

**INFLUENCE OF COMMUNITY BASED PROJECTS' MANAGEMENT ON
SUSTAINABILITY OF COMMUNITY BASED PROJECTS: A CASE OF
ITABUA-MUTHATARI COMMUNITY WATER PROJECT IN EMBU COUNTY.**

BY

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**A research project report submitted in partial fulfillment for the requirements of
the award of the degree of Master of Arts in Project Planning and Management of
the University of Nairobi.**

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DECLARATION

This research project report is my original work and has not been presented for a degree or other award in any other University.

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DEDICATION

I dedicate this research project report to my husband Benson Kinyua for his encouragement and moral support, and to my lovely children, Belinda Gatwiri and Austin Mwirigi for their steadfast love and resilience despite the long absence of their mother due to work and studies.

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ABBREVIATIONS AND ACRONYMS

CBO	- Community Based Organization
CWP	- Community Water Project
EWASCO	- Embu Water and Sanitation Company
GOK	- Government of Kenya
HCM	- Human Capital Management
HWT	- Household Water Treatment
ICRAF	- World Agroforestry Centre
IFAD	- International Fund for Agriculture
IGA	- Income generating activities
KaRWUA	- Kapingazi River Water Users Association
M&E	- Monitoring and Evaluation
NGO	- Non Government Organizations
OMES	- Office of Management and Enterprise Services
SPSS	- Statistical Package for Social Sciences
UNDP	- United Nations Development Programme
WRMA	- Water Resources Management Authority
WVLC	- Water virtual learning centre

ABSTRACT

Community based projects are the much needed vehicle which the poor and marginalized members of society use in order to attain financial independence. Community based organizations serve to bridge the gap between the ‘haves’ and the ‘have-nots’ of the society. Studies have reported that community organizations face major challenges which include poor leadership, inadequate skills and under-capitalization. The study assessed the influence of Itabua-Muthatari community water projects’ management on sustainability of the community based project in Embu Sub County, Embu County. The objectives of the study were: to establish the influence of capacity building on sustainability of community based projects, assess the influence of accountability on sustainability of community based projects and to assess the influence of stakeholders’ participation on sustainability of community based projects. The theoretical framework of this study was derived from the resilience theory. The study used descriptive survey design. The population of the study was 1019 members and a sample of 285 respondents was picked. The sample was picked using simple random sampling. Questionnaire was used to collect data. Ten (10) Itabua-Muthatari water project members were used for Pilot testing before the commencement of the study. Data analysis was done using Statistical Package for Social Sciences (SPSS). Descriptive statistics was computed and data was presented using tables. The study found that water project members should be trained on water harvesting techniques, water use and management, horticulture, dairy farming, green house farming and group leadership. The management should use the right procurement procedures, prepare and present financial reports to members, audit books of accounts as required, inform members of the financial transactions of the project in an accountable and transparent manner. Active stakeholders influence the management to be accountable and transparent management and make it to use the right procurement procedures. Monitoring and evaluation influence sustainability of community based projects as indicated by 59 % of members who strongly agreed that the monitoring and evaluation enhance sustainability of projects, accountability, transparency and sustainability of projects. Plans for M&E should be developed at the same time and integrated with plans for the whole project. The generated information would help government departments, NGOs and private sector dealing with community projects to be able to understand the influence of capacity building, accountability, stakeholder participation and M&E on sustainability of community project

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The World Health Organization (WHO) statistics, it is estimated that about 1.1 billion people in the world do not have access to safe water (WHO and UNICEF, 2010). The United Nations' states that by 2025, 1.9 billion people will be living in countries or regions with absolute water scarcity, and two-thirds of the world population could be under stress conditions (UN, 2009). The Global Water Initiatives workshop on impacts of Mega Conferences on Global Water Development and Management of 2005 indicated that water transcends national boundaries and must be managed cooperatively and equitably, using the best science available. The emerging water culture is about sharing water and therefore there is a need to look for a more effective and equitable management of the resource through increased cooperation (Varady and Shih, 2005). The study on governance and community based approaches by United Nations virtual learning centre in 2008 indicated that bringing together institutions leading with surface water and aquifer resources, calling for new legislative agreements all over the world, increasing public participation and exploring alternative dispute resolutions are all part of the process. The water laws ensure that there is responsible use of water, prevent overuse of water that may lead to habitat destruction, ensure that the diluting capacity of water bodies and aquifers is maintained, provide mechanisms to deal with water during extreme events (floods and droughts) and finally provide a legal framework to achieve water use objectives and prevent conflicts between different water uses. To enforce the water rules the community has formed community based organizations with governance structures to ensure efficient and effective use of water resources. The community based organizations have established governance structures.

Wanjohi (2013) in his study on sustainability of community based projects in developing countries indicated that the history of Community Based projects (CBPs) lies way back during the American Civil War, whereby charity groups were designed to offer assistance to those who were displaced, disabled, or impoverished by the war. It was during the

period between 1980s and 1990s, when CBPs expanded to a point that they were being referred to as a movement and the process of community organizing expanded into many community organizations. The main difficulty that emerged during this period was the shifting of power from local communities to regions, nations and international corporations. The process of globalization raised issues about the efficacy of local organizations in addressing problems caused by large-scale financial forces, thus the foundation of national and international organizations.

Abdalla (2008) in his study on poverty and inequality in urban Sudan reported that social resources lie along a spectrum, from visible institutions such as registered community-based organizations (CBOs), through unregistered groups of personal friends, to the least visible familial relations. Given that policies and programmes are increasingly seeking to engage and utilize resources within civil society, associations and groups beyond the ties of immediate family, whether registered or unregistered, are of particular interest in their potential to provide protection for households from poverty and other vices. Such organizations are likely to include both those that are intended at impacting on household-level expenditure levels and affordability and those that are not. The successes and challenges that indigenous social arrangement and pre-payment and risk-sharing mechanisms have are likely to offer important lessons for, and potential entry points for working with civil society. At group level, organizations are self identified sets of persons with some common interests such as neighborhood, occupation or gender. At community level, organizations are relatively self-contained socio-economic residential units and at locality level they are sets of communities having socio-economic relations. Molyneux (2007) argued that organizations operating at different levels incorporate different boundaries of activities and decision making, with many non-government organizations (NGOs) now preferring to work through locality-level organizations.

Kenya Vision 2030: First Medium Term Plan (MTP) 2008-2012 outlines the consensus on policies, reform measures, projects and programmes that the Kenyan Government is committed to implement during 2008-2012. This plan constitutes the first phase in the implementation of Kenya Vision 2030, whose aim is to transform the country into a modern, globally competitive, middle income country, offering a high quality of life for

all citizens by the year 2030. One major leading projects that the government has prioritized for implementation is wealth creation to reduce income disparities; it is geared towards reducing inequality occasioned by lack of access and affordability of public services and to create income-earning opportunities across gender, social status and regions. A key strategy to attaining this goal is to target more wealth creating opportunities for disadvantaged groups and regions through increased infrastructure spending in the sub-sectors of roads, water, sewerage, communications, electricity targeting poor communities and regions; and availability of affordable and accessible credit and savings programmes.

In Kenya, CBOs began as self-help groups in the years of 1960s when the first president of Kenya, Mzee Jomo Kenyatta began to encourage grassroots growth through coming together in the spirit of what was referred to as Harambee This spirit was based on the understanding that one could not be able to carry out plans or actions by him/herself but would require a certain contribution from the other members of the society. The Harambee spirit kept most of the self-help groups growing (Writers Bureau Center, 2013). Wanjohi (2013) stated that it is estimated that there are around 40,000 CBOs in Kenya. Most of these organizations are membership based organizations that offer services to their members as much as they give back to the society. They are often non-profit organizations which are based locally within the communities and they play a critical role in creating a ground for individuals to share their problems and resources. Sasu (2005) reported that community based organizations serve to bridge the gap between the 'haves' and the 'have-nots' of the society. The main sources of finance for these organizations are contributions from the members of the organization, society and donors.

Community based organizations have been organized as a loosely help group of friends without the much need professional running, financial literacy, record keeping, prudent utilization of resources which are alien to this groups. They were simply running on trust, but nowadays self help groups have become part and parcel of most marginalized and poor members of the society. Laxman (2001) the community based organizations self help groups are really a boon in the rural areas which give financial autonomy to the rural

people and make them economically independent. The community based organizations have become a platform for exchange of experiences and ideas since the groups' members have tremendous energies to start their own enterprises given the right opportunities; they have developed self confidence and self esteem through self help groups. Chen (1996) reported that self help groups pose interesting challenges as well as some positive aspects to its members. Some of the challenges include, negative peer pressure linked to loan repayment, emotional stress mostly against women who are members of this self help groups and also violence against women whose husbands tend to find them independent from financial needs.

Wangari (2014) in her study on factors Influencing Performance of Self Help Groups in Embu County reported that community based organizations are the much needed vehicle which the poor and marginalized members of society will use in order to attain financial independence. They argue few years to come members of community based organizations will be doing as well as the bankable population. This they will do by acquiring property such as land, running business and accessing good medical care. Okwemba (2011) reported that if community based organizations are given financial assistance, most members of can progress well. Wijayaratna (2004) the study showed that rural communities that are well organized have better chances to develop such opportunities as access to loans by means of self-organization and the generation of community based income activities. This income generating activities make them gain funds from which the loans are derived.

Wanjohi (2013) reported that CBPs have been known to face a number of challenges in running their programs. A study conducted on the sustainability of community based projects in Kenya revealed that the major challenges that these organizations face include poor leadership, inadequate skills and under-capitalization (Wanjohi, 2010), the study showed that there is a vast gap between these organizations and donors. Thus, unless these organizations are strategically positioned, it is very difficult for them to address not only the critical issues facing communities today but also the very challenges threatening their own survival.

Grembergen and Haes (2008) in the study on structures for information technology governance, in Antwerpen, Belgium indicated that governance refers to how the organization controls its actions and mechanisms to ensure that constituents follow established processes and policies. It is Primary means of maintaining oversight and accountability in a loosely coupled organizational structure. Proper governance strategy implements systems to monitor and record what is going on, takes steps to ensure compliance with agreed policies, and provides for corrective action in cases where the rules have been ignored or misconstrued. Good governance also ensures that the stakeholders communicate their interests, their input is absorbed, decisions are taken and implemented, and decision makers are held accountable. Proper governance strategy implements systems to monitor and record what is going on, takes steps to ensure compliance with agreed policies and provides for corrective action in cases where the rules have been ignored or misconstrued. Nowlan (2010) reported that water governance therefore consists of a range of political, organizational and administrative processes through which communities articulate their interests, their input is absorbed, decisions are made and implemented, and decision makers are held accountable in the development and management of water resources and delivery of water services.

World Agro forestry Centre (2012) a study on the drivers of land use changes in Upper Tana Basin, Kenya, reported that Kapingazi river basin draws its water from Mt. Kenya which is one of the country's most important water towers. The Kapingazi basin is divided into three zones: the upmost area being forest zone, followed by the tea zone then the coffee zone which is part of the Embu municipality (Embu Sub County). The problems of the basin started in the 1980s when the Shamba system was practiced in forest reserves. Communities living around Mt. Kenya forest were allowed to farm in the forest on condition that they care for young trees. After a while, the system appeared to fail in curbing deforestation because more land was being cleared for agriculture. The failure of the Shamba system brought about degradation of the forest and affected the sources of many rivers including the Kapingazi. By the year 2002, the river flow was very low and inadequate for its many users. This development brought with it many calamities. The first one was that, as the river is the source for Embu town water supplies,

water shortages caused an outbreak of typhoid which claimed several lives. The community living in the basin did not have water to use and there was a public outcry. These events led to the formation of the Kapingazi River Water Users Association (KaRWUA) as a forum to address the crisis.

In 2004, International Fund for Agriculture (IFAD) supported a project to mitigate this crisis: MKEPP-NRM which covered five districts on the eastern slopes of Mt. Kenya namely Embu, Meru South, Meru Central, Mbeere and Tharaka. MKEPP-NRM's key objective was to conserve natural resources. Through this effort, the base flow improved and became reliable for water supply in the basin. As part of the basin's rehabilitation, farmers were taught best practices to employ in their farms and to stop river bank encroachment. In the forest zone, the Shamba system practice was stopped and the source of the river was rehabilitated. The Kapingazi River system has six major water projects, that is, Kithimu Kithegi water project, Nthambo Njukiri water project, Embu Water and Sanitation Company (EWASCO), Embu Agriculture Staff Training College water supply, Kamiu Kavanga water project and Itabua Muthatari water project. After rehabilitation, the river has continued to support the above projects. There is therefore a need to carry out a study to assess the influence of community based projects management on sustainability of community based projects: a case of Itabua-Muthatari water project in Embu Sub County.

