to a particular completed questionnaire thus assuring anonymity.

The researcher endeavored to report the findings of the study as accurately and as objectively as possible and in turn would disseminate the findings to the local community in Kerwa sub-location through the chief, water project`s management committees, Kikuyu constituency development office and area leaders. This ensured that there was objectivity in the research study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATIONS AND INTERPRETATIONS

4.1 Introduction

This chapter presents the results obtained from the analyzed data together with the appropriate interpretations based on the research objectives of the study. The purpose of the study was to determine the influence of community participation on performance of CDF funded rural borehole water projects in Kerwa sub-location, Kiambu County, Kenya.

4.2 Questionnaire return rate

The study adopted a descriptive survey research methodology approach where a total of 66 household representatives and 6 management committee members were targeted as respondents. Out of a total of 66 questionnaires that were given to the household representatives, 54 were received back. Hence the response rate was 81.8%l. According to Mugenda (2003) a response rate of 50% and above is adequate for analysis and reporting of findings of a research. Out of the 54 questionnaires received back, 28 were from Podo water project and 26 were from Nyakianda water project.

4.3 Demographic Profile of Respondents

The demographic profile of the respondents was considered necessary for providing a better understanding of the nature of respondents and their suitability for providing relevant information as required by the research study. The information that was required for this section was the specific project that they belonged to, their gender and the duration served by the borehole. This was important because the researcher targeted two water projects that served the community in Kerwa sub-location and funded by the Kikuyu Constituency Development Fund at the time of the study.

4.3.1 Project`s membership

The research study targeted Nyakianda and Podo community water projects. The researcher therefore considered it necessary to collect information from respondents who belonged to the

two water projects only. The summary of group membership was tabulated and summarized as shown in table 4.1.

Table 4. 1: Project`s membership

Water project	Frequency	Percentage (%)
Nyakianda	26	48.1
Podo	28	51.9
Total	**54**	**100.0**

The findings from the research study revealed that there were 26 (48.1%) respondents from Nyakianda borehole water project and 28 (51.9%) from Podo water project. The sample was therefore considered as an adequate representation of the two water projects under the research study.

4.3.2 Gender composition of the respondents

The gender of the respondents was important to provide views that would give a fair presentation of the community served in terms of gender. The findings were summarized as shown in table 4.2.

Table 4. 2: Gender composition of the respondents

Gender	**Frequency**	**Percentage** (%)
Male	29	53.7
Female	25	46.3
Total	**54**	**100.0**

From the findings of the research study, it was evident that both genders were well represented in the study. There were 29 (53.7%) male respondents while female respondents were 25

(46.3%). The population sample was therefore considered representative of members served by the water project in terms of gender representation.

4.3.3 Period served by the water project

The research study sought to find out from the respondents the number of years they had being served by the water projects. This was important for the researcher because the researcher wanted to be sure that the respondents had enough experience of the operation of the water projects. The findings were tabulated and summarized as shown in table 4.3.

Table 4.3: Duration served by the water projects

Years served	Frequency	Percentage (%)
0-3	7	13.0
4-7	12	22.2
8-11	4	7.4
12-15	22	40.7
16 and above	9	16.7
Total	**54**	**100.0**

It was evident from the findings that 7(13.0%) of the respondents had being served by the water projects for a period of 3 years and below, 12(22.2%) for 4 to 7 years, 4(7.4%) for 8 to 11 years, 22(40.7) for 12 to 15 years, 9(16.7%) for 16 to 19 years and 9(16.7%) for more than 16 years. This was a clear indication that the respondents had enough experience with their water projects since 35(60.8%) had being served by the water projects for 11 years and above. Hence they were expected to provide reliable information on the CP on performance of community water projects.

4.4 Project`s performance

The indicators that were used to measure the performance of the water projects were effectiveness and efficiency, functionality, sustainability and improvement of livelihood. The respondents were asked to tick the number that best described the performance of their water

project where 5 was equivalent to excellent, 4= good, 3= satisfactory, 2= poor and 1= very poor.

4.4.1 Effectiveness and efficiency

The research sought to establish the performance of the water projects in terms of proper usage of project`s resources for the right purpose. The findings were tabulated as shown in table 4.4

Table 4.4: Effectiveness and Efficiency

	Nyakianda water project		**Podo water project**	
Effectiveness and efficiency	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	0	0.0	0	0.0
Poor	1	3.8	0	0.0
Satisfactory	21	80.8	4	14.3
Good	3	11.6	23	82.1
Excellent	1	3.8	1	3.6
Total	**26**	**100.0**	**28**	**100.0**

Out of the 26 respondents from Nyakianda water project, 21 (80.77%) indicated that the performance of the project in terms of effectiveness and efficiency was moderate, while 23 (82.14%) of the respondents from Podo indicated that the effectiveness and efficiency of their water project was high.

