

**FACTORS INFLUENCING SUSTAINABILITY OF WATER
RESOURCE PROJECTS BY WOMEN IN SOTIK
SUB-COUNTY, BOMET COUNTY, KENYA**

**BY
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DECLARATION

This Research report is my original work and has never been presented for a degree or any award in any other university.

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This Research report has been submitted for Examination with my approval as the University Supervisor.

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DEDICATION

I dedicate this research report to my beloved wife; Scolar Kitur for her financial Support and my children; Elnathan Kiprotich, Eleanor Chepgetich for offering their moral support during the entire period of my studies.

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LIST OF ABBREVIATION AND ACRONYMS

FAO	: Food and Agricultural Organization.
HIV/AIDS	: Human Immune Virus/ Acquired Immune Deficiency Syndrome.
IFAD	: International Funds for Agricultural Development.
NGO	: Non-Governmental Organization.
MDG	: Millennium Development Goals.
UNICEF	: United Nations International’s Children’s Emergency Fund.
UNESCO	: United Nations Educational, Scientific and Cultural Organization.
UNDESA	: United Nations Department of Economic and Social Affairs.
UNDESD	: United Nations Decade of Education for Sustainable Development.
WHO	: World Health Organization.
WSPs	: Water and Sanitation Program

ABSTRACT

The demand for water as a natural resource is high and need to be sustaining so that the current generation can use and can still meet the need of the future generation. Consequently, this study explores the factors influencing sustainability of water resource project by women. The study will be carried out at Sotik Sub-County, Bomet County, Kenya. It hopes to solve the problem of water in the area by empowering women who are the key users of the resource. This study were guided by the following objectives; to establish the influence of leadership on sustainability of water resource projects, to determine the extent to which women involvement influence sustainability of water resource projects, to examine the influences of training on sustainability of water resource projects, Lastly, to determine the extent to which availability of funds influence sustainability of water resource projects. The finding of the study will be useful to the entire community especially women who use this resource often. Also it will be helpful in underscoring the clean and sustainable water for the community- the people of, Sotik Sub-County, Bomet County. Development is possible when women who are the majority and key users of this water resource are empower and allowed to make crucial decision concerning the water projects. While women often have the primary responsibility for the management of household water supply, they are rarely consulted or involved in the planning and management of this vital resource. In Sub-Saharan Africa women produce upto 80 percent of basic foodstuffs, yet they have the least access to means of production. Literature review reflects the influence of leadership on the sustainability water resource projects, assess the involvement of women in sustainable water resource, examine the influence of training on sustainability of water resource and determine the extent on which availability of funds influence sustainability of water resource projects. The target population will be 384 people and descriptive research design will be used in collecting the data from the respondent. According to Kothari (2008) questionnaires are more objective than interviews and are standardized. Respect of the respondent is essential and when administering the questionnaire need to be observe and this encourage the respondent to give freely there view. The theory informing this study is Maslow Hierarch of human; the lower is physiological needs that are food, water, clothes and shelter. The basic level need is Maslow's Hierarchy of Needs Theory. Physiological, safety and social needs are referred to as lower order or deficiency needs, because the absence of them make individuals deficient and existence as a human being is threatened. From the study it was noted that good leadership influence sustainability of water projects. Majority of the respondents are illiterate and this affects the sustainability of water projects. Further in order to achieve sustainable water women should be involved during conception, design, implementation, operation and maintenance of the projects. Also the study found out that funds are not adequate and the mode of disbursement is not reliable, transparent and fast and this hinder management of the water projects. When funds are enough and the affected communities contribute the available resource the project will be sustains and funds distribution should be clear.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Water is an essential ingredient for sustaining of human life and that is why this research tries to explore the factors influencing sustainability of water resource projects by women. If women are given the chance to lead it will influence the sustainability of water resource projects as noted by Elanders 2006, that meaningful management of water by women in water resources development, management and use can: Lead to the design of effective new solutions to water problems, Help governments avoids poor investments and expensive mistakes; Make projects more sustainable; Ensure that infrastructure development yields the maximum social and economic returns; and further development goals, for instance the Millennium Development Goals on hunger, child mortality and gender equality.

Mpaka (2012) alludes that when women are involved, in Morocco, for instance, the rural Water Supply and Sanitation project of the World Bank was aimed at reducing the burden of girls, traditionally involved in fetching water, in order to improve their school attendance, said Puri Deputy Executive Director, UN 2012. She further noted that in the six provinces where the project is based, it was found that girls' school attendance increased by twenty percent in four years, attributed to the fact that girls spent less time fetching water. At the same time, convenient access to safe water reduced time spent collecting water by women and young girls by 50 to 90 percent. In Pakistan, putting water sources closer to the home was associated with increased time allocated to market work. In Tanzania, a survey found that girls' school attendance was 15 percent higher for girls' from homes located 15 minutes or less from a water source than for those in homes one hour or more away.

Further Deda P, (2004) confirm that when women are involved in water management they are effective. Also Mwangi, w. (2009) note that in Kenya access to clean water is a challenge and women are forced to walk for many miles each day to find the water needed for the family.

When women are involved in water resource projects it will reduce burden of collecting water. Barton A. (2010), noted that, With closer water supplies, women have time in the domestic setting at home the extra time allows women to better take care of their families and improve the overall health and nutrition of their families. Also with the added time, women will get more opportunities to work outside of the home to bring in extra income for their families. This extra income can be used to improve the lives of her family by providing them with better financial assistance.

If women run the water supply it will succeed, Sijbesma. C (1998) noted that water supply schemes in developing nations have shown higher success when planned and run with full participation of women in affected communities.

Mbogori, A.K (2014), who carry out a researched on women involvement in management of community projects in Narok observed that many water boreholes sunk and not operational due to lack of ownership. The findings further indicate that this ownership gap was brought about by inadequate involvement of women who spent most of their time at these water points.