1.2 Statement of the problem

Wanjohi (2013), reported that community based projects have greatly increased in Kenya with their total number being around 40,000 and they are contributing directly or indirectly towards the economic development of rural areas. The main objective of community based project is to improve the economic development of men and women and create facilitating environment for their social transformation. According to Sird (2009), most members in the rural areas and who consist mainly of low cadre in terms of income face extreme challenges when it comes to managing their groups and this limits them from achieving their objective of providing their services to beneficiaries. A study conducted by Wabwoba (2012) on the sustainability of community based projects in Kenya indicated that the major challenges that these organizations face include poor

leadership, inadequate skills and under-capitalization. Further, the study showed that there is a vast gap between these organizations and donors. Thus, unless these organizations are strategically positioned, it is very difficult for them to address not only the critical issues facing communities today but also the very challenges threatening their own survival.

Khwaja's (2001) study on projects managed by communities in Kenya suggests that projects managed by communities are more sustainable than projects managed by local government. However, studies carried out on these water institutions and projects concluded that they were not performing to their expectations due multiple challenges and constraints they experience. This is supported by a study carried out by Water Services Board in Kisumu, Nairobi and Mombasa on Water Service Providers which concluded that only 9 out of 55 Water Service Providers (WSPs) provide continuous water supply to their clients. Consumers complained of underperformance of their service providers in terms of inaccurate billing and metering, pipe bursts, illegal connections, poor workmanship on installations, Vandalism, over charging and corruption (WASREB, 2009). However there have been little studies on how the above challenges and constraints influence sustainability of the community projects and specifically on how management factors influence community based projects sustainability. This study therefore intended to establish the influence of community based projects' management on sustainability of community based projects: a case of Itabua-Muthatari community water project in Embu Sub County.

1.3 Purpose of the Study

The purpose of the study was to assess the influence of community based projects' management on sustainability of community based projects: a case of Itabua-Muthatari community water project in Embu Sub County, Embu County.

1.4 Objectives of the Study

The specific objectives of the study were:

1. To determine the influence of capacity building on sustainability of community based projects in Embu Sub County.

2. To assess the influence of accountability of management on sustainability of community based projects in Embu Sub County.
3. To assess the influence of community based projects stakeholders' participation on sustainability of community based projects in Embu Sub County.
4. To determine the influence of monitoring and evaluation on sustainability of community based projects in Embu Sub County.

1.5 Research Questions

The study sought to answer the following research questions:

1. To what extent does capacity building influence the sustainability of community based projects in Embu Sub County?
2. How does accountability of management influence sustainability of community based projects in Embu Sub County?
3. To what extent does community based projects stakeholders' participation influence sustainability of community based projects in Embu Sub County?
4. How does monitoring and evaluation influence sustainability of community based projects in Embu Sub County.

1.6 Significance of the Study

The research findings generated new information which would help government departments dealing with community projects to be able to understand the influence of community based projects' management on sustainability of community projects. The generated information will also help government departments and private sector to come up with interventions which will improve the performance of community projects and thus alleviate poverty, achieve food security and achieve vision 2030. The study is also useful to future scholars as it will also add to the existing body of knowledge. The study will help policy makers in planning for education systems for technical institutions.

1.7 Limitations of the study

Time and resources was the limitations in this study. The researcher used the available time and resources wisely and hence the study was completed. A descriptive survey design could lack control over a long time frame and lead to low response rates. To avoid

this limitation, the questionnaires were administered, filled and picked the same day. In cases where the respondents were not available, the questionnaires were left and picked after two to three days.

Some respondents had low Literacy level and some had difficult in filling the questionnaires. This was overcome by use of the local language and the researcher interpreting every question when requested.

1.8 Delimitations of the study

The study focused on the influence of community based projects' management on sustainability of community projects in Embu Sub County, Embu County. The study population was all Itabua-Muthatari water project self help groups in Embu Sub County. The study used a descriptive survey design because the researcher aimed at looking at the phenomena, events and issues the way they are. Questionnaires were used in this study because a large population of all Itabua-Muthatari water project self help group members were considered.

1.9 Basic Assumptions of the study

The study assumes that all respondents were available and would answer the questions correctly without any bias.

1.10 Definition of significant terms

The following were the significant terms which were used in this study

Management Accountability

The obligation of an individual or organization to account for its activities, accept responsibility for them, of money and other entrusted property; and to disclose the results in a transparent manner.

Capacity building

It is the planned development or increase in knowledge, output rate, management skills and other capabilities of the group through acquisition, incentives, technology and training.

Community livelihood projects	These are projects carried out by the community for their up keep. These projects generate either income or other forms of benefits to the community for their living.
Community projects	This is a term applied to any community-based project. These are activities carried out by the community for example Welfare community projects, community development projects.
Governance	It refers to the establishment of policies and continuous monitoring of their proper implementation, by the members of the governing body of an organization. It includes the mechanisms required to balance the powers of the members and their primary duty of enhancing the prosperity and viability of the organization.
Management committee	It is a committee of managers or senior members of an organization who are in charge of directing that organization
Stakeholder participation	There are many definitions of stakeholder participation, but the underlying principle is that of incorporating the concerns, needs and values of stakeholders into decision making. It is the involvement of partners or collaborators in to the group activities.
Monitoring and Evaluation	It is a process that helps improving performance and achieving results. Its goal is to improve current and future management of outputs, outcomes and impact.

Sustainability

It is the ability or capacity of something to be maintained or to sustain itself. It's about taking what we need to live now, without jeopardizing the potential for people in the future to meet their needs.

1.11 Organization of the study

This study had five chapters. Chapter One covered the background of the study, statement of the problem and purpose of the study. This was followed by research objectives, research questions, justification of the study, limitations of the study, delimitations of the study, significance of the study, definition of significant terms and concludes with the organization of the study.

Chapter Two covered literature review from various sources to establish work done by other researchers, their findings, conclusions and identification of knowledge gaps which forms the basis of setting objectives and research questions of the study. The theoretical and conceptual frameworks were also explained.

Chapter Three covered the research design, target population of the study, sample size and sampling procedures. This was followed by data collection procedures, data collection instruments, validity of instruments, reliability of instrument, data analysis techniques, ethical considerations and concludes with operational definition of variables.

Chapter Four covered findings from data analysis, presentation of findings and interpretation of findings. It was concluded with summary of the chapter.

Chapter Five covered the summary of findings, discussion, conclusions and recommendations of the study. It was concluded with suggested areas for further research and contribution to the body of knowledge.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presented a review of empirical literature on the influence of community based projects' management on sustainability of community projects look as from global and local perspectives. The chapter also presented the theoretical frame work and conceptual framework on which the study was based.

2.2 Sustainability of community projects

Globally, community based groups in India reach almost 33 million household and provides loans, empowerment and social services in addition to limited, largely compulsory, saving mechanisms. In a well managed programs, community based groups can be profitable and many are. High income from loan portfolios and low operating expenses enabled most self-help groups be profitable (Dadhich, 2010). Manimekalai and Rajeswari (2009) indicated that in Bangladesh, the role of the external promoting agency is vital for motivating, nurturing and equipping the group to reach the stage of self-reliance. However, whether it is the government or voluntary organization, the role of the promoting agency is not confined to mere mobilization of rural people. The agency is also to inculcate in them a spirit of self-help and mutual help and a profound understanding of the mission and goals of self-help group (Majumdac 2009).

The concept of sustainable development initially appeared in relation to the environmental issues, whereas lately it “has become widely used to stress the need for the simultaneous achievement of development and environmental goals” (Mitlin and Satterthwaite, 2001). It refers to the commitment to ensuring that people's needs are met on the long term. Sustainable development basically reaches so many different aspects of development or of human activities that have to be sustained, that is, economic growth or ‘human’ development or achieving social and political sustainability. Ever since the Earth Summit in 1992, we speak of ‘social sustainability’, ‘economic sustainability’, ‘community sustainability’, as part of sustainable development”. Mitlin and Satterthwaite

(2001) stated the achievement of most of the social, economic and political goals which are part of 'sustainable development' requires fundamental changes to social structures including changes to government institutions and in many instances, to the distribution of assets and income". "A discussion of sustainable development might be discussing how to sustain a person's livelihood, a development project, a policy, an institution (organization), a business, a society or some subset of a society (community'), culture or economic growth. It may also be focusing on sustaining a nation, a city or a region (Mitlin and Satterthwaite, 2001).

In Kenya, Wanjohi (2013) reported that there are around 40,000 CBOs. Most of these organizations are membership based organizations that offer services to their members as much as they give back to the society. They are often non-profit organizations which are based locally within the communities and they play a critical role in creating a ground for individuals to share their problems and resources. These organizations serve to bridge the gap between the „haves“ and the „have-nots“ of the society. The main sources of finance for these organizations are contributions from the members of the organization, society and donors. When implementing projects, sustainability is a key factor. It starts with organizations vision and mission. When the leaders of a community based organization share a powerful vision and a clear mission, the non-governmental organization (CBO) has a much better chance to be successful. Without a vision, community based organization a non-governmental organization will find it hard to inspire others to join its cause. An ill-defined mission leaves community based organization without focus and direction. Community based organization with unclear missions often dissipate their energy in many unrelated projects or activities, leaving little impact. Wanjohi (2010) further indicated that community based projects have been known to face a number of challenges in running their programs. A study conducted on the sustainability of community based projects in Kenya revealed that the major challenges that these organizations face include poor leadership, inadequate skills and under-capitalization. Further, the study showed that there is a vast gap between these organizations and donors. Thus, unless these organizations are strategically positioned, it is very difficult for them to survive since some many challenges will threaten their own survival.

Community development is the process by which the efforts of the people themselves are united with those of governmental authorities to improve the economic, social and cultural conditions of communities, to integrate these communities into the life of a Nation and to enable them to contribute fully to national progress (Nelson and Wright, 1995). In practice, community development activity is often confined to a support programme for those communities that have been persuaded that they will get a new classroom, a clinic or whatever, if they make the bricks and carry the sand. In other words, ‘assisted self-help’ has become the essential formula around which the rhetoric of community development is aired” (Nelson and Wright, 1995).

According to Sasu (2005), a community’s development is ensured when people are interested in the welfare of to their community, being attached to it and thus having a strong local identity; when people have a vision of what might be; when people have the sense of responsibility regarding their community’s development, and do not consider only the local administration to be responsible for it, which turns them from passive to active citizens; when people have faith in themselves, being convinced that they can solve or change things in their community; and when people trust the other members of the community, which allows for their collaboration. Sasu (2005) further considers these to be the elements of a development culture, allowing a community to search and give rise to development opportunities. They stand at the basis of responsible civic participation of the members of a community in identifying and solving their problems.

The institutional sustainability of SHGs depends on their management systems (including external support) and membership (Sahu and Gagan Billha 2010). During study of five development programmes, Roy, D (2008) found that the programmes had a good survival rates, relatively low member drop out levels and consistent attendance and member participation. In addition, field staff of the promoting institutions rated most groups in the sample as above average in their management systems and membership, indicating that these groups were probably capable of managing themselves. The members who dropped out did so because death, marriage or migration. Inability to meet saving requirement or attend weekly meeting was also cited in few cases.

Community based projects tried to last longer and perform well if their promoters provide good organizational support and social mobilization (Gram Swarozgar Yohana 2010). Only the studies done by (Wair 2009) directly address the question of sustainability and performance. These studies analyze superstructure designed to provide support services to Community projects including capacity building, performance monitoring and helping to access bank credit.

2.3 Capacity building on sustainability of community based projects

Koome (2012) in his study on influence of community capacity building on performance of water resource users associations in water catchment management indicated that a country's human, scientific, technological, organizational, and institutional and resource capabilities. The goal of capacity building is to tackle problems related to policy and methods of development, while considering the potential, limits and needs of the people of the country concerned.

Ministry of Education (2012) stated that human capital is one of the most critical resources needed for social-economic development of an organization or nation. Successful nations and individual organisations invest heavily on human resource capacity development. Therefore, a critical mass of educated people who are equipped with appropriate knowledge, skills and attitudes is required in order to achieve the country's political, economic and social goals that are articulated in Kenya Vision 2030. For these aspirations to be achieved there is need to train community based organizations members and officials. This requires enhanced capacity by way of informed and pro-active leadership; clear management goals, targets and structures.