4.4.2 Functionality

The research sought to find-out the functionality of the two projects in provision of quality and consistent water services from the respondents. Functionality was one of the indicators used to measure performance of CDF funded water projects in Kerwa. The findings were tabulated as shown in table 4.5

Table 4. 5: Functionality

	Nyakianda water project		Podo water project	
Functionality	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	0	0.0	0	0.0
Poor	6	23.1	0	0.0
Satisfactory	15	57.7	4	14.3
Good	4	5.4	21	75.0
Very good	1	3.8	3	10.7
Total	**26**	**100.0**	**28**	**100.0**

There were 15 (57.7%) household representatives from Nyakianda water project who rated the functionality of their project as satisfactory while 25 (75%) respondents from Podo water project rated their water project functionality as good. Nyakianda water project was reported to be Poor in functionality by 6 (23.1%) as opposed to Podo that had 0(0.0%) score on poor functionality rating. The low score for Nyakianda water project as reported by some respondents was linked to the fact that most often, the project supplied its members with low quality and unreliable water services.

4.4.3 Sustainability

The researcher sought to know the level of sustainability of the projects from the respondents**.** The respondents were therefore required to indicate on a scale of 1 to 5 the sustainability of their water project. The scale used was such that 1= very low, 2= low, 3= satisfactory, 4= high, and 5 =very high sustainability. The findings were as shown in table 4.6

Table 4.6: Sustainability

	Nyakianda water project		Podo water project	
Functionality	Frequency	Percentage (%)	Frequency	Percentage (%)
Very low	0	0.0	0	0.0
Low	3	11.5	1	3.6
Moderate	18	69.2	2	7.1
High	4	15.4	23	75.0
Very high	1	3.8	2	7.1
Total	**26**	**100.0**	**28**	**100.0**

The respondents who rated the sustainability of Podo water project as high were 14 (82.1%) compared to 13 (15.4%) for Nyakianda. Sustainability of Nyakianda water project was rated as moderate by 18 (69.2%) of the respondents compared to 2 (7.1%) for Podo. The percentage of respondents who considered the sustainability of Podo as very high was significantly higher than that of Nyakianda at 7.1% and 3.8% respectively.

4.4.4 Improving livelihood

The researcher was interested to know the extent to which the lives of consumers had been improved by the water projects. The consumers were asked to rate the impact the water project had in their lives on a scale of 1 to 5 where: 5 =very high, 4 =high, 3= moderate, 2 =low and 1 = very low. The findings were analyzed and summarized as shown in table 4.7.

Table 4.7: Improvement of livelihood

	Nyakianda water project		Podo water project	
Improving livelihood	Frequency	Percentage (%)	Frequency	Percentage (%)
Very low	0	0.0	0	0.0
Low	3	11.5	0	0.0
Moderate	18	69.2	3	10.7
High	4	15.4	21	75.0
Very high	1	3.9	4	14.3
Total	**26**	**100.0**	**28**	**100.0**

The respondents who rated the level of improvement of livelihood by Podo water project as high were 21 (75.0%) compared to 4 (15.4%) for Nyakianda water project. Improvement of livelihood of the respondents by Nyakianda water project was rated as moderate by 18 (69.2%) of the respondents compared to 3 (10.7%) for Podo. The percentage of respondents who considered the level of improvement of their livelihood by Podo water projects as very high was significantly higher than that of Nyakianda at 14.3% and 3.8% respectively.

4.5 Community Participation in financial management and its influence on performance of community water projects

The research sought to find from the respondents how their level of participation in budgeting and procurement influenced the performance of community water projects. The respondents were therefore required to indicate the extent to which they took part in budgeting for finances and procurement of project`s goods and services. Their level of participation was ranked on a scale of 1 to 5; where 5 = excellent, 4= good, 2 =poor and 1= very poor.

4.5.1 Community participation in budgeting

The researcher intended to find out the extent to which community members participated in the budgeting of their community water projects. This was important because CP in project

budgeting according to Harvey & Reed (2007) enhances effectiveness and efficiency of community water projects. The findings were summarized and tabulated as shown in table 4.8.

Table 4.8: Community participation in budgeting

	Nyakianda water project		**Podo water project**	
Budgeting	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	6	23.1	2	7.1
Poor	6	23.1	2	7.1
Satisfactory	7	26.9	6	21.4
Good	4	15.4	17	60.7
Excellent	3	11.5	1	3.9
Total	**26**	**100.0**	**28**	**100.0**

It was evident that CP in budgeting in Podo water project was way above that for Nyakianda. There were 17(60.7%) of respondent from Podo water project who reported that their level of participation in budgeting was good compared to 4(15.4%) for Nyakianda. The number that reported that participation in budgeting in Nyakianda was poor was 6(23.1%). The respondents who reported that the participation of the community in budgeting was satisfactory in Nyakianda was at 7(26.9%), compared to 6(21.4%) for Podo. It was therefore evident that better performance of Podo water project in comparison with Nyakianda water project was attributed to high level of CP in project budgeting. According to Baiocchi (2005) increase in the level of CP in budgeting of community water projects leads to be increased accountability and integrity of management committee members.

4.5.2 Community participation in procurement

The researcher was interested to know the extent to which the community was involved in the procurement of materials and resources for the projects**.** The respondents were therefore required to indicate their level of participation which was based on a scale of 1 to 5. The

highest level of participation was excellent = 5 and 1 =very poor. The findings of the study were analysed and summarized as shown in table 4.9.