Training of women is essential for instance in north-eastern Brazil Branco AM et al 2002 noted that women have taken the lead in their communities to protect water resources. This involves community education, for instance, teaching local people not to dump their sewage into the river and planting native species of trees along the river banks. Women activists are undertaking this project without government support, hoping that, if they are able to demonstrate success, the government will support other similar efforts.

Women need to be given key priority according to Chartres et al, (2010) gave six point plans for solving the world's water problems. These are; first, improve data related to water, second treasure the environment, third reform water governance, fourth, revitalize Agricultural water use, fifth manage urban and industrial demand and lastly Empower the poor and women in water resource management.

Kenya water has been funded by different donor Rukunga G. et al (2006) noted that a number of channels are used to fund water supply schemes in Kenya and include: Government of Kenya budget which is the dominant channel for financing water sector in Kenya. Second, local Authority budgets, Third Non Governmental Organizations who implement water projects directly or indirectly through community based organizations. Fourthly, Internal generation by service providers mainly local utilities, Community based organizations and Private small scale

providers. The money generated is used for repair and maintenance of the water facilities or expanding the investments, lastly, direct expenditures by communities and households. This includes money paid to small scale water vendors, and water kiosk operators.

Rukunga G. et al (2006) note that one of the financing avenues outlined in the new Water act is the Water services Trust Fund (WSTF). This fund is financed mainly by the government and its development partners. It mobilizes resources to support communities that cannot afford water service because of extreme poverty.

Rukunga G. et al (2006) argue that self help groups funds water projects by mobilizing their own resources, about 30% of Kenya's rural population who have access to safe water are served by community managed schemes, developed by self-help groups.

1.2. Statement of the problem

Shortage of water pose a big challenge on women and the entire family since they are forced to collect contaminated water from stagnate stream which may cause water borne diseases. Further women daily struggle in providing their families with water for daily use. 'Water sources are often far from the village, women and girls must walk for hours to fetch water daily. Some families even keep their daughters at home so that they can help collect water. Instead of going to school, these girls follow their mothers and walk, on average, at least ten miles every day. The journey also requires them to carry buckets of water weighing over 40 pounds on their heads. Carrying such a heavy load over long distances has detrimental health effects, including back and chest pains, developmental deformities, arthritic disease, and miscarriages. (UNICEF water, Sanitation and Hygiene Strategy, 2006-2015)

Water near the home produces significant improvements in nutrition and health. The carrying of water over long distances is a health hazard, especially during development and pregnancy periods. During daily water collection, women face the risk of drowning (from floods) injuries from attacks. (United Nations Department of Economic and Social Affairs April 2004). Due to the above reasons and others this research tries to exploit factors influencing sustainability of water resource by women in Sotik sub-county. The challenge of water that people of Sotik face as leads to underdevelopment in some part of the region and a mitigating measure should be sought.

1.3. Purpose of the study

The purpose of the study will be to investigate factors influencing sustainability of water resource projects by women in Sotik Sub-county.

1.4. Objectives of the study

This study will be guided by the following objectives;

1. To establish the influences of leadership on sustainability of water resource projects in Sotik Sub-county.
2. To assess the extent to which women involvement influences sustainability of water resource projects in Sotik Sub-county.
3. To examine the influences of training on sustainability of water resource projects in Sotik Sub-county.
4. To determine the extent to which availability of funds influences the sustainability of water resource projects in Sotik Sub-county.

1.5. Research Questions

1. How does leadership influence sustainability of water resource projects in Sotik sub-County?
2. How does women involvement influence sustainability of water resource projects in Sotik sub-County?
3. How does training influence sustainability of water resources projects in Sotik sub-County?
4. To what extent does availability of funds influence the sustainability of water resource projects in Sotik sub-County?

1.6. Significance of the study

The findings from this study will be essential to the people of Sotik sub-County, the government of Kenya, the County government of Bomet, the non-Governmental organizations and other researchers.

The findings will be use by the national government in conjunction with the county government in allocation of funds for training and community empowerment. Also it will help the community in knowing the best practice in order to have sustainable water resource.

The finding will champion women in managing water resources and promote ownership as the key stakeholders. The donor will use the finding to finance and empowered the community in sustainability water resource. Another area in which this study will be significant it will reduce the burden on women. Lastly, this finding will assist researchers who wish to validate the finding or may wish to research further from the gap in the findings.

1.7. Limitation of the Study

The place where this research will be carried out is remote place and situated off the main tarmac road of Kaplong- Bomet highway. The roads in the area are impassable especially in raining seasons and they are many feeder roads connecting the marrum roads. The mean of transport is motor bike which could be use in collecting the data. The target respondents who are the women pose a great challenge because of their illiteracy level and they are useful in information gathering. To mitigate illiteracy challenge research assistant will be use to guide respondent in answering the questions.

The use of questionnaires is likely to affect the collection of data since the respondents might not understand questions. To solve this piloting the instrument will be carried out to verify if there are questions that need to be change or added.

To encourage the respondent in giving out the require information and to stamp out fear they will be assure that the data is for academic purpose and is useful government and non government in funding the water resource.

1.8. Delimitation of the Study

The study will be confined to the investigating the factors influencing sustainability of water resource projects by women in Sotik sub-County. The water projects are wide spread around the area. It will be carried out in the five wards targeting the household in the established water project that is Kipsonoi, Rogenai, Abosi, Kapletundo and Chemangel.

1.9. Basic Assumptions of the Study

It is assumed that the factors influencing sustainability of water resource projects by women are the beliefs and custom that tie people in the community. Further it is assume that respondent will be cooperative in giving the information objectively. Also the chosen sample would be a true representation of the entire population and the data instrument to be use will give the expected results.