Johnson (2010) in his study on challenges encountered in capacity building in management for health in Virginia, indicated that capacity building is any action that improves the effectiveness of individuals, organizations, networks, or systems—including organizational and financial stability, program service delivery, program quality, and growth. As local development organizations and practitioners moved from a charity model in the postwar period of the 1940s and 1950s, through the end of colonization in the 1960s, to an empowerment approach through the 1980s, a concern about the long-term sustainability of project results emerged. In the 1980s and into the

1990s, projects began to focus on exit strategies and training so that activities would continue after external funding ended. In the past 15 years, a different understanding of sustainability, of which capacity building plays an integral part, has emerged, fueled by demands from an increasingly vibrant civil society, national governments, and donors around the world.

Hacker (2012) stated that for communities, the value of community-based participatory research (CBPR) is often manifested in the outcomes of increased capacity and sustainable adoption of evidence-based practices for social change. Educational opportunities that promote discourse between community and academic partners can help to advance CBPR and better define these outcomes. Community capacity building and sustainability are key outcomes of CBPR for communities. Co-learning opportunities that engage and mutually educate both community members and academics can be useful strategies for identifying meaningful strategies to achieve these outcomes.

The importance of Community-Based Organizations (CBOs) in local development, poverty reduction and decentralization contexts is steadily increasing and in order to provide demand-responsive services to their members and to manage their organizations in a participatory way, many CBOs are interested in continuously enhancing their capacities and skills to better assume key development responsibilities and to achieve recognition and vertical integration into existing institutional settings (UNDP,2006). OMES (2014) who observed that long-term accumulation of advanced experience provides best practice through applied theories, achievements and enterprise development, strategic objective and leadership experience.

2.4 Accountability on sustainability of community based projects

As project management evolved, practices became important. Best practices were learned from both successes and failures. For example some of the best practices that came out of the government included use of life cycle phases, use of templates like work breakdown structure and risk management, and use of earned value measurement (Kerzner, 2010). No best practice is best for every organization, and every situation will change as individuals and organizations find better ways to reach the end result. For others, best

practice is simply ensuring that everyone in the project management function uses the same project templates and software. Most organizations have some best practice already in place; they just don't know it because it was not developed by someone high up in the organization and rolled out through the organization. However, most project managers have their way of doing things, even though the methods may not be formal with the organization. This way of doing things can be considered a best practice (Abudi, 2009). Civil society projects are designed to promote democratization mostly come under the good governance category, although other sectoral projects increasingly have civil society components where civic organizations are involved in service provisioning and mobilizing project beneficiaries Rooy, (2000).

Good project management skills are pillars to the success and sustainability of community led projects. The fund of the group comprises of thrift, interest earned on internal loans, fines and penalties levied on defaulting members, loans and grant received in the name of the group (Singh 2010). For meeting loan requirement, group should not discriminate between sources of funds, savings, loan repayment, interest payment, fines and penalties paid by member must be pooled for lending to the members. All cash collection, including savings made at the meeting should be deposited in the bank (Stuart and Rutherford 2010) cash in hand should be as little as possible, and should be kept to meet small emergency needs. Groups incurring regular expenditure towards cost of bank transaction, honorarium to book keeper, can consider collecting additional amount every month from their members to avoid erosion of funds. All financial decisions, collections and disbursement of money should be made within group meeting (foulllet and Augsburg, 2007). Group member too, have to pay interest and principal amount monthly. Thus in self help groups, one come to see that among the various initiatives pursued by SGHs savings and loaning, are among the most important activities.

Thus the most important activities undertaken by community based groups are saving and loaning. It is further seen that provision of micro finance is a logical extension of the managerial and pragmatic approach to poverty reduction but with regard to financial

perspective credit is an effective tool which helps the poor to decide the program of deprivation, improve their welfare and social acceptance and credibility (Robert peck christen 2008).

When it comes to management of community based fund, they are too some agreed format by which members should abide by. Members shall be jointly and severally liable for all debts contracted by groups. All assets and goods acquired by the self help group shall be in the joint ownership of all the members. Members shall elect and appoint a certain person to look after and manage the day to day affairs of the group. This person shall be responsible to manage all affairs of the group within the bank e.g filling in loans application, receiving the cheque from bank, loan disbursement to the members, securing repayment for the bank. The appointed person can be removed at any time by majority vote of the members and new person to be elected or appointed. In the event of death of any members of the SHG all entitlement shall be handed over to the next of kin of the person. (Foullet and Fugsburg, 2009) .In case of loans to be granted the self help group meeting takes a decision regarding the amount to be loaned out and such that the amount has to be uniform .It is further decided that every member should get the same amount for a particular activity. Norms for loan in the self help groups are fixed for each activity and its size (Mosley and home, 2009)

The amounts deposited by the members every month and the interests earned become the development fund of the group. It is from this amount that the group grants loans to the members. As the repayment gets into a regular mode without any defaults, the development funds continues to increase. The money collected by the group on account of fines and penalties becomes the income of the group and is distributed equally among the members (GB Rae and Prahalladai 2009)

According to Sird (2007) it is important that while assessing the working of community based groups it need to be seen whether these units have emerged as empowered groups, both economically and socially, and whether their faculties of Co-operation and self reliance have increased through participatory development or not. It therefore becomes necessary that the funds are handled in such a way that members remain assured of the

safety and security of their deposits. The community based groups management should therefore be transparent and objective in their financial management (Gupta et al 2009).

Though there is mostly no legal requirement to conduct audit of community based groups it is still necessary to get an internal audit of self help groups it is still necessary to get an internal audit embedded in the system of financial management of these groups. The audit therefore requires:- better control of funds, better and transparent accounts keeping and proper utilization of loans taken by members, repayment made by members, maintenance of proceeding book and other document (Authon, 2010). An important function of Audit is to provide guidance and advice to the group leaders and members. The facilitator who looks after documentation (writing of minutes of Group meetings and accounts can be trained to assist in the audit and vigilance activities of community based groups. Since self help group is an organization, it is necessary to maintain and to keep track not only of account but also of membership and on decision made (Veenapadia, 2008) thus community based groups should maintain the basic minimum books of account and records, which are necessary as per the standard. The type of records maintained by group are minute book which shows the proceeding of the meeting, the roles of the group and the names of the members are recorded in this book. The other record is saving and loan register which shows the saving of members separately and of the group as whole. It also shows details of individual loan repayments and interest collected. Weekly register is also kept showing summary of receipts and payments on weekly basis maintained and updated. The other record is members pass books, this encourages regular savings.

Payment and loans, taken from the group are recorded in this book. While the community based group continue to collect money from the member and maintain relationship with lead bank, it is also necessary to carry on regularly reconciliation of accounts with the bank (Fernandez, 2009). A well financially managed community based group can be profitable. High income from loan portfolios and low operating expenses goes towards making a self help group profitable, even after adjusting for loan loss provision and the case of launching, supporting and monitoring. Guaraldo Choguill (2006) also identifies “the required external support, be it from, government or NGOs, which can facilitate the

outcome of the community effort”. Mostly informal organizations, CBOs are made up from members offering their work on a voluntary basis. From this point of view, perhaps, elements like group cohesion, communication, and solving the organizational dilemma – are all very important to attain, for people to want to get involved. People are anyhow taking from their own time, probably having to give up other necessary activities, just to participate in their CBO’s activities.

2.5 Stakeholders participation on sustainability of community based projects

Simerson, (2011) states that one of the most important benefits of any strategic planning effort is that it allows your organization to bring its collective intelligence together to apply to external forces, internal forces, and the slate of current and emerging challenges and opportunities likely to impede or support the organization’s attaining its vision and accomplishing its mission. Participatory planning and strengthening of the role and authority of community organizations are essential to reaching the poor. Community organizations can help to engage the rural poor in planning and implementing projects at the household and broader community level (Serageldin, 1997). The essence of project planning is to increase the likelihood that a project will be implemented successfully. Project implementation involves coordinating people and other resources to carry out the project’s plans in order to achieve the projects objectives. Translating plans into action is the science of implementation. It is based on a systematic process of rigorously discussing who, what, how and when; constantly questioning; actively following up; and ensuring accountability (Susan and Guy, 2010). According to Cheng and Singh (2009), community based organisation is small voluntary association of rural people, preferably from the same socio-economic background. He adds that the main objective of the group is to gain strength from each other and be able to deal with exploitation which they are facing in several forms. He adds that these groups have become the basis for action and change. He further adds that group members usually create a common fund by contributing their small savings on regular basis. Sometimes group evolve flexible systems of working pooled resources in democratic way. He adds that meetings and competing claims on limited resources are settled by consensus. According to (Puhazendhi and Satyasai, 2009) community based organisations have become a platform for exchange of experiences and ideas in South Asia. The groups have made its members develop abundant self confidence and self

esteem through sharing which is done during meetings (Laxman 2010). He adds that most members have gained organizational skills, management of various activities of business and sense of leadership through community based movements.

According to Thomas (2012), Institutional sustainability of community based organisations depends on their management systems (including external support) and membership. He adds that good survival of community based organization is facilitated by consistent attendance and member participation. In addition most community based organizations whose decisions are made at meeting attended by 50% or more members has good survival rates than those attended by fewer. He noted that in India meetings are held regularly with 82-100 percent of groups reporting regular meeting. But meetings seem to become less frequent as groups age. Also in a quarter of the community based organization members sometimes send family member or others to make payments on their behalf, which have affected overall functioning of some groups.

2.6 Monitoring and evaluation and sustainability of community based projects

The water project (2014) indicated that monitoring and evaluation is about making sure that the work we do is the best we can do. It is vital that people involved in development have ways of finding out the impact of their work from the communities they serve. This can only happen through interviews, questionnaires, and by observing the communities in which they work. This happens at all stages of a project, and helps to identify improvements for the future as well as things that are going well. The water project (2014) further reported that monitoring can be as simple as going back to a well periodically to be sure it still works. It sounds easy, but it requires time and money (for things like fuel to travel from site to site). We believe it's essential to plan for and fund this work. Without it, we have no way of knowing if our investments ever pay off. The good news is that most often, we get to see lives changed when our teams go back and check up on water projects. Food and Agriculture Organisation (2012) reported that at an agreed time from when water first flowed, projects need to be assessed with some set of measures to find out the real impact of the work. This phase is about research, and is similar to monitoring and evaluation. However, it is crucially about sustainability and the changes in impact over time. In order to assess the impact of a project we need to know

things like; the number of cases of water related diseases before and after the project, and over time; or, the number of children who no longer have to walk many miles to fetch water, and therefore are attending school. This work is always done in collaboration with the community, and involves discussion, workshops and many community visits. By doing this type of follow up over an extended length of time it is then possible to assess how our projects are changing people's lives for the better in the communities we work in.

World Bank (2008) reported that the focus of monitoring and evaluation toolkit is monitoring and evaluation at the project level. However, many of the principles and techniques covered are generic and widely applicable also for programs at sector level and for policy work. Similarly, although the focus in terms of the provision of detailed guidance and examples is on agricultural water management (AWM) projects, and AWM components within other projects, the concepts and approaches covered are applicable to all. To be able to carry out monitoring the following tasks are done. These are identify activities/indicators/outcome measures to be monitored, decide how the findings will be acted on, identify sources for monitoring data and data collection methods, schedule monitoring and design and pretest simple forms and questionnaires for recording information. To be able to carry out evaluation the following tasks are done. These are review project objectives and relevant project activities in terms of expected effects, identify indicators/outcome measures to evaluate, determine sources of data for evaluation and data collection methods and plan for data gathering including schedule and staff.

Nyanena (2006) reported that monitoring and evaluation are crucial to effective management of a Safe Water System project. There are many examples where information from monitoring or evaluation led to a significant change in a project that, one can see in retrospect, was essential to success. If a problem had not been identified, or not been identified until later, the project would have failed. In Pakistan, for example, ongoing monitoring of a project identified a problem with vessel breakage 6 - 12 months after distribution. On analysis the problem was due to ultraviolet light degradation of the plastic. The solution was to add UV light absorbers to the plastic of future vessels. In

Madagascar, the project expanded from the city into a rural region affected by a cyclone. The only water source was a river with very turbid water. The dose of disinfectant recommended for clear piped water in the city was inadequate for the river water in the rural project. Monitoring and evaluation are crucial to effective management of a Safe Water System project. There are many examples where information from monitoring or evaluation led to a significant change in a project that, one can see in retrospect, was essential to success. If a problem had not been identified, or not been identified until later, the project would have failed. In Pakistan, for example, ongoing monitoring of a project identified a problem with vessel breakage 6 - 12 months after distribution. On analysis the problem was due to ultraviolet light degradation of the plastic. The solution was to add UV light absorbers to the plastic of future vessels. In Madagascar, the project expanded from the city into a rural region affected by a cyclone. The only water source was a river with very turbid water. The dose of disinfectant recommended for clear piped water in the city was inadequate for the river water in the rural project. The solution was to double the dose.