Table 4.9: Participation in procurement

	Nyakianda water project		**Podo water project**	
Procurement	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	11	42.3	2	7.1
Poor	8	30.8	2	7.1
Satisfactory	3	11.5	6	21.4
Good	4	15.4	16	57.1
Excellent	0	0.0	2	7.1
Total	**26**	**100.0**	**28**	**100.0**

There were 18(64.2%) respondent from Podo who reported that their level of participation in procurement was good and excellent compared to 4(15.4%) for Nyakianda. The number that reported that their level of participation in procurement in Nyakianda was very poor was 11(42.3.1%). The respondents who reported that their level of participation in procurement was satisfactory in Nyakianda was at 3(11.5%), compared to 6(21.4%) for Podo water project.

The level of CP in procurement in Podo water project was higher than in Nyakianda. It was therefore evident that better performance of Podo water project in comparison with Nyakianda water project was due to the high level of CP in procurement of project goods and services. According to M. Common et. al., (1995) increase in the level of CP in procurement of community water projects leads to purchase and hiring of quality project`s goods and services. It also increases the willingness to pay amongst the beneficiaries of community water projects.

4.6 Influence of community participation in project Governance on performance of CDF funded water projects

The research study set to find-out how CP in project governance influenced the performance of the two projects. The respondents were therefore required to rate their level of participation in governance of their water project. They were to rate their level of participation in governance from 1 to 5 where 1 was very poor and 5 was excellent. The parameters chosen were CP in electing project leaders, attending transparency and accountability forums and decision making. A cross tabulation was carried out to compare the level of CP in governance in Nyakianda and Podo water projects.

4.6.1 Electing leaders

The study aimed at finding out the level of CP in electing the project leaders. Project leadership is a key factor on performance of community water projects. According to Tanga and Maliehe (2011) when the community elects the representatives to lead their projects; this increases a sense of project ownership. A cross tabulation was carried out to determine the level of CP in electing project management committee members across the two projects and the findings were summarized as shown in table 4.10.

Table 4.10: Level of CP in electing project leaders

	Nyakianda water project		**Podo water project**	
Electing project leaders	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	1	3.8	0	0.0
Poor	4	15.4	0	0.0
Satisfactory	5	19.2	2	7.1
Good	15	57.7	25	89.3
Excellent	1	3.8	1	3.6
Total	**26**	**100.0**	**28**	**100.0**

The study found out that 20(76.9%) respondents from Nyakianda water project rated their level of participation in electing project leaders between satisfactory and good. From Podo water project, 27(96.4%) respondents rated their level of participation in electing project leaders from satisfactory to good. It was therefore evident from the findings that the level of CP in electing project leaders was higher in Podo compared with Nyakianda. According to Chogul (2000) increase in the level of community participation in election of project leaders results to election of credible and experienced project leaders and hence increases the effectiveness and efficiency of community water projects.

The researcher was keen to know the level of CP in governance of CDF funded community water projects through the electing project leaders. This was important because the performance of community water projects is a direct function of leadership capabilities and integrity. According to TASAF (2005) accountability in leadership is a key success factor. Community projects` performances depend on the participation of the community in project governance through electing leaders whom are perceived to be of integrity from amongst community members.

4.6.2 Attendance of transparency and accountability meetings

The researcher was interested in knowing the extent to which community members participated in governance through commitment in attendance to scheduled transparency and accountability meetings. This was important because attendance to meetings is a sign of project ownership which according to Blair (2000) enhances better performance of community water projects. The findings were summarized and tabulated as shown in table 4.11

Table 4.3: Attendance of transparency and accountability meetings

	Nyakianda water project		Podo water project	
Accountability forums	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	9	34.6	0	0.0
Poor	7	26.9	2	7.1
Satisfactory	5	19.2	1	3.6
Good	4	15.4	25	89.3
Excellent	1	3.8	0	0.0
Total	**26**	**100.0**	**28**	**100.0**

It was evident from the research study that Nyakinda lagged behind Podo project in member's attendance to transparency and accountability meetings. According to Rogers and Hall (2002) the performance of community projects is influenced by the commitment of members on following up on project progress. More than half of the respondents from Nyakianda reported that their overall level of attendance of accountability and transparency meetings was poor. The highest number of respondents who indicated that their water project had a high level of community participation in attendance to accountability and transparency forums was Podo at 25(89.3%).

The general performance of Podo water project in effectiveness and efficiency, functionality sustainability and improvement of livelihood was ranked higher by the beneficiaries than the performance of Nyakianda water project. The better performance of the Podo water project was related to the high level of its member's participation in transparency and accountability forums while the low performance level of Nyakianda water project was associated to low level of community participation in transparency and accountability forums.

4.6.3 Key decision making

The respondents were required to indicate their level of participation in making key decisions concerning their water projects. The findings were as shown in table 4.12

Table 4. 12: Making key decisions concerning the project

	Nyakianda water project		Podo water project	
Decision making	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	2	7.7	0	0.0
Poor	9	34.6	1	3.6
Satisfactory	9	34.6	1	3.6
Good	6	23.1	26	92.9
Excellent	0	0.0	0	0.0
Total	**26**	**100.0**	**28**	**100.0**

It was evident that community participation in key decision making at Podo water project was way above that for Nyakianda. There were 26(92.9%) respondent from Podo who reported that their level of participation in key decision making at Podo water project was good compared to 6(23.1%) for Nyakianda water project. The number that reported that their level of participation in decision making at Nyakianda water project as poor and very poor was 11(42.3%). The respondents who reported that their level of participation in decision making was satisfactory at Nyakianda was 9(34.6%) compared to 1(3.6%) for Podo. Hence the low level of community participation in making key decisions concerning the projects resulted into unsustainable decisions being derived at, as indicated by the respondents.