1.10. Definition of significant terms as used in the study

Influence-it means to affect an individual way of behavior positively or negatively.

Project-this is a plan work that is intended to give new thing in the lives of those using it.

Resources-it is what is in our disposal that when use positively bring a positive result.

Sustainability- means something that you use continuous for a long time without exhaustion.

Leadership- it means to lead people to ascertain point which bring a positive impact.

Involvement- this means the act of taking, in other word it is act of participating in something.

Training- it is skill acquire through learning or from information read or taught.

Funds- it is monies needed to fund and maintain a project.

1.11. Organization of the Study

This research report is organized in five chapters; Chapter one contains the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitation of the study, basic assumption of the study, delimitation of the study, definition of terms as used in the study and the organization of the study.

In chapter two it contains literature review, the concept of sustainability of water resource projects, influences of leadership on sustainability of water resource projects, influences of women involvement on sustainability of water resource projects, influences of women training on sustainability of water resource projects, influences of availability of funds on sustainability of water resource projects, theoretic framework, Conceptual framework, and literature gaps and in conclusion is the summary of literature review.

Chapter three is about research methodology and contains, the introduction, research design, target population, sample and sample selection, data collection instrument, instrument's pretesting, procedures for data collection, operationalization of the validity, methods of data analysis and ethical consideration.

Chapter four is about research findings and discussion. It entails introduction, respondent return rate, data analysis and presentations.

Chapter five contains research findings. This entails the introduction, research findings, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The chapter contains literature review on the origins of the study variable. That is the introduction of the chapter, the sustainability of water resource projects as an independent variable. The dependent variables are; Influence of leadership on sustainability of water resource projects, Influence of women involvement on sustainability of water resource projects, Influence of women training on sustainability of water resource projects, Influence of availability of funds on the sustainability of water resource projects. Further contains Theoretical framework and Conceptual framework. Lastly the chapter captures Literature gaps and summary of Literature review.

2.2. Sustainability of water resource project

According to "world water crisis report, said starting to manage water resources more effectively and efficiently now will enable humanity to better respond to today's problems and to the surprises and troubles we can expect in a warming world. Further the Norwegian leader underscored that the danger is particularly acute in sub-Saharan Africa, western Asia and North Africa, where critical water shortages already exist. She added that water insecurity could wreak havoc "even in politically stable regions and must be top UN priority. (UN-Water in support of the International 'Water for Life' Decade, 2005–2015).

Water report note, that access to water is both a fundamental human right and an integral ingredient in the achievement of sustainable development and poverty alleviation. Providing physically accessible clean water is also essential for achieving gender equality, freeing women and girls to devote more time to the pursuit of education, income generation and even the construction and management of water Interagency (Task Force on Gender and Water (GWTF), a Sub-programme of UN-Water in support of the International 'Water for Life' Decade, 2005–2015.)

According to UNDESA 2004, access to safe drinking water is a basic human right and essential for achieving gender equality (freeing women and girls from spending long hours fetching

water), sustainable development and poverty alleviation. Having water points nearer the homestead will reduce the distance women and girls have to walk, thus allowing time for other activities, including training, childcare, growing food and income generation. The latter could include construction and management of water and sanitation facilities. Water near the home produces significant improvements in nutrition and health. The carrying of water over long distances is a health hazard, especially during development and pregnancy periods. During daily water collection, women face the risk of drowning (from floods) injuries from attacks. General Comment 15 on the right to water adopted in November 2002 by the Committee on Economic, Social and Cultural Rights, states: “The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.” It is essential that women to be involved in decision making processes regarding the provision, location and technology of water and sanitation facilities in the community and household.

According to Katui K. M et al,(2007), the Water Act includes useful provisions to ensure sustainability of water supplies through abstraction licensing, metering and reform of tariff structures. The improvements to water resource management can be expected to enhance the availability of water. The Water Act as well as the National Water Resource Management Strategy (NWRMS) prioritizes water availability for personal and domestic use, thus strengthening the realization of the right to water in Kenya. The National Water Services Strategy includes the minimum target of 20 liters per person per day. This legal and political framework provides a good fundament to deal with the difficulties existing at the implementation stage.

Access to water as by Word Bank 2007, noted that it provides greater self esteem, reduced exposure to the threat of violence and health hazards, and increased time for productivity. Safe, adequate and sustainable water supplies for all are one of the main social goals enunciated at global level in the past few years. One-quarter of the developing world’s population still lacks clean water while millions die annually from water related diseases. As the world population continues to grow, the need and demand for water escalates. At the Millennium Summit in 2000, Heads of State pledged to halve the proportion of people who are unable to reach or to afford safe drinking water by the year 2015 yet at the end of 2002 some 1.1 billion people or 18% of the world’s population lacked access to safe drinking water.

According to the World Bank, Gender and Development Group (2007), often women are the main users, providers, and managers of water in rural households.

The Millennium Development Goals adopted at the Millennium Summit at the United Nations in New York in 2000 included goals to “Promote gender equality and empower women” and to “Ensure environmental sustainability”. One of the targets for the goal on ensuring environmental sustainability is to “Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation.

In Mozambique, Women and girls are often obliged to walk many hours every day queuing in water points in the cities or walking long distances to fetch water, mainly in the rural areas (Mozambique National Human Development Report 2006/07)

In Burundi woman’s access to clean water is a critical issue that has been debated for a long time and is still not resolved. To access water, Burundian women have to travel long distances. They cover huge distances to obtain water that is in the final analysis, not fit for drinking. (*Concilie Gahungere is the coordinator of CAFOB (Collectif des Associations et ONG féminines du Burundi 2007).*

The main goals of the Sustainable Integrated Management and Development of Arid and Semi-Arid regions of Southern Africa are to integrate sustainable development principles in national policy, increase the number of people with access to safe drinking water, reduce infant mortality and promote gender equality. (2005-2014 _ United Nations Decade of Education for Sustainable Development)

Tissafi, Maya (2004). Noted that improve water create strong leadership, second, it reduced time, health, and care-giver burdens by improving water services in giving women more time for productive endeavors, adult education, empowerment activities and leisure. Third, convenient access to water and sanitation facilities reduces risk to women and girls from sexual harassment/assault while collecting water and increases privacy.