Adam (2006) observed that monitoring requires ongoing data collection during project implementation. Purposes of monitoring include: measuring progress of activities during implementation, using indicators, which usually relate to quality or quantity and a particular timeframe, highlighting which activities are being carried out well and which less well, providing information during implementation about specific problems and aspects that need modification, enabling managers to decide about allocation of resources and to identify training and supervision needs. Evaluation requires data collection before and after a given period of project implementation. Mavin (2010) reported that the purposes of evaluation include: assessing whether the objectives have been achieved, looking at overall strengths and weaknesses and guiding design of future phases or follow-up projects. To plan for monitoring and evaluation, specify the information that will be needed, how it will be used for decision making and how progress and impact will be measured. Plans for monitoring and evaluation should be developed at the same time and integrated with plans for the whole project. At the beginning of the planning process, decide how monitoring and evaluation data will be acted on. Ensure that each piece of

data collected has a purpose so that monitoring and evaluation is a meaningful practice that advances the project's goals and objectives. Monitoring will need to be more intensive in the early stages of the project. Once the project is established and running well, monitoring frequency can be reduced. Limit the items to be monitored to a manageable number that will provide the most useful information for the pilot project, and that will not require excessive personnel time and project money.

Groves and Cork (2008) reported that to monitor some indicators, new data collection systems may need to be established, whereas, for others, existing data sources will be sufficient. For example, systems for recording sales of vessels and disinfectant at shops or other outlets may need to be established. Alternatively, it may be simple to track invoices which are already collected by businesses for all of their sales. Specify where monitoring will be done, that is, in the whole project area or in a sample of outlets. Keep surveys limited in scope as they are labor intensive and relatively expensive. Surveying a small sample of shops, or doing a focus group, may be sufficient as a simple monitoring check of whether certain activities are getting done, or whether products are available in the target area. UNHCR (2009) stated that it is important to decide what methods of data collection will be used to measure the selected indicators. Possible methods include: Routine reports, such as records from chlorine production site about volume produced and distributed, reports from sales outlets of bottles sold, Overall sales by community and region, Supervisory visits to health facilities that are promoting and selling the products. Survey of outlets in target area (can include interview with staff, examination of records of sales, observation of sales behaviors, inventory of stock). Tomasz (2010) reported that Monitoring and evaluation are essential to improving the effectiveness of any project. Monitoring is an on-going activity during a project, which provides useful feedback to the organizers. An evaluation is a one-time event, usually at the end of a project, which looks at how well a project has been executed. Monitoring and evaluation tells an organization whether it is doing the right thing in the right way.

Lutheran Church Health Development Program (2014) stated that monitoring and evaluation workshop offers instruction on the concept and methodology of monitoring and evaluation for household water treatment (HWT) programs/projects. Topics to be

addressed include the planning cycle, concepts of monitoring and evaluation, techniques and tools of participatory monitoring, data collection and analysis, and reporting techniques. Participants will share ideas, experiences and acquire skills in the use of various tools for monitoring and evaluation with a particular focus on the active involvement of beneficiaries in setting up and applying monitoring and evaluation systems. The workshops involve Practical: develop monitoring and evaluation procedures; design simple monitoring and evaluation systems for household water treatment project; implementation: monitoring and evaluation process in household water treatment and developing the vision and next steps after the workshop.

2.7 Theoretical framework

The study was guided by the following development theory:-

Resilience theory has its roots in the study of children who proved resilient despite adverse childhood environments. Resilience means the skills, abilities, knowledge, and insight that accumulate over time as people struggle to surmount adversity and meet challenges. It is an ongoing and developing fund of energy and skill that can be used in current struggles. Resilience is the capacity for successful adaptation, positive functioning or competence despite high-risk status, chronic stress, or following prolonged or severe trauma (Van Breda, 2001), flexible and in-touch-with-life and which promotes the ability-to-bounce-back. In the study, the researcher intends to assess the influence of community based projects management on sustainability of community based projects: a case of Itabua-Muthatari water project in Embu Sub County and give recommendations in an attempt to make community projects more sustainable or more resilient in their objective of poverty alleviation, income generation and employment creation.

2.8 Conceptual Framework

A conceptual framework on which this study is based appears as Figure 1

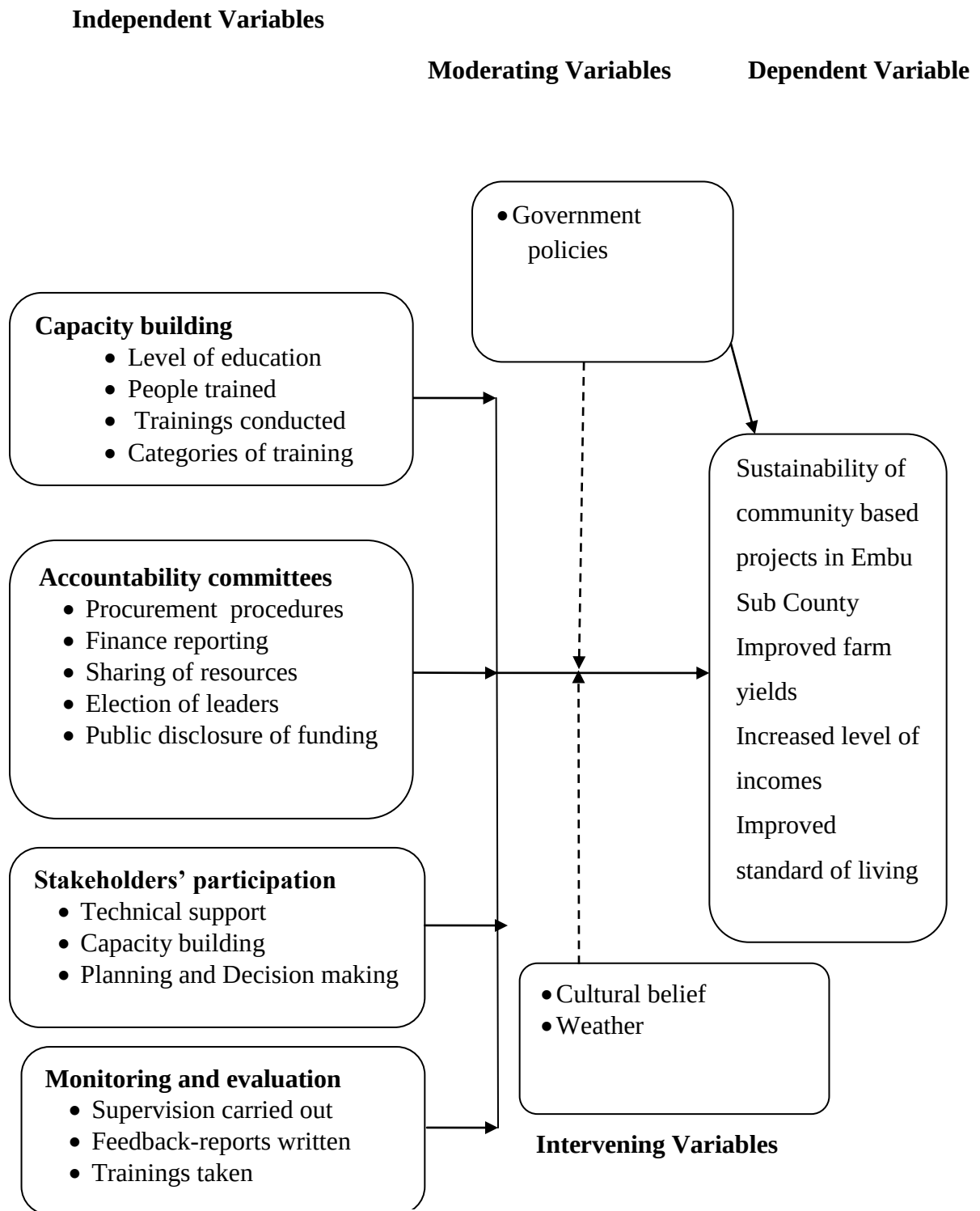


Figure 1: Conceptual Framework

2.9 Knowledge Gap

Sasu (2005) reported that community based organizations serve to bridge the gap between the 'haves' and the 'have-nots' of the society. Wanjohi (2010) reported that community organizations face major challenges which include poor leadership, inadequate skills and under-capitalization. The study will assess the influence of community based projects managements' on sustainability of community based projects: a case of Itabua-Muthatari community water project in Embu Sub County.

The objectives of the study are to establish the influence of capacity building on sustainability of community based projects, assess the influence of accountability on sustainability of community projects and to assess the influence of stakeholders' participation on sustainability of community projects. The literature review of this study shows that many community based projects have leadership which may require training for it to ensure that the projects are sustainable. The study has not considered about the influence of community based project members social economic factors on sustainability of community based projects. There's therefore the need to carry out further research on social economic factors influencing sustainability of community based projects.

2.10 Summary of the chapter

This chapter has presented a review of empirical literature on the influence of community based projects on sustainability of community based projects: a case of Itabua-Muthatari community water project in Embu Sub County. The aspects discussed are influence of community based projects capacity building, influence of community based projects management accountability on sustainability of community based projects and influence of stakeholder participation on sustainability of community based projects. The chapter also presents theoretical frame work of the study, conceptual framework and the research gaps for further study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology which was used to find answers to the research questions. The research design, target population, sampling procedures and sample size, data collection methods, instruments of data collection, reliability and validity of the data collection instruments and finally the data analysis was presented in the chapter and ethical considerations.

3.2 Research Design

The study used descriptive research method. The data was collected using a descriptive survey design. The design was used because it looks at the phenomena, events and issues the way they are. The design examined the influence of community based projects' management on sustainability of community based projects: a case of Itabua-Muthatari water project in Embu Sub County. The design is used because it examine the problem at hand thoroughly to define it, clarify it and obtain pertinent information that can be of use to stakeholders in technical education. It is the most appropriate for being able to accommodate large sample sizes and it is good in generalization of the results. It is also easy to administer and record answers in this design. The survey was administered to 285 members out of 1019 members of Itabau-Muthatari Water Project.

3.3 Target Population

According to Ogula, (2005), a population refers to any group of institutions, people or objects that have common characteristics. The study will focus at all the 1019 members of Itabua-Muthatari water project in Embu Sub County. Table 3.1 Shows the Target Population from Itabua-Muthatari water project.

Table 3.1 Target Population from Itabua-Muthatari water project

Category	Number of persons (total Population)
Water project staff	5
CBP management	20
CBP members	994
Total	1019

Source: Itabua-Muthatari water project annual report 2014

3.4 Sample size selection and sampling procedures

A sample is a smaller group or sub-group obtained from the accessible population (Mugenda and Mugenda, 2003). Sampling is a procedure, process or technique of choosing a sub-group from a population to participate in the study (Ogula, 2005).

3.4.1 Sample size

According to Krejcie and Morgan (1970) as shown in Appendix 4 which uses the following formula to determine sampling size:

$$S = \frac{X^2 NP (1-P)}{(d^2 (N-1) + X^2 P (1-P))}$$

S = required sample size

X^2 = the table value of chi-square for one degree of freedom at the desired confidence level (3.841)

N = the population size

P = the population proportion (assumed to be .50 since this would provide the maximum sample size)

d = the degree of accuracy expressed as a proportion (.05)

A total of 1019 members required a sample of 285 respondents as shown in Table 3.2. This study used stratified sampling since project staff; community based project officials and community based members was considered. Proportionate sampling was used because each category was allocated a sample of respondents depending on its proportion

to the total number of respondents. Proportionate sampling also enabled the researcher to achieve greater representativeness in the sample of the population. This was accomplished by selecting individuals at random from subgroups (stratified random sampling) in proportion to the actual size of the group in the total population (Van Dalen, 1979).