4.7 Influence of community participation in operation and maintenance on performance of community borehole water projects

The research study sought to find out the influence of community participation in operation and maintenance on the performance of community borehole water projects. The parameters chosen for this purpose were paying cash for water bills, provision of labour services and the contribution of local materials such as land and building materials for the water projects. The respondents were therefore required to indicate their level of participation in this parameters on a scale of 1 to 5 where: 5=Very high, 4= High, 3=Moderate, 2=Low and 1=Very low.

4.7.1 Cash payment

A cross tabulation was carried out to determine the level of community participation in paying water bills and tariffs in the two water projects. The findings revealed that the payment of bills between the water projects differed significantly from each other with Podo ranking better than Nyakianda as shown in table 4.13.

Table 4.13: Making cash payments

	Nyakianda water project		**Podo water project**	
Cash payment	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	3	11.5	0	0.0
Poor	5	19.5	0	0.0
Satisfactory	1	3.8	1	3.6
Good	12	46.2	22	78.6
Excellent	5	19.2	5	17.8
Total	**26**	**100.0**	**28**	**100.0**

There were 22(78.6%) of respondents from the Podo water project who considered their level of participation in making cash payments as high, while in Nyakianda water project, 12(46.2%) and 5(19.2%) rated their level of participation in the project in making cash payments as high and low respectively. the findings revealed that on average, most of the community members highly participated in the making cash payments toward the project. According to Schouten (2006), when the community is active in contributing resources towards community water projects, better performance of the projects is enhanced. It was likely that members of Nyakianda water project had less confidence in the accountability of their project leaders compared to their counterpart in Podo water project. This explains why members of Nyakianda water project were not as keen as their counterparts in making cash payments towards their water project.

4.7.2 Labour services provision

The researcher further wanted to identify the level of community participation in provision of labor services towards the water projects. A cross tabulation of the level of community participation in labour provision across the two water project was done and the findings were summarized and captured as shown in table 4.14

Table 4. 14: Provision of labour services

	Nyakianda water project		**Podo water project**	
Provision of labour	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	12	46.2	2	7.1
Poor	3	11.5	0	0. 0
Satisfactory	3	11.5	9	32.1
Good	5	19.2	17	60.7
Excellent	3	11.5	0	0.0
Total	**26**	**100.0**	**28**	**100.0**

The findings revealed that Nyakianda was ranked very poorly in the provision of labour as reported by 15 (57.7%) of the respondents. Podo was ranked as good as reported by 22(60.7%) of the respondents who took part in digging of trenches during the implementation stage of the project. The level of CP in provision of labour was allied with the better performance of Podo water project compared to Nyakianda water project in terms of functionality, sustainability effectiveness and efficiency and improvement or livelihood.

4.7.3 Contribution of local materials

The researcher was keen to know the influence of community participation in the provision of local materials on the performance of the water projects**.** The respondents were therefore required to indicate their level of participation in providing local materials for their project. The

findings as captured in the questionnaires were summarized and tabulated as shown in table 4.15.

Table 4. 15: Contribution of local materials

	Nyakianda water project		**Podo water project**	
Provision of Local materials	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	15	57.7	6	21.4
Poor	4	15.4	2	7.1
Satisfactory	5	19.2	4	14.3
Good	1	3.8	14	50.0
Excellent	1	3.8	2	7.1
Total	**26**	**100.0**	**28**	**100.0**

The respondents whose level of provision of local materials was poor were overwhelmingly high for Nyakianda water project at 20(73.1%). The respondents whose level of provision of local materials was poor in Podo water project were 8(28.5%). Respondents who rated their level of provision of local materials at Nayakianda as Good was noted to be 2(7.6%). From the findings of the study, it were evident that Podo was ranked higher in the level of community participation in provision of local materials compared to Nyakianda hence the good performance of Podo water project compared to Nyakianda water project. The land that Podo water project was established on was noted to have being donated by one of the respondents; while the land that Nyakianda water projects was established on was purchased using funds donated by the Constituency Development Fund. The willingness of the community to donate a piece of land for establishment of Podo water project was a clear indication of the member's willingness to own the Project in contrast to Nyakianda water project. The researcher however noted that the provision of materials from community members ranked low compared to the labour and cash payments in both projects.

4.8 Level of community participation in monitoring and evaluation and its influence on performance of community Borehole projects

The research study sought to find out the influence of CP in M&E on the performance of community borehole water projects. The parameters chosen for this purpose were: the level of CP in making field visits, attending public meeting on reporting progress and accessing information on progress reporting. The respondents were therefore required to indicate their level of participation in the identified M&E parameters on a scale of 1 to 5, where 5=Excellent, 4= Good, 3=Satisfactory, 2=Poor and 1=Very poor.

4.8.1 Making field visits

The researcher was keen to know the influence of community participation in making field visits on the performance of community water projects**.** The respondents were therefore required to indicate their level of participation in making field visits. The findings as captured in the questionnaires were summarized and tabulated as shown in table 4.16.