2.3. Influence of leadership on Sustainability of water Resource Projects

Despite their number and their prominent roles and responsibilities in relation to water women often have no voice and no choice in decisions about the kind of services they need or are receiving.

According to Elanders 2006, Evidence shows that the meaningful management of water by women in water resources development, management and use can: Lead to the design of effective new solutions to water problems, Help governments avoid poor investments and expensive mistakes; Make projects more sustainable; Ensure that infrastructure development yields the maximum social and economic returns; and further development goals, for instance the Millennium Development Goals on hunger, child mortality, and gender equality.

According to Cleaver Frances(1998) in a study in Zimbabwe showed that, unless gender sensitivity is combined with social analysis, community management of water supplies is not automatically inclusive and equality enhancing. There was recognition that women should play an increased role in water management, and a requirement that water point committees should primarily consist of women. However: “Poor women were less likely to be elected to positions on water point committees or village development committees. When asked the criteria used to elect people to positions of responsibility villagers repeatedly mentioned two qualifications: first someone they could respect (for position, influence, hard work or ability to forge consensus over difficult issues) and second someone with resources such as a bicycle or cash (so they could represent the village at district headquarters when required). Poor women generally have less access to water supplies and greater constraints on time and labour resources than other women or men. They are likely to be in poorer health and their children are at greater risk of water-related diseases. They therefore could benefit most from improvements that bring water supplies closer to their homes. However, they are least likely to participate in the collective decision-making that will bring this about.

According to World water Vision (2000), in peri- urban areas of *Malawi*, female participation in water management has shown to be very constructive. At first, male managers were put in charge of the communal water points. However, this was found to be ineffective, as the men were absent during the day and lacked service orientation and financial management skills. A new management group, consisting only of females, was set up and both water and sanitation management improved significantly. However, this was a heavy burden for the women, and the programme now follows an equitable strategy where the management group consists equally of men and women and where the burden of work and influence is shared equally.

An interesting trend which may provide an impetus to gender and water programmes is the recent increase in the number of women who have been appointed as water and environment ministers. As of mid-2005, there were about 40 women ministers of water or environment, representing every region and level of development in the world. The recently-elected chair of the African Ministerial Council on Water (AMCOW) is Maria Mutagamba, Minister of Water, Lands and Environment of Uganda. This is a concrete illustration of gender mainstreaming; these ministers constitute the critical mass needed to get gender integrated into water and sanitation - policies and programmes. (GWTF), a sub-programme of UN-Water in support of the *International 'Water for Life' Decade, 2005–2015*

According to water for life report (2005-2015), assert the role of women in management of water resource, 'A start has been made through the increase in the number of women serving as ministers of water and environment, but the empowerment of women as water managers must also be felt at the grassroots level.

Further the report alluded that in South Africa, Lesotho and Uganda, the women ministers for water are implementing affirmative action programmes in the water sector to train women for water and sanitation related careers, including science and engineering.

Tissafi, Maya (2004), noted that community-based organizations for water management can improve social capital of women by giving them leadership and networking opportunities and building solidarity among them.

According to Warner Dennis B (2005), Women should be encouraged to take on leadership roles on the committee. Committee membership is not sufficient if the women members have no functional roles. In some countries of East Africa, women rarely are allowed to take on leadership roles in rural communities. CRS and its partners have a special responsibility to ensure that women are encouraged to take key leadership positions and are given the training and support to assist them to do so.

2.4. Influence of women involvement on sustainability of water resource projects

According to Katui K. M et al,(2007), Participation of relevant stakeholders is recognized as a crucial element in official documents such as the Water Act. The water sector has become far more open to participation from nongovernmental Organizations (NGOs) than was the case prior

to the reforms and this has enhanced decision-making. However, ongoing efforts to include communities and civil society in the reform process should be enhanced, so as to involve the representatives of poor communities who are underserved in regard to water and sanitation.

According to World Bank (2007), it noted that women and girls spending up to 6-8 hours a day collecting water can consume up to a third of daily caloric intake often bringing back a mere 15 to 20 litres which has to cover the needs of a whole family leading to rationing water in the household. Many infectious diseases are associated with poor water quality. Carrying this heavy load consumes much of their energy (requiring 600 to 800 calories of food per day). This chore often deprives girls of time to attend school or mothers a job. It presents a health hazard, especially during development and pregnancy periods. They face the risk of drowning if the water source is a river and injuries from attacks during conflicts. With closer water comes less danger, greater self-esteem, less harassment of women and better school attendance by girls.

Mainstreaming Gender Report (1998), affirmed that participation of users in decision-making produces more efficient and more sustainable projects. When communities influence or control the decisions that affect them, they have a greater stake in the outcomes and are more committed to ensuring success. Participation helps to break down the cycle of dependence which characterizes much top down development work.’ This cultural bias against public participation, even in matters where women have more experience and expertise than men, is one of the most serious impediments to women's involvement in modern water management, for it has ingrained itself in the minds of both men and women for centuries and expresses itself concretely in the composition of local and national management and decision-making structures. It is deeply linked with concepts of male and female identity, and with the fundamental machinery of power and hierarchy. Hence, for modern freshwater management systems to utilize the traditional knowledge and concern women have displayed, it is necessary to address these cultural and power impediments 'Tanzanian women's capacity to have input into the decision-making machinery concerning water resources planning and management is partially hampered by their lack of exposure to scientific and technological fields related to the development of the water sector in general,' states Benedict P. Michaels. ‘Though there has been a considerable number of educated women in Tanzania since independence in 1961, most of them are in non-technical fields, and the few who have been trained in technical fields do not hold positions which give them the privilege to influence decisions favoring them in the water sector development process.