Table 3.2 Sample of respondents from Itabua-Muthatari water project

Category	Number of persons (total Population)	Sample size	Percentage(%) of sample
Water project staff	5	1	0.4
Water project management committee	20	6	2.1
Water project members	994	278	97.5
Total	1019	285	100

3.4.2 Sampling procedure

Purposeful sampling was applied on selection of water project staff and water project management committee while simple random sampling was applied when selecting water project members

3.5 Data Collection Instruments

Data was collected by use of questionnaires. They were administered to 285 respondents from 1019 members of Itabua-Muthatari water project. The questionnaires were most appropriate because they have potential in reaching out to a large number of respondents within a short time; give the respondents adequate time to respond to the items, offer a sense of security (confidentiality) to the respondents and it is an objective method since no bias resulting from the personal characteristics. The questionnaires had both open and closed ended questions to facilitate in easier analysis as they are in immediate usable

form; while the unstructured questions was used to encourage the respondent to give an in-depth and felt response without feeling held back in revealing of any information.

3.5.1 Piloting of the instruments

The researcher carried out pilot testing with 10 members of Itabua-Muthatari water project who were not part of the main study. The instruments were then edited and ambiguous questions corrected.

3.5.2 Validity of the Instruments

Validity is the accuracy, soundness or effectiveness with which an instrument measures what it is intended to measure (Kumar, 2005). Validity of the instruments was established by peers and a panel of experts from the Department of Extra Mural Studies .The research instrument were availed to the experts and peers, who established its content and constructed its validity in order to ensure that the questionnaire included an adequate and representative set of items which contain the dimension and elements of concepts under study. The panel ensured that the items adequately represent concepts that cover all relevant issues under investigation, which complies with recommendations by Mugenda and Mugenda (2008).

3.5.3 Reliability of the Instruments

This research study used test-retest method which involved administering the same scale or measure to the same group of respondents at two separate times. This was after a time lapse of one week. This was in line with (Shuttleworth, 2009), who stated that the instrument should be administered at two different times and then the correlation between the two sets of scores computed. Test re-test method was used to test for reliability of the instrument. This was done using Pearsons Product-Moment correlation coefficient Formula. A correlation coefficient of 0.8 was obtained and therefore the instrument was deemed reliable and measurable.

3.6 Data Analysis techniques

The questionnaires were edited for the purpose of checking on completeness, clarity and consistency in answering research questions. The data was coded, tabulated and analysed

using Statistical Package for Social Sciences based on study objectives. Descriptive statistics was computed and study findings presented using tables and percentages and interpretations made.

3.7 Ethical considerations

All respondents were treated with courtesy and respect in order to avoid misunderstanding between the enumerators and respondents and they were informed of the purpose of the study. Each respondent was politely requested to fill the questionnaire and assured of confidentiality with regard to any information they would provide.

3.8 Operational definition of variables

The operational definition of variables is given in Table3.3.

Table 3.3: Operational definition of variables

Objectives	Type of Variables	Indicator(s)	Measure(s)	Measurement scale	Type of analysis Tools
To determine the influence of capacity building on sustainability of community based projects in Embu sub county	Independent Community based projects capacity building	Level of education	Number of members with professional certificates	Ratio	Percentages means
		People trained	Number of people trained	Ratio	Percentages means
		Trainings conducted	Number of trainings conducted	Ratio	Percentages means
To assess the influence of community based projects management accountability on sustainability of community based projects in Embu sub county.	Independent Community based projects accountability	Procurement procedures	Number of procures made	Ratio	Percentages means
		Financial reporting	Number of financial reports prepared	Ratio	Percentages means
		Record keeping	Number of records kept	Ratio	Percentages means
		Auditing of accounts	Frequency of audits	Ratio	Percentages means
		Public disclosure of funding	Frequency of financial discussion meetings	Ratio	Percentages means

To assess the influence of community based projects stakeholders participation on sustainability of community based projects in Embu sub county	Independent Community based project stakeholders participation	Technical support	Number of service providers	Ratio	Percentages means
		Stakeholder contribution	Amount of contribution	Ratio	Percentages means
		Stakeholder involvement	Number of hours involved	Ratio	Percentages means
To determine the influence of monitoring and evaluation on sustainability of community based projects in Embu Sub County.	Independent Community based project monitoring and evaluation	Supervision carried out	Number of supervisions per year	Ratio	Percentages means
		Monthly Reports written	Number of reports written	Ratio	Percentages means
		Trainings held	Number of trainings on M&E	Ratio	Percentages means
	Dependent Sustainability of community based projects	Water provision	Number of households with adequate water	Ratio	Percentages means
		Increase farm yields	Amount of farm yields	Ratio	Percentages means
		Income generating activities (IGA)	Amount of income generated	Ratio	Percentages means

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter contains data analysis, presentation and interpretation of findings. The study intended to assess the influence of community based projects' management on sustainability of community based projects: a case of Itabua-Muthatari water project in Embu Sub County. The chapter discusses results of the study under the following headings: questionnaire return rate, demographic characteristics of the respondents, objectives of the study namely influence of community based projects capacity building on sustainability of community based projects, influence of community based projects' accountability on sustainability of community based projects, influence of community based projects' stakeholders participation on sustainability of community based projects and influence of monitoring and evaluation on sustainability of community based projects in Embu Sub County.

4.2 Questionnaire Return Rate

From the study, the questionnaire return rate was 283 (99.3 %), as 285 questionnaires were used. This was possible because the questionnaires were administered by trained research assistants who administered questionnaires, waited for the respondent to complete and collect immediately.

4.3 Demographic Characteristics of the respondents

This section discusses the respondent's gender, age, marital status, size of household and the level of education. These social attributes were relevant to the study since they enabled the respondent to provide information that is valid, reliable and relevant to the study.

4.3.1 Study responses by gender

The respondents from Itabua-Muthatari water project in Embu West Sub County were asked to indicate their gender. The responses are shown in Table 4.1.

Table 4.1 Gender of the respondents

Gender of respondent	Frequency	Percentage
Male	171	60.5
Female	112	39.6
Total	283	100.0

The study findings indicated that 171 (60.5 %) were males who were more than 112 (39.6 %) who were females. This shows that the Itabua-Muthatari water project members were mainly males.

4.3.2 Respondents by age

The respondents were asked to indicate their ages from among choices of age classes given. The respondents responses are shown in Table 4.2.

Table 4.2 Age of respondents

Age of respondent in years	Frequency	Percentage
Below 30	14	4.9
31-40 years	72	25.4
41-50 years	74	26.1
51-60 years	94	33.2
Above 61 years	29	10.2
Total	283	100.0

The findings show that 94 (33.2 %) were in the age bracket 51-60 years and 74 (26.1%) are in age bracket of 41-50 years. The findings also show that majority of the members 240 (84.8%) are in 31-60 years.

4.3.3 Marital status of the respondents

The respondents were asked to indicate their marital status. The responses are shown in Table 4.3.

Table 4.3 Marital status of the respondents

Marital status	Frequency	Percentage
Married	216	76.3
Single	33	11.7
Divorced	11	3.9
Widow	12	4.2
Widower	11	3.9
Total	283	100.0

The study findings indicated that 216 (76.3 %) are married and 33 (11.7%) are singles. The findings show that majority of the respondents were married. Marriage ascribes familial responsibilities to farmers and therefore farmers become more serious in terms of their participation in water projects and other community projects.

4.3.4 Size of your household

The respondents were asked to indicate the size of their household. The responses are shown in Table 4.4.

Table 4.4 Size of household

Household size	Frequency	Percentage
2-00	40	14.1
3-5	141	49.8
6-8	83	29.3
9-11	17	6.0
more than 12	2	.7
Total	283	100.0

The study findings indicated that 141 (49.8 %) have household size of 3-5 persons, 83 (29.3%) and only 2 respondents (0.7%) had more than 12 persons.

4.3.5 Education level of the respondents

The respondents were asked to indicate their education level. Table 4.5 shows the distribution of the respondents by education level.

Table 4.5 Education level of the respondents

Education level	Frequency	Percentage
Primary	67	23.7
Secondary	143	50.5
Certificate	30	10.6
Diploma	30	10.6
Degree	13	4.6
Total	283	100.0

The findings show that majority of the respondents 143 (50.5%) had attained secondary education, 30 (10.6%) had certificate, 30 (10.6%) had diploma and 13 respondents had acquired bachelor's degree. This indicates that majority of the respondents are literate and therefore suitable in making decisions pertaining to water use and management.

4.4 Capacity building on sustainability of community based projects

The respondents were asked to indicate whether they had attended trainings on water use and management, name trainings attended, position held and period in the water project and suggest trainings which members of Itabua Muthatari water project should be training on and their responses were recorded.

4.4.1 Training on water use and management

The respondents were requested to indicate whether they had attended training on water use and management and responses are in Table 4.6.

Table 4.6 Training on water use and management

Whether attended		
training	Frequency	Percentage
Yes	83	29.3
No	200	70.7
Total	283	100.0

The study showed that only 83 (29.3 %) had attended trainings on water use and management. Training on water use and management equipped members with appropriate knowledge, skills and attitudes geared at improving water use efficiency.

4.4.2 Trainings attended

The respondents were asked to indicate the name of training attended and their responses were recorded in Table 4.7.

Table 4.7 Trainings attended

Trainings attended	Frequency	Percentage
Crops farming (banana and french beans)	8	2.9
Water maintenance and management	62	21.8
Government financial management	3	1.1
Compliance of water act of 2001	2	0.7
Capacity building	1	0.4
Water harvesting and treatment	7	2.5
Not applicable	200	70.7
Total	283	100.0

The study showed that of 200 respondents (70.7%) did not attend any training on water use and management, 8 respondents (2.9%) attended training on crops farming (bananas and French beans) while 7 respondents (2.5%) attended training on water

harvesting and treatment. This shows that there is a need to invest on human resource capacity development in the water project.

4.4.3 Position Held

The respondents were asked to indicate the position held in Itabua Muthatari water project and Table 4.8 shows the results.

Table 4.8 Position in Itabua Muthatari Water project

Position held	Frequency	Percentage
Water project members	276	97.5
Water project committee	6	2.1
Water project staff	1	3.4
Total	283	100.0

The findings show that 276 (97.5 %) were water project members, 6 were water project committee members and 1 (3.4%) was water project staff. Water project members formed much of the sample.

4.4.4 Period in this position

The respondents were asked to indicate the period in this position and Table 4.9 shows the results.

Table 4.9 Period in this position

Period in this position in years	Frequency	Percentage
0.00	45	15.9
1-3	60	21.2
4-5	51	18.0
6-10	59	20.8
More than 10 years	68	24.1
Total	282	99.6
Total	283	100.0

The findings show that 68 respondents (24.1 %) have held their positions for more than 10 years, 60 respondents (21.2%) for 1-3 years and 45 respondents (15.9%) for less than 1 year. Holding the position for long accumulated experience in water project.

4.4.5 Suggested trainings which members of Itabua Muthatari water project should be training on

The respondents were asked to suggest trainings which members of Itabua Muthatari water project should be training on. Table 4.10 shows the responses

Table 4.10 Suggested trainings

Suggested trainings	Frequency	Percentage
Horticulture, dairy farming and green house farming	81	28.7
Framing under Irrigation	34	12.0
Water harvesting techniques	95	33.6
Fast growing crops	6	2.1
land management	5	1.8
water hygiene and treatment	50	17.7
Water infrastructure management	5	1.8
water catchment conservation and management	6	2.1
Leadership	1	0.4
Total	283	100.0

The findings show that 95 respondents (33.6 %) suggested that Itabua-Muthatari water project members should be trained on water harvesting techniques, 81 respondents (28.7 %) on horticulture, dairy farming and green house farming and only 1 respondent (0.4%) suggested that members should be trained on leadership.

4.4.6 Influence of capacity building issues on sustainability of community based projects

The respondents were asked to indicate the Influence of capacity building issues on sustainability of community based projects and Table 4.11 shows the responses.

Table 4.11 Influence of capacity building issues on sustainability of community based projects

Aspect	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Officials of the project should be trained on water use and management	222	78.5	48	17.0	10	3.5	0	0	3	1.1
Members usually waste water	64	22.7	57	20.1	16	5.7	44	15.5	102	36.0
Trainings should cover the whole value chain	195	42.1	43	35.5	23	19	1	0.8	3	2.5
Members fees can be used to sustain the water project	122	43.2	101	35.7	26	9.2	30	10.6	4	1.4
Mean	151	53.4	62	21.9	19	6.7	19	6.7	28	9.9

The study showed that 222 respondents (78.5 %) strongly agree that the officials of the project should be trained on water use and management, 102 respondents (36.1 %) strongly disagree that members usually waste water, 195 respondents (42.1 %) strongly agree that trainings should cover the whole value chain while 122 respondents (43.2 %) strongly agree that members fees can be used to sustain the water. On average 151 respondents (53.4%) strongly agreed on all aspects.