Table 4. 16: Making field visits

	Nyakianda water project		**Podo water project**	
Field visit	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	14	53.8	2	7.4
Poor	7	26.9	0	0.0
Satisfactory	1	3.8	12	44.4
Good	4	15.4	12	44.4
Excellent	0	0.0	2	7.1
Total	**26**	**100.0**	**28**	**100.0**

The findings revealed that 21(80.7%) of the respondents from Nyakianda water project ranked their level of participation in making field visits from poor to very poor, while 2(7.4%) of the respondents from Podo rated their level of participation in making field visits as very poor and poor. The findings also revealed that 4(14.4%) of the respondents from Nyakianda water

project ranked their level of participation in making field from good to excellent , while 13(48.1%) of the respondents from Podo rated their level of participation as good an excellent. According to (Deverill et. al., 2001) when the community makes more field visits on community water projects, the performance of those projects is enhanced through assessment of ongoing project activities.

4.8.2 Attending public meetings on progress reporting

The researcher was keen to know the influence of community participation in public meetings on progress reporting on performance of the two water projects. The findings as captured in the questionnaires were summarized and cross tabulated as in table 4.17.

Table 4. 17: Access to information on project`s progress

	Nyakianda water project		**Podo water project**	
Accessing information	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	3	11.5	0	0.0
Poor	9	34.6	0	0.0
Satisfactory	5	19.2	2	7.4
Good	6	23.1	24	88.9
Excellent	3	11.5	2	3.7
Total	**26**	**100.0**	**28**	**100.0**

The findings revealed that 12(46.1%) of the respondents from Nyakianda water project ranked their level of participation in accessing information on progress reporting from poor to very poor, while none of the respondents from Podo ranked their level of participation in accessing information on progress reporting as poor or very poor. The findings also revealed that 8(34 %) of the respondents from Nyakianda water project ranked their level of accessment of project information on progress reporting as good and excellent, while 25(92.6%) of the respondents from Podo rated their level of participation as good an excellent. Carter (2010) noted that when the community actively access information on their project`s progress, sustainability of

community water projects is enhanced. The findings of the research agreed with Carter because 21(80.7%) respondents from Nyakianda water project ranked the sustainability of their project from poor to satisfactory while 25(89.2%) of the respondents from Podo water project ranked the sustainability of their project from good to excellent.

4.9 Content analysis of the interview guides for management committee members

The researcher was keen to know from the management committee members if they would attribute the performance of the projects they headed in terms of functionality, effectiveness and efficiency, sustainability and improvement of livelihood to community participation.

All the management committee members pointed that they attributed the performance of their projects to CP. The research study was also interested in knowing the challenges faced by the project leaders when engaging community members in various activities of the project. The management committee members were also asked to give their opinion on how they addressed the mentioned challenges in their water projects. The respondents were therefore asked to outline the challenges in open ended questionnaires.

One of the challenges noted was that some members lacked time to attend scheduled project`s meetings. The challenge was addressed by scheduling the meetings at member's convenience and giving the members adequate notice on meeting dates. Another challenge noted was collecting funds from members because some could not afford making some of the agreed payments. The challenge was addressed by out-sourcing funds from donors and the government-through the constituency development fund.

Suggestions given on how to enhance better performance of community water projects by the management committee members included; high integrity of committee members, increased community participation and increased funding by the government and donors.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the research findings, discussions and conclusions of the study based on the research objectives. It further presents recommendations as per the responses from the respondents. This is in relation to community participation in financial management, governance, Monitoring & Evaluation and Operation & Maintenance of Nyakianda and Podo water projects. Finally, the chapter presents suggestions for further research in related fields.

5.2 Summary of Findings

The purpose of the study was to examine the influence of community participation on the performance of community borehole Water Projects. The study area was Kerwa Sub-location, Kiambu County, Kenya.

Podo water project proved to have a higher level of performance on the four parameters used to measure the performance of community projects. An ANOVA test carried out on the parameters used as indicators of performance of the water projects revealed the differences in the performance between the two projects were quite significant ($F=17.83$, $p<0.001$).The differences were linked to the level of community participation in financial management, governance, O&M and monitoring and evaluation in the water projects.

5.2.1 Community Participation in Financial Management and its influence on performance of CDF funded rural borehole water projects in Kerwa

The first objective of the study was to investigate the influence of community participation in financial management on performance of CDF funded rural borehole water projects. It was evident that community participation in budgeting in Podo water project was way above that for Nyakianda. There were 17(60.7%) of respondent from Podo who reported that their level of participation in budgeting was good compared to 4(15.4%) for Nyakianda. There were

18(64.2%) of respondent from Podo who reported that their level of participation in procurement was good and excellent compared to 4(15.4%) for Nyakianda. The number that reported that their level of participation in procurement in Nyakianda was very poor was 11(42.3.1%). It was therefore evident that better performance of Podo water project in comparison with Nyakianda water project was linked to the high level of community participation in project budgeting and procurement.

5.2.2 Community Participation in Governance and its influence on influence on performance of CDF funded rural borehole water projects in Kerwa

The second objective of the study was to examine the influence of community participation on the performance of community water projects funded by CDF in Kerwa. Governance was measured using the level of participation in electing leaders, attendance to accountability meetings and decision making. The findings revealed that Podo had a higher level of community participation of project governance compared Nyakianda. Respondents from Podo water project indicated that participation in electing leaders was very good as reported by over 90% of respondents compared to Nyakianda that scored slightly more than 60 % on the same parameter. The varying level of CP in Governance between the two groups was linked to the varying performance of the two projects with over 80% of the respondents from Podo water project rating the general performance of the project as good.