They simply implement what is decided by their senior male bosses. (Mainstreaming Gender Report, 1998)

Nikkhah and Redzuan (2009) note that participation in which people get directly involved in the projects ensures that they can take control of decisions that affect their lives. They conclude that participation as an end would lead to empowerment through top-down, bottom-up and partnership. Empowerment and type of participation as an end in bottom up approach of community development will be high, and consequently the particular community will have achieve sustainable development.

Shibesh C et al., (1999) noted that, 'There is a danger of not involving women in water resource projects; the following example affirmed it; "An example from Nepal shows the unfortunate consequences of not taking into account gender needs in project planning. The intervention resulted in inadvertently increasing women's burden: "In all the communities involved in the Nepal research, women complained that their water collection time significantly increased (nearly four or five times) after they received the improved water services. This is because the tap stands and the tube wells are located along the roadside, where they cannot bathe freely and wash their clothes used during menstruation comfortably, for shame of being seen by males. In order to avoid this, women in Hile village in east Nepal carry water all the way to their homes several times each day, spending significant amounts of energy to do this. All these women also complained that the surveyors had not involved them in designing the tapstands or tubewells themselves.

Women participation in water projects is crucial according to Sijbesma, C.(1998) noted that water supply schemes in developing nations have shown higher success when planned and run with full participation of women in the affected communities.

C van Wijk, (1989) suggested ten key steps to enhance the involvement of women in water supply programmes. The following steps can be taken by water agencies as a means of advancing women's involvement: First, Orient male management and staff in how women's involvement helps to realize project objectives. Second, work with women field workers, from the agency itself and from other services and/or with local Intermediaries. Third, Discuss with local leaders and authorities why women should be involved in the planning and management of water services, and how this can best be achieved. Fourth, Inform women about project and

programme meeting, using a variety of different channels, and encourage their participation. Fifth, organize meeting at times and places suitable for women to attend. Sixth, make it easy for women to hear and to be heard at meetings, by sitting them together in the main gathering, not at the back, and by conducting meetings in the vernacular or arranging translation. Seventh, stimulate dialogue by presentation techniques, inviting comments/questions/criticism, inserting discussion breaks, and involving respected and representative spokeswomen. Eighth, if the participation of women in general or poor women in particular, is difficult, organize separate meetings at more convenient times and places. Ninth, explain the tasks and the authority involved in system maintenance, management, hygiene education, and system finance before choosing local candidates; discuss which roles are best performed by women and who are the most suitable candidates. Lastly, Give training adapted to women's conditions and roles, and include follow-up visits for monitoring and support.

2.5. Influence of women training on sustainability of water resource projects

Building capacity means bringing together more resources, more people (both women and men) and more skills. Targeting women for training and capacity building is critical to the sustainability of water and sanitation initiatives, particularly in technical and managerial roles to ensure their presence in the decision-making process. (*Water for Life' Decade, 2005–2015.*)

According to Branco, A.M (2002), in north-Eastern Brazil, women have taken the lead in their communities to protect water resources. The Rural Women Workers' Movement has mobilized women to revitalize a small local river in the water scarce area. This involves community education, like, teaching local people not to dump their sewage into the river, in addition to planting native species of trees along the river banks. Women activists are undertaking this project without government support, hoping that, if they are able to demonstrate success, the government will support other similar efforts.

Women are under-represented in the 'water world' with careers and training in water management dominated by men. According to water for life report 2005-2015, in countries like South Africa, Lesotho and Uganda at the local level, women have found their voices and have now been trained to locate water sources in the village, to decide on the location of facilities and to repair pumps. Since these change in orientation of water policy in many countries in the near future, affirmative action policies such as 'women in water' awards and a bursary for young

women to take up careers in the water sector in South Africa have proved to be a successful means of empowering women. Indigenous peoples possess traditional knowledge and skills concerning the sensing/locating of water and protection of the source. Water sources on indigenous lands are often considered a sacred element, and indigenous women may be the holders of 'water knowledge'. Their traditional land management skills often provide the most effective method of water resource management in their settlement areas.

According to Srinivasan (1990), 'the overriding goal of community participation in the water and sanitation sector is not simply to ensure sustainability of a system by teaching people how to function in a committee or how to fix a pump. Rather it is to help people to develop the outlook, the competence, the self-confidence and the commitment which will ensure a sustained and responsible community effort in the sector. If a project comes up against fears, doubts, suspicion, lack of self-assurance or traditional beliefs and values that run counter to the proposed change, a participatory approach can be vital. In communities where such attitudes commonly prevail, behavioral change is unlikely to take place unless a sufficiently sensitive and facilitative approach is used to uncover, examine and address social constraints as cited as: Diffidence in the presence of authority, Fear of speaking up in group meetings, Low self-esteem, Distrust of the motives of those in power, Reluctance to take risks, Fear of economic consequences or social loss of face, Fear of criticism for overstepping customary roles, Factional differences, A sense of powerlessness or fatalism, Lack of experience in working with groups and Lack of skills in planning and problem solving.