4.5 Community based projects accountability on sustainability of community based projects

The respondents were asked to indicate the influence of accountability of community Based Project management on sustainability of community projects and Table 4.12 shows the responses

Table 4.12 Influence of community based projects accountability on sustainability of community based projects

Aspect	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
The management use the right procurement procedures	120	42.4	91	32.2	37	13.1	29	10.2	6	2.1
The management prepare and present financial reports to members	102	36.1	107	35.7	54	19.1	18	6.4	2	0.2
The books of accounts are audited as required	127	44.9	81	28.6	54	19.1	17	6.0	4	1.4
The members are kept informed of the financial transactions of the project	108	38.2	96	33.9	49	17.3	25	8.8	5	1.8
On general terms the management in transparent and accountable	134	47.4	83	29.3	35	12.4	22	7.8	9	3.2
Mean	118	41.8	92	31.9	46	16.2	22	7.8	5	1.7

The study showed that 120 respondents (42.4 %) strongly agreed that the management use the right procurement procedures, 102 respondents (36.1 %) strongly agreed the management prepare and present financial reports to members, 127 respondents (44.9 %) strongly agreed that the books of accounts are audited as required, 108 respondents (38.2 %) strongly agreed that the members are kept informed of the financial transactions of the project while 134 respondents (47.4 %) strongly agreed that on general terms the management is transparent and accountable. On average 118 respondents (41.8%) strongly agreed on all aspects.

4.5.1 Management of the water project

The respondents were asked to indicate the one who manages the water project and Table 4.13 shows the responses.

Table 4.13 Management of the water project

The one who manages projects	Frequency	Percentage
Water committee	90	31.8
Employed technician	65	23.0
Manager	128	45.2
Total	283	100.0

The findings showed that 128 respondents (45.2 %) indicated the water project is managed by the manager, 90 respondents (31.8%) believed that the water committee manages the water project while 65 respondents believed that the employed technician manages the water project. Water project leadership involved itself in service provision and mobilizing project beneficiaries.

4.5.2 Election of leaders

The respondents were asked to indicate how often are leaders elected. Table 4.14 shows the responses.

Table 4.14 Frequency of leaders elections

Frequency of election	Frequency	Percentage
Once a year	89	31.5
After two years	41	14.5
After three years	150	53.0
After any other period	3	1.1
Total	283	100.0

The findings showed that 150 respondents (53.0%) believed that elections are held after three years, 89 respondents (31.5%) believed that elections are held once a year while 41 respondents (14.5 %) believed that elections are held after two years. Members elect certain persons to look after and manage the day to day affairs of the water project.

4.5.3 Influence of accountability of management on sustainability of community based projects

The respondents were asked to indicate how accountability of the management influences the sustainability of community based projects. Their responses are in table 4.15.

Table 4.15 Influence of accountability of management on the sustainability of community based projects

Influence	Frequency	Percentage
Project is able to regulate water to all members	96	34
Rationing of water due to high demand	77	27.2
Help project to know where to put more effort	35	12.4
There are minimal member wrangles	46	16.3
Management use right procurement procedures	25	8.8
Accountability leads to increase in membership	1	0.4
Members own the project	3	1.1
Total	283	100.0

The findings showed that 96 respondents (34%) believed that when the management is accountable the project is able to regulate water to all members, 77 respondents (27.2%) believed that when the management is accountable rationing of water due to high demand is possible, 3 respondents (1.1 %) believed that when the management is accountable members own the project while 1 respondents (0.4 %) believed that when the management is account in membership.

4.6 Stakeholders' participation on sustainability of community based projects

4.6.1 List of service providers

The respondents were asked to list their service providers. Their responses are in table 4.16.

Table 4.16 List of service providers

Service providers	Frequency	Percentage
Social services-supervise elections	114	40.3
District water office-design and surveys	40	14.1
Water source users association-regulate water use master meter	40	14.1
WRMA-trained on governance	22	7.8
CDF	49	17.3
Ministry of water and irrigation	9	3.2
Tana water service board	4	1.4
Sida through DOE	5	1.8
Total	283	100.0

From the study, 114 respondents (40.3 %) indicated that the most popular service provider is social services department followed by Constituency Development Fund as indicated by 49 respondents (17.3 %).Others departments are District water office-design and surveys as indicated by 40 respondents (14.1 %).and Water source users association-regulate water use master meter as indicated by 40 respondents (14.1 %).

4.6.2 Stakeholder participation on sustainability of community based projects

The respondents were asked to indicate how stakeholder participation issues influencing sustainability of community based projects and Table 4.17 shows the responses.

Table 4.17 Influence of stakeholder participation on sustainability of community based projects

Aspect	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	Freq.	%	Freq	%	Freq	%	Freq	%	Freq	%
Active stakeholders influence the management to be accountable and transparent	120	42.4	63	22.3	67	23.7	32	11.3	1	0.4
External stakeholders influence the management to be accountable and transparent	88	27.6	108	38.2	57	20.1	18	6.4	22	7.8
stakeholders offer services which enable members to improve their livelihoods and living standards	80	28.3	102	36.1	63	22.3	31	11	7	2.5
Without stakeholders Itabua Muthatari water project cannot survive five years after implementation phase	91	32.2	114	40.3	35	12.4	27	9.5	16	5.7
Mean	95	32.6	98	34	56	19.8	27	9.6	12	4.2

The study showed that 120 respondents (42.4 %) strongly agree that active stakeholders influence the management to be accountable and transparent management use the right procurement procedures, 108 respondents (38.2 %) agreed

that the external stakeholders influence the management to be accountable and transparent, 102 respondents (36.1 %) agreed that the stakeholders offer services which enable members to improve their livelihoods and living standards while 114 respondents (40.3 %) agreed that without stakeholders Itabua Muthatari water project cannot survive five years after implementation phase. On average 98 respondents (34%) agreed on all aspects.

4.6.3 Stakeholder participation influence on sustainability of community based projects

The respondents were asked to indicate how stakeholder participation influences sustainability of community water projects. Their responses are in table 4.18.

Table 4.18 Influence of stakeholder participation on sustainability of community based projects

Influence	Frequency	Percentage
Offering free seeds and fertilisers	82	29.0
Ensure proper designs are in place	115	40.6
Source for market of farm products grown by the water	11	3.9
Starting of tree nurseries	11	3.9
Make people pay bills on time	27	9.5
Instilling confidence to members on community projects	22	7.8
Ensures funds are managed well	3	1.1
Offering free training	12	4.2
Total	283	100.0

From the study, 115 respondents (40.6 %) indicated that stakeholders participation influence sustainability of community projects by ensuring that proper designs are in place offering, 82 respondents (29.0 %) indicated that stakeholders participation influence sustainability of community projects through offering free seeds and fertilizers to members while 3 respondents (1.1 %) indicated that stakeholders participation influence sustainability of community projects through ensuring that funds are managed well.

4.7 Monitoring and evaluation on sustainability of community based projects

The respondents were asked questions regarding the influence of monitoring and evaluation on sustainability of community based projects and responses shown in the tables 4.19, 4.20, 4.21,4.22, 4.23,4.24,4.25 and 4.26.

4.7.1 Monitoring and evaluation on sustainability of community based projects

The respondents were asked to indicate the influence of monitoring and evaluation on sustainability of community based projects. Their responses are in table 4.19.

Table 4.19 Monitoring and evaluation on sustainability of community based projects

Aspect	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
The monitoring and evaluation enhance sustainability of projects	167	59	114	40.3	2	0.7	0	0	0	0
Monitoring and evaluation of projects enhance accountability transparency and sustainability of projects	157	55.5	122	43.1	4	1.5	0	0	0	0
Monitoring and evaluation enable the project members to know the progress of the projects	87	31.4	122	43.1	72	25.5	2	0.7	0	0

Plans for M&E should be developed at the same time and integrated with plans for the whole project	135	47.3	129	45.6	17	6.0	2	0.7	0	0
Mean	137	48.4	122	43	24	8.4	1	0.35	0	0

The study showed that 167 respondents (59 %) strongly agreed that the monitoring and evaluation enhance sustainability of projects, 157 respondents (55.5 %) strongly agree that monitoring and evaluation of projects enhance accountability transparency and sustainability of projects, 122 respondents (43.1 %) agreed that monitoring and evaluation enable the project members to know the progress of the projects, 135 respondents (47.3 %) strongly agreed that plans for M&E should be developed at the same time and integrated with plans for the whole project. On average 137 respondents (48.4%) agreed on all aspects.

4.7.2 Supervision of water project

The respondents were asked to indicate the number of times the water project is supervised. Their responses are in table 4.20.

Table 4.20 Supervision of water project

Frequency of supervision	Frequency	Percentage
Once a year	89	31.4
Twice a year	114	40.3
Thrice a year	55	19.4
Four times a year	11	3.9
Continuously	14	4.9
Total	283	100.0

From the study, 114 respondents (40.3 %) indicated that the water project is supervised twice a year,

89 respondents (31.4 %) indicated that the water project is supervised once a year while 11 respondents (3.9 %) indicated that the water project is supervised four times a year.

4.7.3 Conducting of the supervision of water project

The respondents were asked to indicate who conducted the supervision. Their responses are in table 4.21

Table 4.21 Who conducted Supervision of water project

Who conducted supervision	Frequency	Percentage
Manager and technical staff	130	45.9
Executive committee	103	36.4
ministry of water	23	8.1
WARMA	27	9.5
Total	283	100.0

From the study, 130 respondents (45.9 %) indicated that manager and technical staff conducted supervision of the water project, 103 respondents (36.4 %) indicated that executive committee conducted supervision of the water project, 27 respondents (9.5 %) indicated that WARMA conducted supervision of the water project while 23 respondents (8.1 %) indicated that Ministry of water conducted supervision of the water project.

4.7.4 Impact assessment or evaluation of water project

The respondents were asked to indicate whether they were involved in impact assessment or evaluation of water project. Their responses are in table 4.22.

Table 4.22 Impact assessment or evaluation of water project

Whether involved in impact assessment	Frequency	Percentage
Yes	140	49.5
No	143	50.5
Total	283	100.0

From the study, 140 respondents (51.2 %) indicated that they were involved in impact assessment while 143 respondents (50.5%) indicated that they not involved.

4.7.5 Percentage success of water project

The respondents were asked to indicate the percentage success of water project. Their responses are in table 4.23.

Table 4.23 Percentage success of water project

Success	Frequency	Percentage
1-20%	46	16.3
21-40%	46	16.3
41-60%	73	25.8
61-80%	70	24.7
above 80%	48	17.0
Total	283	100.0

From the study, 73 respondents (25.8%) indicated that the success of water project is 41-60% while 70 respondents (24.7%) indicated that the success of water project is 61-80%.

4.7.6 Frequency of compiling water project reports

The respondents were asked to indicate the frequency of compiling water project reports. Their responses are in table 4.24.

Table 4.24 Frequency of compiling water project reports

Frequency	Frequency	Percentage
Monthly	100	35.3
Quarterly (after 3 months)	109	38.5
Semi annually	34	12.0
Annually	40	14.1
Total	283	100.0

From the study, 109 respondents (38.5 %) indicated that compilation of water project report is done quarterly (after 3 months) and 100 respondents (35.3 %) indicated that compilation of water project report is done monthly.

4.7.7 Monitoring and evaluation training

The respondents were asked to indicate how many times have you attended monitoring and evaluation training. Their responses are in table 4.25.

Table 4.25 Number of times of monitoring and evaluation trainings

Number of times	Frequency	Percentage
Once	91	32.2
Three	21	7.4
Two	15	5.3
None	156	55.1
Total	283	100.0

From the study, 91 respondents (32.2 %) indicated they have attended monitoring and evaluation training once, 21 respondents (7.4 %) attended monitoring and evaluation training thrice, 15 respondents (5.3 %) attended monitoring and evaluation training twice while 156 respondents (55.1 %) have not attended monitoring and evaluation training.

4.7.8 Influence of monitoring and evaluation sustainability of water projects

The respondents were asked to indicate how monitoring and evaluation influence sustainability of water projects. Their responses are in table 4.26.