5.2.3 Community Participation in operation and maintenance and its influence on performance of CDF funded rural borehole water projects in Kerwa

The third objective of the study was to assess how community participation in O&M influence influenced the performance of CDF funded rural borehole water projects in Kerwa. The parameters used as indicators of CP in O&M was the payment of cash bills, provision of labor and the supply of local materials for the project. The key findings revealed that a high percentage (73%) of respondents from Nyakianda considered their level of participation in the supply of materials as poor, while 57% of the respondents from Podo reported that their level of supply of materials was good. It was therefore evident that better performance of Podo water project in comparison with Nyakianda water project was due high level of community participation in O&M.

5.2.4 Community Participation in Monitoring and Evaluation and its influence on performance of CDF funded rural borehole water projects in Kerwa

The last objective of the study was to examine how community participation in monitoring and evaluation of community water projects influenced their performance. The researcher revealed that the level of community participation in monitoring and evaluation was higher in Podo compared to Nyakianda water project. Two parameters were used; field visits and attending meetings on progress reports.

Attendance to field visits was considered poor by more than 80% of respondents from Nyakianda compared to 88.8% from Podo who ranked attendance to field visits as satisfactory and good. It was therefore evident that better performance of Podo water project in comparison with Nyakianda water project was due high level of community participation in M&E.

5.3 Discussion of Findings

5.3.1 Community Participation in the financial management and its influence on performance CDF funded rural borehole water projects in Kerwa

The study observed that there was low level of community participation in budgeting and procurement in Nyakiada water project and hence the low ranking of its performance in: functionality, sustainability, effectiveness and efficiency and improvement of livelihood. On the other hand, the level of CP in budgeting and procurement in Podo water project was ranked high by the respondents and hence the better performance of the project in comparison with Nyakianda water project.

According to Baiocchi (2005) participatory budgeting process in Community water projects produce actual welfare effects by improving the effectiveness of public investments, emphasizing a pro-poor orientation and reducing possibilities for ‘pork-barrel politics’ and other forms of clientelistic policy-making processes.

5.3.2 Community Participation in Governance and its influence on performance of CDF funded rural borehole water projects in Kerwa

The study observed that there was a low level of community participation in making key decisions and attending of transparency and accountability forums in Nyakianda water project and hence the low ranking of its performance in: functionality, sustainability, effectiveness and efficiency and improvement of livelihood. On the other hand, the level of CP in making key decisions and attending transparency and accountability forums in Podo water project was ranked high by the respondents and hence the better performance of the project in comparison with Nyakianda water project.

According to Briscoe and De Ferranti (1998) governments and donors should create an environment in which the local community and the private sector could assume the role of providing water supplies. For governance at this scale to be effective, it requires an environment, which promotes a bottom-up approach to development and encourages participation of a community at the lowest level in development projects. In a study conducted by Zooneveld (2001) in assessing CP in local governance, it was found that participation worked better when citizens felt they would have a direct impact on local governance or when the initiative had concrete aims that were likely to have a direct positive impact on their daily lives.

5.3.3 Community Participation in the Operation and Maintenance and its influence on performance CDF funded rural borehole water projects in Kerwa

The study observed that the level of community participation in O&M in Nyakianda water project was generally low. This was linked to the fact that majority of the respondents felt that the projects resources were not utilized effectively and efficiently to achieve the objectives of the project. A high percentage of the respondents from Podo water project indicated that their level of participation in the operation and maintenance of the project was high in comparison with Nyakianda water project. However, many respondents reported a low level of provision of local material from both projects.

According to Schouten (2006) Community mobilization efforts should mostly be directed towards enhancing community involvement and promoting a sense of responsibility and

ownership of community borehole water projects. He further noted that while community ownership does not in any way resolve the challenge of ensuring boreholes sustainability, it creates the avenue for social mobilization for communities to be passionate about the continuous functioning of their boreholes and being prepared to take absolute responsibility.

5.3.4 Community Participation in monitoring and evaluation and its influence on performance CDF funded rural borehole water projects in Kerwa

It was observed from the study findings that there was a low level of community participation in making field visits, accessing information of progress reporting and attending meetings on progress reporting in Nyakianda water project compared to Podo water project.

Reporting the progress of borehole water projects to the beneficiaries enhances transparency and accountability. The community develops trust with the project management and they can willingly contribute funds for the operation of the projects and this makes the projects to be sustainable. Carter (2010) noted that community participation in water supply and sanitation services in assessing their progress is critical for their sustainability. Project progress reporting meetings should be held regularly and the local community mobilized to actively participate. He also noted that the community should be offered a chance to query on the progress of the borehole water projects because this reduces chances of misappropriation of project funds.

5.4 Conclusions

The research findings support the view that the level of community participation greatly influences the performance of community water projects. To succeed in their objectives, community projects members need to be sensitized on the need to actively participate the monitoring and evaluation of their projects as a way of enhancing efficiency and accountability. Participation in electing of leaders, budgeting and procurement need to be encouraged to increase performance in community projects in general. Stakeholders should put mechanisms in place to ensure credible and competent leaders are elected and trained on project management skills.