According to UNICEF report (2006) while women often have the primary responsibility for the management of household water supply, they are rarely consulted or involved in the planning and management of this vital resource. In Sub-Saharan Africa women produce upto 80 percent of basic foodstuffs, yet they have the least access to means of production. There is evidence that water management is effective if women take an active role in the various stages involved in setting them up, from design to planning, through to the outgoing operations and maintenance procedures required to make any initiative sustainable. A world Bank evaluation of 122 water projects found that the effectiveness of a project was six to seven times higher where women were involved than where they were not. Feeding our world takes up to 90% of our freshwater withdrawal when a water project is built in a community, members can often use the new water source too grow small gardens near their homes and secure their home and secure their food

supply. Self-sufficient households are less affected by conflict, famine or inadequate government services. (UNICEF, Report, 2006)

2.6. Influence of availability of funds on sustainability of water resource projects

According to Cooke R. (2011), access to water have reduce burden on women, (IFAD) have funded Central Kenya Dry Area Smallholder and Community Services Development Project, which will close in 2011, has made better access to water and health services a starting point for improving the overall well-being of women and their families. Easing women's workloads opens up opportunities for income-generating activities. Women are able to use the extra hours to develop kitchen gardens and profitable small enterprises. Women's groups organized by the project offer training in improved farming practices.

Kenya water has been funded by different donor Rukunga G. et al (2006) noted that a number of channels are used to fund water supply schemes in Kenya and include: Government of Kenya budget which is the dominant channel for financing water sector in Kenya. Second, Local Authority budgets. Third Non Governmental Organizations who implement water projects directly or indirectly through community based organizations. Fourthly, Internal generation by service providers mainly local utilities, Community based organizations and Private small scale providers. The money generated is used for repair and maintenance of the water facilities or expanding the investments, lastly, direct expenditures by communities and households. This includes money paid to small scale water vendors, and water kiosk operators.

Community- based organization play a key role in funding water projects as noted by Meera, M et al (2003), Kenya's national water policy promotes community operation and maintenance of water supply systems. The role of community-based organizations has therefore become more significant. Water committees, selected by the communities, are often entrusted with this responsibility. Communities raise maintenance funds by charging for water at the point of delivery (such as 2 KShs. for a 20litre jerrican). Further in most cases however households pay a fixed monthly contribution, or help raise money as and when required, to carry out repairs or expand the scheme. Some agencies promote using bank accounts to secure maintenance funds, but the resulting bank charges often deter communities from doing this typically requires committee members (often voluntary) to be trained in financial management, book-keeping and maintenance procedures.

Rukunga G. et al (2006) argue that self help groups funds water projects by mobilizing their own resources, about 30% of Kenya's rural population who have access to safe water are served by community managed schemes, developed by self-help groups. A self-help group typically constructs a water supply system to serve around 500 households. Capital may be raised from the community's own resources, or with contributed funds from government, NGOs or external support agencies. Self-help groups usually set the household contribution required to receive an in-house supply, while providing water to others through public tap stands. The revenue generated is used to support operation and maintenance of the facility.

Water Act Rukunga G. et al (2006) note that one of the financing avenues outlined in the new Water act is the Water services Trust Fund (WSTF). This fund is financed mainly by the government and its development partners. It mobilizes resources to support communities that cannot afford water service because of extreme poverty. In the past two years, the Government of Kenya in partnership with the Swedish and Danish governments have given the trust fund Kshs. 750 million which has already been disbursed to 102 community water and sanitation projects. Again under the new reforms, revenue is going to be generated by Water Service Providers (WSPs) through tariff payments by the consumers. This is seen as a significant source of sector finance that will be increasingly relied on and will be used for extension and improvement of the water provision service. Kenyan Government has established a special fund which draws its finances from the national budget. The money is distributed equally across all parliamentary constituencies in the country and finances priority projects as identified by the respective communities. Water supply ranks high among priorities in many regions in Kenya and as such the kitty has been used to fund many water projects across the country.

Rajesh Advani (2011), water Act 2002 also brought about significant tariff reform in the sector, aimed at ensuring operating and capital cost recovery, and hence the financial sustainability of WSPs. The use of rising bloc tariffs and the metering of all customer accounts are strongly encouraged by the WSBs and the regulator in order to improve financial performance at the utility level. In the medium to long-term, WSPs are expected to recover the full cost of providing services to their customers. "Full cost recovery" is defined as the total cost of providing services, which includes operating, capital, administrative, and debt service costs. Where community WSPs borrow to finance infrastructure development, they are obliged to meet the costs of debt service by incorporating operating and finance costs into their tariffs. Similarly, the benefits of

any grants or subsidies to these projects are passed on to end users by way of lowering tariffs to incorporate these gains. The 2002 Water Act is currently being reviewed to harmonize it with constitutional changes brought about in the 2010 Constitution of Kenya. However, preliminary discussions with the review committee suggest that provisions relating to the commercialization of water services will be retained and that private sector participation in the delivery of water services will be further encouraged.

2.7. Theoretical Framework

The theory informing this work is by Maslow Abraham of human needs Maslow Hierarchy of human; the lower is physiological needs that are food, water, clothes and shelter. The basic level need is Maslow's Hierarchy of Needs Theory. Physiological, safety and social needs are referred to as lower order or deficiency needs, because the absence of them make individuals deficient and existence as a human being is threatened. On the other hand, esteem and self-actualization are referred to as high order needs or growth needs as these make an individual become better at doing what they are expected to do: gain control and mastery over their environment in terms of technology, services etc.