Table 4.26 Monitoring and evaluation influence on sustainability of water projects

Influence	Frequency	Percentage
Ensures members adhere to by laws	72	25.4
Misuse of funds minimised	73	25.8
Ensure regular repairs and follow up so that all members access water	42	14.8
community and management are able to evaluate themselves on the project	27	9.5

Help the water project to know whether it is making progress	1	0.4
Attracts more people to join project	1	0.4
Weaknesses in project management are identified in good time and corrective measures put in place as soon as possible	45	15.9
Help safeguard members affairs and funds in a water project	22	7.8
Total	283	100.0

From the study, 73 respondents (25.8 %) indicated if monitoring and evaluation is done misuse of funds minimized, 72 respondents (25.4 %) indicated if monitoring and evaluation is done members ensures adherence to by laws while only 1 respondent (0.4 %) indicated if monitoring and evaluation is done, members attracts more people to join the water project.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on the summary of findings of the study which formed the foundation for discussions. The discussions provided a firm basis upon which conclusions and recommendations were advanced to address the influence of community based projects' management on sustainability of community based projects: a case of Itabua-Muthatari water project in Embu Sub County. It also includes suggested areas for further research and contributions made to the body of knowledge.

5.2 Summary of Findings

The summary of findings is presented based on the four objectives of the study.

5.2.1 The influence of capacity building on sustainability of community based projects in Embu Sub County.

The study indicated that 171 respondents (60.5 %) were males. This shows that the Itabua-Muthatari water project members were mainly males. The findings showed that 94 respondents (33.2 %) were in the age bracket 51-60 years and thus majority of the members 240 (84.8%) are in 31-60 years. The study also indicated that 216 respondents (76.3 %) are married and thus majority of the respondents were married. Marriage ascribes familial responsibilities to farmers and therefore farmers become more serious in terms of their participation in water projects and other community projects. The study further indicated that 141 respondents (49.8 %) have household size of 3-5 persons.

From the study, 83 respondents (29.3 %) had attended trainings on water use and management. Training on water use and management equipped members with appropriate knowledge, skills and attitudes geared at improving water use efficiency. The study showed that of 200 respondents (70.7%) did not attend any training on water use and management, 8 respondents (2.9%) attended training on crops farming

(bananas and French beans) while 7 respondents (2.5%) attended training on water harvesting and treatment. This shows that there is a need to invest on human resource Water project members formed much of the sample. The study indicated that 68 respondents (24.1 %) have held their positions for more than 10 years and therefore holding the position for long accumulated experience in water project.

The findings show that 95 respondents (33.6 %) suggested that Itabua-Muthatari water project members should be trained on water harvesting techniques, 81 respondents (28.7 %) on horticulture, dairy farming and green house farming and only 1 respondent (0.4%) suggested that members should be trained on leadership. The study showed that 222 respondents (78.5 %) strongly agree that the officials of the project should be trained on water use and management, 102 respondents (36.1 %) strongly disagree that members usually waste water, 195 respondents (42.1 %) strongly agree that trainings should cover the whole value chain while 122 respondents (43.2 %) strongly agree that members fees can be used to sustain the water.

5.2.2 The influence of accountability of management on sustainability of community based projects in Embu Sub County.

The study showed that 120 respondents (42.4%) strongly agreed that the management use the right procurement procedures, 102 respondents (36.1 %) strongly agreed the management prepare and present financial reports to members, 127 respondents (44.9 %) strongly agreed that the books of accounts are audited as required, 108 respondents (38.2 %) strongly agreed that the members are kept informed of the financial transactions of the project while 134 respondents (47.4 %) strongly agreed that on general terms the management is transparent and accountable.

The findings showed that 128 respondents (45.2 %) indicated the water project is managed by the manager, 90 respondents (31.8%) believed that the water committee manages the water project while 65 respondents believed that the employed technician manages the water project. Water project leadership involved itself in service provision and mobilizing project beneficiaries.

The findings showed that 150 respondents (53.0%) believed that elections are held after three years, 89 respondents (31.5%) believed that elections are held once a year while 41 respondents (14.5 %) believed that elections are held after two years. Members elect certain persons to look after and manage the day to day affairs of the water project.

The findings showed that 96 respondents (34%) believed that when the management is accountable the project is able to regulate water to all members, 77 respondents (27.2%) believed that when the management is accountable rationing of water due to high demand is possible, 3 respondents (1.1 %) believed that when the management is accountable members own the project while 1 respondents (0.4 %) believed that when the management is account in membership.

5.2.3 The influence of community based projects stakeholders' participation on sustainability of community based projects in Embu Sub County.

From the study, 114 respondents (40.3 %) indicated that the most popular service provider is social services department followed by Constituency Development Fund as indicated by 49 respondents (17.3 %). The findings showed that 120 respondents (42.4 %) strongly agree that active stakeholders influence the management to be accountable and transparent management use the right procurement procedures, 108 respondents (38.2 %) agreed that the external stakeholders influence the management to be accountable and transparent, 102 respondents (36.1 %) agreed that the stakeholders offer services which enable members to improve their livelihoods and living standards while 114 respondents (40.3 %) agreed that without stakeholders Itabua Muthatari water project cannot survive five years after implementation phase.

The study showed that 115 respondents (40.6 %) indicated that stakeholders participation influence sustainability of community projects by ensuring that proper designs are in place, 82 respondents (29.0 %) indicated that stakeholders participation influence sustainability of community projects through offering free seeds and fertilisers to members while 3 respondents (1.1 %) indicated that stakeholders participation influence sustainability of community projects through ensuring that funds are managed well.

5.2.4 The influence of monitoring and evaluation on sustainability of community based projects in Embu Sub County.

The study showed that 167 respondents (59 %) strongly agreed that the monitoring and evaluation enhance sustainability of projects, 157 respondents (55.5 %) strongly agree that monitoring and evaluation of projects enhance accountability transparency and sustainability of projects, 122 respondents (43.1 %) agreed that monitoring and evaluation enable the project members to know the progress of the projects, 135 respondents (47.3 %) strongly agreed that plans for M&E should be developed at the same time and integrated with plans for the whole project.

From the study, 114 respondents (40.3 %) indicated that the water project is supervised twice a year while 89 respondents (31.4 %) indicated that the water project is supervised once a year. The study indicated that 130 respondents (45.9 %) indicated that the manager and technical staff conducted supervision of the water project, 103 respondents (36.4 %) indicated that executive committee conducted supervision of the water project, 27 respondents (9.5 %) indicated that WRMA conducted supervision of the water project while 23 respondents (8.1 %) indicated that Ministry of water conducted supervision of the water project. From the study, 140 respondents (51.2 %) indicated that they were involved in impact assessment while 143 respondents (50.5%) indicated that they not involved.

From the study, 73 respondents (25.8%) indicated that the success of water project is 41-60% while 70 respondents (24.7%) indicated that the success of water project is 61-80%. Compilation of water project report is done quarterly (after 3 months) as indicated by 109 respondents (38.5 %).

The study showed that 91 respondents (32.2 %) have attended monitoring and evaluation training once while 21 respondents (7.4 %) attended monitoring and evaluation training thrice. From the study, 73 respondents (25.8 %) indicated that if monitoring and evaluation is done, misuse of funds is minimized, 72 respondents (25.4 %) indicated if monitoring and evaluation is done members ensures adherence to by laws while only 1 respondent (0.4 %) indicated if monitoring and evaluation is done members attracts more people to join the water project.

5.3 Discussion of Findings

A discussion of findings of the study is presented based on the three objectives of the study.

5.3.1 Capacity building on sustainability of community based projects

From the study, 83 respondents (29.3 %) had attended trainings on water use and management. Training on water use and management equipped members with appropriate knowledge, skills and attitudes geared at improving water use efficiency. This agrees with Ministry of Education (2012) who reported that human capital is one of the most critical resources needed for social-economic development of an organization or nation and thus, a critical mass of educated people who are equipped with appropriate knowledge, skills and attitudes is required in order to achieve the country's political, economic and social goals.

The study showed that 8 respondents (2.9%) attended training on crops farming (bananas and French beans) while 7 respondents (2.5%) attended training on water harvesting and treatment. From the study, 95 respondents (33.6 %) suggested that Itabua-Muthatari water project members should be trained on water harvesting techniques, 81 respondents (28.7 %) on horticulture, dairy farming and green house farming and only 1 respondent (0.4%) suggested that members should be trained on leadership. The study showed that 222 respondents (78.5 %) strongly agree that the officials of the project should be trained on water use and management, 102 respondents (36.1 %) strongly disagree that members usually waste water, 195 respondents (42.1 %) strongly agree that trainings should cover the whole value chain while 122 respondents (43.2 %) strongly agree that members fees can be used to sustain the water. This shows that there is a need to invest on human resource capacity development in the water project. This collaborates study by UNDP (2006) who stated that many community based organizations are interested in continuously enhancing their capacities and skills to better assume key development responsibilities and to achieve recognition and vertical integration into existing institutional settings.

The findings show that 276 respondents (97.5 %) were water project members and thus water project members formed much of the sample. The study indicated that 68 respondents (24.1 %) have held their positions for more than 10 years and therefore

holding the position for long accumulated experience in water project this agrees with OMES (2014) who observed that long-term accumulation of advanced experience provides best practice through applied theories, achievements and enterprise development, strategic objective and leadership experience.

5.3.2 Management accountability on sustainability of community based projects

The study showed that 120 respondents (42.4 %) strongly agreed that the management use the right procurement procedures, 102 respondents (36.1 %) strongly agreed the management prepare and present financial reports to members, 127 respondents (44.9 %) strongly agreed that the books of accounts are audited as required, 108 respondents (38.2 %) strongly agreed that the members are kept informed of the financial transactions of the project while 134 respondents (47.4 %) strongly agreed that on general terms the management is transparent and accountable. This agrees with Rooy (2000) who stated that civil society projects which are designed to promote democratization mostly come under the good governance category and are involved in service provisioning and mobilizing project beneficiaries.

The findings showed that 150 respondents (53.0%) believed that elections are held after three years, 89 respondents (31.5%) believed that elections are held once a year while 41 respondents (14.5 %) believed that elections are held after two years. Members elect certain persons to look after and manage the day to day affairs of the water project. This agrees with Foullet and Fugsburg (2009) who stated that members elect and appoint a certain person to look after and manage the day to day affairs of the group. The findings showed that 96 respondents (34%) believed that when the management is accountable the project is able to regulate water to all members, 77 respondents (27.2%) believed that when the management is accountable rationing of water due to high demand is possible, 3 respondents (1.1 %) believed that when the management is accountable members own the project while 1 respondents (0.4 %) believed that when the management is account in membership.

5.3.3 Community based projects stakeholders' participation on sustainability of community based projects.

From the study, 114 respondents (40.3 %) indicated that the most popular service provider is social services department followed by Constituency Development Fund

as indicated by 49 respondents (17.3 %). The findings showed that 120 respondents (42.4 %) strongly agree that active stakeholders influence the management to be accountable and transparent management use the right procurement procedures. This collaborates study by Gupta et al (2009) who stated that community based groups management should therefore be transparent and objective in their financial management. 108 respondents (38.2 %) agreed that the external stakeholders influence the management to be accountable and transparent, 102 respondents (36.1 %) agreed that the stakeholders offer services which enable members to improve their livelihoods and living standards this agrees with Thomas (2012), who indicated that institutional sustainability of community based organizations depends on their management systems (including external support) and membership. He adds that good survival of community based organization is facilitated by consistent attendance and member participation.

The study showed that 115 respondents (40.6 %) indicated that stakeholders participation influence sustainability of community projects by ensuring that proper designs are in place, 82 respondents (29.0 %) indicated that stakeholders participation influence sustainability of community projects through offering free seeds and fertilizers to members while 3 respondents (1.1 %) indicated that stakeholders participation influence sustainability of community projects through ensuring that funds are managed well. This is supported by study by Gram (2010) which stated that community based projects tried to last longer and perform well if their promoters provide good organizational support and social mobilization. According to Wair (2009), the support services to community projects include capacity building, performance monitoring and helping to access bank credit.

5.3.4 Monitoring and evaluation on sustainability of community based projects.

The study showed that 167 respondents (59 %) strongly agreed that the monitoring and evaluation enhance sustainability of projects, 157 respondents (55.5 %) strongly agree that monitoring and evaluation of projects enhance accountability transparency and sustainability of projects. This agrees with water project (2014) report which indicated that it is vital that people involved in development have ways of finding out the impact of their work from the communities they serve and that monitoring and evaluation enable the project members to know the progress of the projects, 135

respondents (47.3 %) strongly agreed that plans for M&E should be developed at the same time and integrated with plans for the whole project.