5.5 Recommendations

The following recommendations were informed by the study findings:

(i) The local community should be mobilized so as to build an interest in participating during project activities. Mobilization should start at the initial stage of project conceptualization. Frequent facilitation, support and monitoring from relevant institutions at different levels of project development are important and highly recommended so as to guarantee project sustainability.

(ii) Training and capacity building programmes are needed in which facilitators who are identified and trained by the Department of Social Services can interact with and exchange ideas with local communities and, at the same time, instill new ideas. The training should be broad and touch on all areas relating to development, not narrowly on project identification and implementation. Once rural communities have been sensitized and encouraged to take the initiative in this direction, external support could be sought for more capacity building.

(iii) Policymakers of development projects and project managers need to ensure that communities are not only involved in the development process, but are also encouraged by development committees at divisional and location levels (community-based development agencies) to alter their current low participation which inhibits their development. If the declining rural economy is to be revived, all officials at all levels must begin by informing the rural population of what is happening and by guiding them towards full participation in projects meant for their own welfare. This should go beyond the rural household to grass root levels, schools and tertiary institutions of learning. In order to guarantee sustainability of this spirit and motivate the rural people. Policymakers and project managers now need to devise ways of invoking more participation and ensuring that participation is sustained.

(iv) The project operation and maintenance agencies must accept the challenge for project sustainability and carry the whole community along. The leaders must be

out-rightly accountable and answerable to beneficiaries rather than to political and bureaucratic superiors. The records should be well documented in a simple language and accessible to every member of the community.

(v) The project leaders should also be transparent in their dealings with the members of the community and call for regular meetings where the people are briefed on the sustainability efforts and challenges ahead. Therefore, the suitability of infrastructure projects depends crucially on an enabling institutional environment which requires government commitment and accountability of the implementing agencies to the local communities.

5.6 Suggestions for Further Research

(i) An assessment of community capacities to sustain infrastructure projects should be undertaken.

(ii) Research on how capacity building has been incorporated in the education curriculum should be undertaken in an effort to ensure that the community get empowered to participate in development projects through the school curriculum.

(iii) The influence of project management skills on performance of other community projects such as environmental protection, economic initiatives among others.

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APPENDICES

Appendix I: Letter of Transmittal

Kimani David Njogu
P.O. Box 111
Kikuyu

June/July, 2014
0726944318

Dear Sir/Madam,

RE: INFLUENCE OF COMMUNITY PARTICIPATION ON PERFORMANCE OF CONSTITUENCY DEVELOPMENT FUNDED RURAL BOREHOLE WATER PROJECTS, KERWA SUB-LOCATION, KIAMBU COUNTY, KENYA

I am a student at the University of Nairobi (Reg. No. L50/82673/2012). I am undertaking a study that seeks to investigate the **influence of community participation on performance of constituency development funded rural borehole water projects in Kerwa sub-location, Kikuyu constituency, Kiambu County, Kenya.**

You have been selected to provide information on your level of participation in the borehole water project and how these influence the performance of the project. This is to request for your participation in responding to the attached questionnaire. Please be assured that any personal information will be treated with utmost confidentiality and will be purposely used for this study only.

Yours faithfully,

Kimani David Njogu.

Appendix II: Questionnaire for Household Representatives

Instructions

You are not required to fill in your name.

All information given will be treated with utmost confidentiality.

Please fill in your answer on the provided space(s) or tick (√) accordingly.

Part I: General information.

1. Kindly tick (√) your borehole water project

(i) Podo ☐

(ii) Nyakianda ☐

2. Kindly indicate your gender

(i) Male ☐ (ii) Female ☐

3. For how long have you been served by the project?

(i) Less than 3 year ☐ (ii) 4-7 years ☐ (iii) 8- 11 years ☐ (iv) 12- 15 years ☐

(v) 16- 19 years ☐ (vi) 20 and above years ☐

4. Please tick (√) the number that best describes the general performance of the project in the following areas:

KEY

5=Excellent, 4=Good, 3=Satisfactory, 2=Poor, 1=Very poor.

Project performance in:	**1**	**2**	**3**	**4**	**5**
Effectiveness and efficiency (usage of finances for the right propose)					
Functionality (providing quality and constitent water)					
Sustainability (providing quality and constitent water for a pro-longed period of time)					
Improving your livelihood (making your life better)					

Part II: Community Participation in management of Community Borehole Water Projects finances.

5. Please tick (√) the number that best describes your level of participation in the following project Financial management activities.

KEY: 5=Excellent, 4= Good, 3=Satisfactory, 2=Poor, 1=Very Poor

Activity	**1**	**2**	**3**	**4**	**5**
Budgeting					
Procurement (purchase of project goods and services)					

Part III: Community Participation in Governance of Community Borehole Water Projects

6. Please tick (√) the number that best describes your level of participation in the following project Governance activities

KEY: 5=Excellent, 4= Good, 3=Satisfactory, 2=Poor, 1=Very poor

Activity	**1**	**2**	**3**	**4**	**5**
Electing project leaders					
Attending transparency and accountability meetings					
Making key decisions concerning the project					

Part IV: Community Participation in Operation and Maintenance of Community Borehole Water Projects.