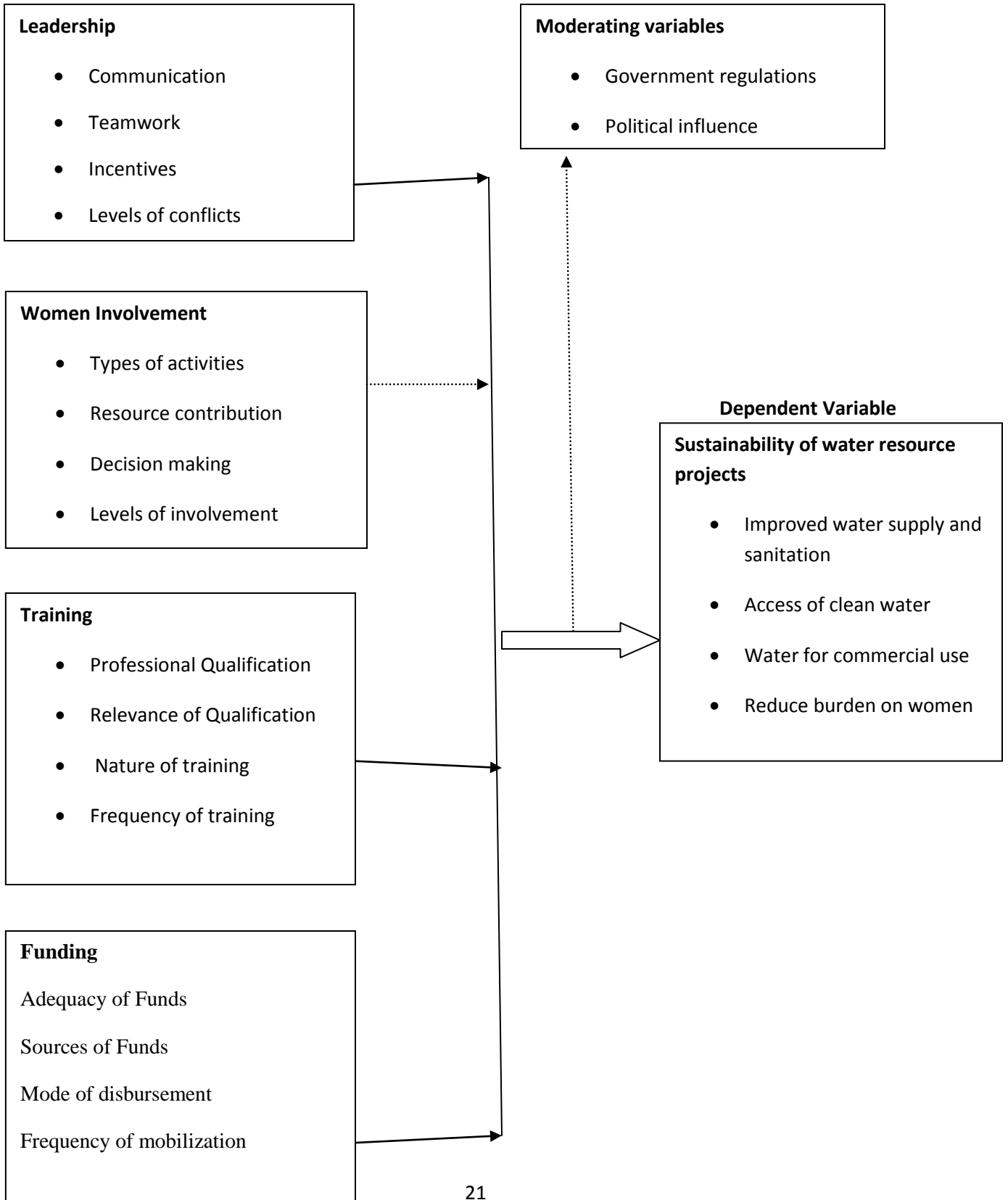
Physiological needs Maslow's theory of motivation therefore states that: "when a lower order need is satisfied, the next highest becomes dominant and the individuals attention is turned to satisfying this higher need." The most difficult need to satisfy is that of self-fulfillment. Psychological development takes place as people move up the hierarchy of needs, but not necessarily in a straightforward progression. The lower needs still exist even if temporarily dormant as motivators, and individuals constantly return to previously satisfied needs. Only when the lower order needs of physical and emotional well-being are satisfied are we concerned with the higher order needs of influence and personal development. According to Macharia D. (2011), People are also motivated to work towards achieving a need that they feel they have. The more acutely they feel the need the more willing they are to work towards meeting that need. It is for this reason that communities should be exposed to experiences that could – in a reasonable time – earn the community a higher value than it currently have, the theory informing this study is Maslow Hierarchy of human; the lower is physiological needs that are food, water, clothes and shelter. The basic level need is Maslow's Hierarchy of Needs Theory. Physiological, safety and social needs are referred to as lower order or deficiency needs, because the absence of them

make individuals deficient and existence as a human being is threatened. On the other hand, esteem and self-actualization are referred to as high order needs or growth needs as these make an individual become better at doing what they are expected to do: gain control and mastery over their environment in terms of technology, services etc.

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2.8. Conceptual Framework

Independent variables



2.9. Summary of literature review

Literature review shows that good leadership is essential in managing water projects and it is possible through effective communication skill among the leaders and members. Also teamwork within and without is paramount in the organization and when conflict it is solve amicably. Further when women lead there it result in good water management which can improve social capital of women by giving them leadership and networking opportunities and building solidarity among them.

On the influence of involvement women should be engage in various activities and contribute their resources in managing this water projects. When communities influence or control the decisions that affect them, they have a greater stake in the outcomes and are more committed to ensuring success. Participation helps to break down the cycle of dependence which characterizes much top down development work.

On the influence of training targeting women for training and capacity building is critical to the sustainability of water and sanitation initiatives, particularly in technical and managerial roles to ensure their presence in the decision-making process. However most of these women are illiterate and need empowering through training to get relevant qualification for managing water project.

On the influence of funds the national government in conjunction with county government should allocate adequate funds on water projects. Also the women in those areas need to contribute their resource for managing water project for ownership purpose. The mode of disbursement should be clear, transparent and reliable so that the monies reach the right

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains the research design, target population, sample size and sample selection, data collection instrument such as instrument pretesting/piloting, instrument validity and instrument reliability. Moreover, the chapter also presents procedures of data collection, techniques of data analysis, operationalization of variables, methods of data analysis and ethical consideration.