From the study, 114 respondents (40.3 %) indicated that the water project is supervised twice a year while 89 respondents (31.4 %) indicated that the water project is supervised once a year. From the study, 130 respondents (45.9 %) indicated that the manager and technical staff conducted supervision of the water project while 103 respondents (36.4 %) indicated that executive committee conducted supervision of the water project. This agrees with Grembergen and Haes (2008) who reported that organization controls its actions and should have mechanisms to ensure that constituents follow established processes and policies and maintains oversight and accountability in a loosely coupled organizational structure. From the study, 140 respondents (51.2 %) indicated that they were involved in impact assessment. This collaborates study by Food and Agriculture Organisation (2012) who reported that at an agreed time from when water first flowed, projects need to be assessed with some set of measures to find out the real impact of the work.

5.4 Conclusions

The followings conclusions were made from the study:

It can be concluded that capacity building influence sustainability of community based projects. Itabua-Muthatari water project members should be trained on water harvesting techniques, water use and management, horticulture, dairy farming, green house farming and group leadership. Water use and management equip members with appropriate knowledge, skills and attitudes geared at improving water use efficiency.

It can also be concluded that accountability of management influence sustainability of community based projects. The management Itabua-Muthatari water project uses the right procurement procedures, prepare and present financial reports to members, audit books of accounts as required, inform members of the financial transactions of the project in an accountable and transparent manner. The elections of Itabua-Muthatari water project management is done after three years.

It can be concluded that community based projects stakeholders' participation influence sustainability of community based projects. The most popular service provider is social services department followed by Constituency Development Fund.

Active stakeholders influence the management to be accountable and transparent management and make it to use the right procurement procedures. Stakeholders offer services which enable members to improve their livelihoods and living standards. Stakeholders' participation influence sustainability of community projects by ensuring that proper designs, offering of free planting seeds and fertilisers to members and ensuring that funds are managed well.

It can also be concluded that monitoring and evaluation influence sustainability of community based projects as indicated by 167 respondents (59 %) who strongly agreed that the monitoring and evaluation enhance sustainability of projects, enhance accountability, transparency and sustainability of projects. plans for M&E should be developed at the same time and integrated with plans for the whole project. The water project should control its actions and have mechanisms to ensure that constituents follow established processes and policies and maintains oversight and accountability. When the members and officials are trained on monitoring and evaluation, misuse of funds is minimized, members ensures adherence to by laws and more people are attracted to join the water project.

5.5 Recommendations

The following policy recommendations were made from the findings of this study

1. Itabua-Muthatari water project members should be trained on water harvesting techniques, water use and management, horticulture, dairy farming, green house farming and group leadership.
2. The election of Itabua-Muthatari water project management should be done after three years. The vacant positions due to resignation, disciplinary or any other reasons should be filled before the end of three years to ensure effective management.
3. Stakeholders' participation should be encouraged in community projects in order to ensure sustainability of community based projects.
4. It can also be concluded that monitoring and evaluation influence sustainability of community based projects as indicated by 167 respondents (59 %) who strongly agreed that the monitoring and evaluation in water projects since it enhances transparency, accountability and sustainability of projects. The community based projects should control their actions and have mechanisms

to ensure that constituents follow established processes and policies and maintains oversight and accountability.

5.6 Suggested areas for further Research

The following areas are suggested for further studies from the results of this study

1. Conduct research on the influence of community based projects' management on sustainability of community based projects in Kenya.
2. Conduct research on the influence of stakeholders participation on sustainability of community based projects in Kenya.

Objective	Contribution to knowledge
To determine the influence of capacity building on sustainability of community based projects in Embu Sub County.	Training on water use and management equip members with appropriate knowledge, skills and attitudes geared at improving water use efficiency. Itabua-Muthatari water project members should be trained on water harvesting techniques, water use and management, horticulture, dairy farming, green house farming and group leadership.
To assess the influence of accountability of management on sustainability of community based projects	The management of community water projects should use the right procurement procedures, prepare and present financial reports to members, audit books of accounts as required, inform members of the financial transactions of the project in an accountable and transparent manner.
To assess the influence of community based projects stakeholders participation on sustainability of community based projects	Active participation of stakeholders influences the management to be transparent, accountable and use the right procurement procedures. Stakeholders offer services which enable members to improve their livelihoods and living standards. Stakeholders' participation influence sustainability of community projects by ensuring that proper designs, offering of free planting

	seeds and fertilizers to members and ensuring that funds are managed well.
To determine the influence of monitoring and evaluation on sustainability of community based projects	Monitoring and evaluation enhance transparency, accountability and sustainability of projects. Plans for M&E should be developed at the same time and integrated with plans for the whole project. The community based projects should control their actions and have mechanisms to ensure that constituents follow established processes, policies, maintains oversight and accountability. Training of members and officials on monitoring and evaluation minimizes misuse of funds, ensures adherence to by laws and more people are attracted to join the community projects.

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APPENDICES

APPENDIX 1: LETTER OF INTRODUCTION

LILIAN NKATHA KINYUA

L50/83793/2012

P.O. Box 1930-60100

Embu

The Manager

Itabua-Muthatari Water Project

Dear Sir/Madam,

RE: PERMISSION TO CARRY OUT ACADEMIC RESEARCH

I am a graduate student undertaking Masters of Arts Degree in Project Planning and Management in the University of Nairobi and I am conducting a research study entitled “the influence of community based projects managements’ on sustainability of community based projects: a case of Itabua-Muthatari water project in Embu Sub County, Embu County.’’.

The purpose of this letter is to request for permission to interview project members using the attached questionnaire. The information obtained is strictly for academic purpose and shall be treated with utmost confidentiality.

Thank You.

Yours faithfully,

LILIAN NKATHA KINYUA

L50/83793/2012

**APPENDIX 2: LETTER REQUESTING FOR TRANSMITTAL TO THE
RESPONDENTS**

LILIAN NKATHA KINYUA

L50/83793/2012

P.O. Box 1930-60100

Embu

Dear Sir/Madam,

I am a graduate student undertaking Masters of Arts Degree in Project Planning and Management at the University of Nairobi. I am conducting a research study entitled “The influence of community based projects’ management on sustainability of community based projects: a case of Itabua-Muthatari community water project in Embu Sub County”.

You have been selected to assist in providing the required information because your views are considered important to this study.

I am therefore kindly requesting you to fill this questionnaire. Please note that any information given will be treated with utmost confidentiality and will only be used for the purpose of this study.

Thank You.

Yours faithfully,

LILIAN NKATHA KINYUA

L50/83793/2012

APPENDIX 3: QUESTIONNAIRE FOR ALL RESPONDENTS

Instructions

Kindly fill the following questions by ticking or filling in the appropriate spaces provided except where otherwise indicated.

Section A: Background Information

1. Please indicate your gender?

(a) Male [] (b) Female []

2. Please indicate your age.

(a) Below 30 [] (b) 31 – 40 [] (c) 41 – 50 [] (d) 51 – 60 [] (e) above 61 []

3. What is your marital status?

(a) Married [] (b) Single [] (c) Divorced [] (e) Widow [] (f) Widower []

4. What is the size of your household?

(a) 2 [] (b) 3 – 5 [] (c) 6 – 8 [] (d) 9 – 11 [] (e) more than 12 []

5. Which is your highest level of education?

(a) Primary [] (b) Secondary [] (c) Certificate [] (e) Diploma [] (f) Degree []

Section B: Influence of Capacity Building of CBP management on sustainability of community water projects

4. (a).Have you attended any training on water use and management

(a) Yes [] (b) No []

(b).If the answer is yes in question 4(a), please indicate the name of the training and name of institution which conducted it

Name of training..... Name of institution.....

5. What is your position in **Itabua-Muthatari Community Water Project**?

(a)Water project member [] (b) Water project staff [] (c) Water project committee [] (d) Any other [] Please specify.....

5. How long have you held this position?

(a) 0 [] (b) 1-3 [] (c) 4-5 [] (d) 6-10 years [] (e) more than 10 years []

6 (a).In your own opinion, are the members well trained and sustainable water management adequate in your institution

(a) Yes [] (b) No []

(b). Please on explain your answer in Question 6(a)

.....

7. List two trainings you would consider members of Itabua-Muthatari Water Project should be trained on

i.....

ii.....

8. The following are some of the capability building issues influencing sustainability of community projects. What is your level of agreement? Use a scale where 1- strongly agree, 2- agree, 3- neutral, 4- disagree and 5-strongly disagree.

	1	2	3	4	5
Influence of capability building issues on sustainability of community projects					
Officials of the projects should be trained on water use and management					
Members usually waste a lot water					
Trainings should cover the whole water value chain					
Members fees can be used to sustain the water project					

Section C: Influence of Accountability of CBP management on sustainability of community water projects

The following are some of the accountability of CBP management issues influencing sustainability of community projects. What is your level of agreement? Use a scale where 1- strongly agree, 2- agree, 3- neutral, 4- disagree and 5-strongly disagree.

	1	2	3	4	5
Influence of accountability of CBP management sustainability of community projects					
The management use the right procurement procedures					
The management prepare and present financial reports to members					
The management keep records on finances and can be accessed by members					
The books of accounts are audited as required					
The members are kept informed of the financial transactions of the project					
On general terms the management in transparent and accountable					

10. (a). Please indicate the one who manages the water project on your behalf.....

(b). Do you participate in election or appointment of leaders

(a) Yes [] (b) No []

© How often are the leaders elected?

(a) Once a year [] (b) after two years [] (c) after three years (d) Any other please specify.....

11. Does the accountability of the management influence the sustainability of community projects?

.....
.....
.....

Section C: Influence of Stakeholders participation on sustainability of community based projects

12. Please list the service providers who offer technical support on water issues

1.....Contribution in kind or cash.....

2.....Contribution in kind or cash.....

3.....Contribution in kind or cash

13. The following are some of the of the stakeholder participation issues influencing sustainability of community projects. What is your level of agreement? Use a scale where 1- strongly agree, 2- agree, 3- neutral, 4- disagree and 5-strongly disagree.

	1	2	3	4	5
Stakeholder participation issues influencing sustainability of community projects					
Active stakeholder influence sustainability of projects positively					
External stakeholders influence the management to be accountable and transparent					
Stakeholders offer services which enable members to					

improve their livelihoods and living standards					
Without stakeholders Itabua-Muthatari water project cannot survive five years after implementation phase					

14. In your own opinion comment how stakeholder participation influence sustainability of community water projects

.....
.....
.....

Section

E.....
.....
.....
.....
.....
.....:

Influence of Monitoring and evaluation on sustainability of community projects

15. The following are some of the Monitoring and evaluation issues influencing sustainability of community projects. What is your level of agreement? Use a scale where 1- strongly agree, 2- agree, 3- neutral, 4- disagree and 5-strongly disagree.

	1	2	3	4	5
Influence of Monitoring and evaluation on sustainability of community projects					
The monitoring and evaluation enhance sustainability of projects					
The members and officials of projects should undergo training on Monitoring and evaluation regularly					
Monitoring and evaluation of projects enhance accountability, transparency and sustainability of					

projects.					
Monitoring and evaluation enable the project members to know the progress of the projects					
Plans for monitoring and evaluation should be developed at the same time and integrated with plans for the whole project					

16.(a) How many times is your water project supervised per year?

a) Once a year [] (b) Twice a year [] (c) Thrice a year (d) Four times a year

(e) Any other please specify.....

(b). Who conducted the supervision

17. Has any impact assessment or evaluation carried out for your water project

(a)Yes [] (b) No []

18. In your own opinion what is the percentage success of your water project

(a) 1-20% (b) 21-40% (c) 41-60% (d) 61-80% (e) Above 80%

19. What is the frequency of compiling water project reports?

(a) Monthly (b) quarterly (after 3 months) (c) Semi annually (d) Annually

20. (a) How many times have you attended monitoring and evaluation training.....

(b) Who organized the training

21. In your own opinion state how monitoring and evaluation influence the sustainability of water projects.

.....
.....
.....

Thank you for your time and participation.

**APPENDIX 4: DETERMINATION OF SAMPLE SIZE FOR A GIVEN
POPULATION BY KREJCIEANDMORGAN**

Table for Determining Sample Size for a Given Population

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

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

Source: Krejcie & Morgan, 1970