7. Please tick (√) the number that best describes your level of participation in Operation and Maintenance of the project

KEY: 5=Excellent, 4= Good, 3=Satisfactory, 2=Poor, 1=Very poor

Activity	**1**	**2**	**3**	**4**	**5**
Paying cash (tariffs/ water bills)					
Providing labour services					
Contributing local materials such as building materials, land, among others.					

Part V: Community Participation in Monitoring and Evaluation of Community Borehole Water Projects

8. Please tick (√) the number that best describes your level of participation in the following project Monitoring and Evaluation activities.

KEY: 5=Excellent, 4= Good, 3=Satisfactory, 2=Poor, 1=Very poor

Activity	**1**	**2**	**3**	**4**	**5**
Making field visits					
Attending public meetings on reporting progress					
Accessing information on progress reporting					

Thank you for participating in this research!!

Appendix III: Interview Schedule for Management Committee Members

1. Name of the borehole water project.....

2. Please tick (√) the number that best describes the general performance of the project in the following areas:

   KEY

   5=Excellent, 4=Good, 3=Satisfactory, 2=Poor, 1=Very poor.

Performance of the project in:	**1**	**2**	**3**	**4**	**5**
Effectiveness and efficiency (usage of finances for the right propose)					
Functionality (providing quality and constitent water)					
Sustainability (providing quality and constitent water for a pro-longed period of time)					
Improving your livelihood (making your life better)					

3. (a) Can you relate the level of achievement of the project objectives to community participation?

   (a) YES ☐ (b) NO ☐

   (b) If yes, please tick (√) the number that best describes the level of community participation in the following project activities

   KEY: 5=Excellent, 4= Good, 3=Fair, 2=Poor, 1=Very poor

Activity	**1**	**2**	**3**	**4**	**5**
Project financial management					
Project governance					
Project operation and maintenance					
Project monitoring and evaluation					

4. What challenges do you face when engaging the community to participate in various project activities?

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5. How do you overcome the above mentioned challenges?

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6. In your own opinion, how can better performance of community water projects be enhanced?

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Thank you for participating in this research!!

Appendix IV: CDF Funded Borehole Water Projects, Kikuyu Constituency Kiambu County, Kenya

THE COMMUNITY BOREHOLE WATER PROJECTS FUNDED BY THE KIKUYU CDF IN KERWA SUB LOCATION

	Project Name	Sub-Project/Activities	Location	Financial Year	Allocations Kshs	Disbursement Kshs	Implementation Status(*Not started,on-going, completed, stalled*	Remarks
1	Thamanda -Nguriunditu Water	Purchase of two tanks	Sigona	2011/2012	453,862	453,862	Complete	
		Purchase of two tanks		2011/2012	1,000,000	1,000,000	Conditional Grant	
				2013/14	1,000,000	0	Piping	
2	Kerwa Water Project	Purchase of pump and tanks	Sigona	2011/2012	1,000,000	1,000,000	Complete	
3	Podo water project	Completion of pump house and purchase of pump		2003/2004	200,000	200,000		
				2006/2007	165,000	165,000	Complete & in use	
4	Nyakianda Water Project	Drill bore hole, pump house and purchase of pump	Sigona	2004/2005	800,000	800,000		
				2006/2007	400,000	400,000		
				2007/2008	1,000,000	1,000,000	Complete & in use	
5	Gacuthi water project	Drilling borehole, installation of pump, purchase of tank and piping	Sigona	2007/2008	800,000	800,000		
				2009/2010	1,118,512	1,118,512		
				2011/2012	500,000	500,000		
				2013/2014	1,200,000	0	Ongoing	Piping & tank for Gikira

KIKUYU CONSTITUENCY DEVELOPMENT FUND COMMITTEE
01 APR 2014
P. O. BOX 167 KIKUYU

Appendix V: Introductory letter

UNIVERSITY OF NAIROBI
COLLEGE OF EDUCATION AND EXTERNAL STUDIES
SCHOOL OF CONTINUING AND DISTANCE EDUCATION
DEPARTMENT OF EXTRA-MURAL STUDIES
NAIROBI EXTRA-MURAL CENTRE

Your Ref:

Our Ref:

Telephone: 318262 Ext. 120

Main Campus
Gandhi Wing, Ground Floor
P.O. Box 30197
N A I R O B I

7th July, 2014

REF: UON/CEES/NEMC/18/351

TO WHOM IT MAY CONCERN

RE: KIMANI DAVID NJOGU – REG NO L50/82673/2012

This is to confirm that the above named is a student at the University of Nairobi College of Education and External Studies, School of Continuing and Distance Education, Department of Extra- Mural Studies pursuing Master of Arts in Project Planning and Management.

He is proceeding for research entitled **"influence of community participation on performance of constituency development funded rural borehole water projects".** A case of Kerwa Sub-Location, Kiambu County, Kenya.

Any assistance given to him will be appreciated.

UNIVERSITY OF NAIROBI P. O. Box 30197 NAIROBI NAIROBI EXTRA-MURAL CENTRE

CAREN AWILLY
CENTRE ORGANIZER
NAIROBI EXTRA MURAL CENTRE

Appendix VI: Photos of Nyakianda and Podo water projects at site

Appendix VII: Administrative Area of Kerwa Sub-location, (Kenya)