3.2. Research Design

This study employs descriptive survey because the target population is very large as it tries to explore the factors influencing sustainability of water resource projects by women in Sotik Sub-County. Mugenda O.M. et al, (2003) affirmed that descriptive design is best method available to social scientist interested in collecting original data purposely to describe a population which is large. The other research design to be use is mixed method which is quantitative and qualitative as it capture narrative statement of attitudes, feelings and use numbers in data collection. The design is appropriate for the study because it is not experimental that is descriptive survey and mixed method.

3.3. Target Population

The research study will be carried out at Sotik Sub-County, Sotik District in Bomet County. As per the report of Bomet County development profile 2013, Sotik Sub-County in referring to Kenya Population and Housing Census (KPHC) 2009, Sotik has a population of 167,214, of these are 84,575 women.

According to Bomet County Development Profile, 2013 Sotik sub County has seven water projects that are; Ndanai water supply, kamureito water project, Yaganek water project, Manaret water project, Sotik water supply, Gelegele water supply and Kapkelei water project.

3.4. Sample Size and Sample Selection

This section describes sample size and sampling procedures.

3.4.1. Sample Size

As per the report of Bomet County development profile 2013, Sotik Sub-County in referring to Kenya Population and Housing Census (KPHC) 2009, Sotik has a population of 167,214, of these are 84,575 women. Thus the target population will be 84,575. Hence the sample size will be 384 members of household.

3.4.2. Sample Selection

The study will be targeting households using water resource. The total population will be 84,575; 384 members of households. According to Krejcie and Morgan (1990) a sample size of 384 will be appropriate for a population of 84,575. Stratified sampling technique will be use to form samples as follows;

$$\frac{\text{Target population} \times \text{sample Size}}{\text{Total population}}$$

Strata	Target Population	Sample Percentage	Sample Size
Upper Household	180	10	18
Lower Household	204	10	20.4
Totals	384	10	38.4

The procedures will be appropriate for the study because the population is heterogeneous. It will assure they are representation not only of the all population but for the small groups. The purpose of sampling size to ensure there is reliability, validity and to establish if a data analysis method to be use is appropriates.

3.5. Data Collection Instrument

In order to get the data two type of questionnaires will be use; the ordinary questionnaire will be use to collect data from literate respondents while researcher's questionnaires will be use to collect data from illiterate respondents. According to Mugenda O.M et al, (2003), questionnaires are devices with lists of questions which respondents are expected to answer. Thus open ended and close questions will be use. The open ended questions allow the respondent give their opinion related to the questions asked. Further matrix items as a type of questionnaire will be use for instance strongly agree, disagree, Agree Neutral etc. This close-ended question will be use to analyze the opinion of respondents in relation with the objectives of the study. While the open-ended questions give opportunity to the respondent to make their comment about the questions ask.

According to Kothari (2008) he asserts that questionnaires are objectives as compared to interviews because they gather responses in a standardized manner as it ensure they is confidentiality in the given information.

3.5.1 Instrument's Pretesting/ Piloting

The instrument will be piloted at Bomet central where the actual study will not be carried out. According to Mugenda, O.M et al, (2003) a tenth of the total sample with homogenous characteristics is appropriate for the pilot study to be done.

Questionnaire will be design for the piloting study in the place and the target household will be 20 household. The results from the data will help the researcher to verify the validity of the instrument. Thereafter necessary adjustments will be made prior to the actual collection in the target place.

3.5.2. Instrument Validity

To ensure instrument validity that is appropriateness of the instrument. The researcher will explore adequate coverage of the objectives in questions given to the respondent. Also peer review with the help of colleagues will be done to ensure the instruments are valid. Additionally expert judgments will be sought from supervisor and from officer serving in the water projects

verify the questions to be given out. It should appropriately test the factors influencing sustainability of water resource projects by women.

3.5.3. Instrument Reliability

To ensure instrument reliability the researcher will use split methods by dividing the test into two equal half. The test will be arranged in order then revise it in the basis of odd number and even number. Further coefficient of correlation will be used in calculation that is spearman coefficient of correlation. Also each variable will be given four indicators and it does ensure adequate coverage of the questions in the objective.

3.6. Procedures of Data Collection

After receiving sample population, the researcher will seek permission from the ministry of water in Sotik district through the officer of water in Bomet County and on receiving permit from national council of science and technology then questionnaires will release to the respondents to fill it. After the questionnaire has been fill then analyses and presented using frequency tables.

3.7. Techniques of Data Collection

The collected data will be collected from the different respondent in the selected water projects. The questionnaires will be use to collect the data and each will be attached a cover letter of introduction of the researcher indicating the purpose of research and the commitment of the researcher in upholding integrity in handling the respondent and the information given.

3.8. Operationalization of the Variable

The Influence of leadership on sustainability of water resource projects will be measure on communication, teamwork incentives and levels conflict. Also women will be encouraged to participate in decision making, types of activities done, mobilizing of resources and identifying the needs. Further influence of training will be measure through professional qualification, relevance qualification, and the nature of training given and frequency of training. In terms of

influence of availability of funds will be done by checking if they are adequate funds, sources of funds for the project, mode of disbursement and frequency of mobilization. Training is a key thing to release these objectives of sustainable water projects.

Dependable Variable

OBJECTIVES	VARIABLE	INDICATORS	MEASURES	SCALE
Sustainability of water resource projects.	Sustainability of water resource project.	Clean water. Sustainable water resource project. Improve water supply. Reduce burden on women.	Is there clean water. If there sustainable water resource project. If there is cheap water supply. If the water is accessible for use.	Nominal. Nominal. Nominal. Nominal

Independent variables

OBJECTIVES	VARIABLE	INDICATORS	MEASURES	SCALE
1. To establish how leadership influence sustainability of water resource projects in Sotik Sub- county.	Leadership skills	Communication Team work. Incentives. Level of Conflicts.	Do leaders beliefs in team work. How transparent are there in financial records. Do they have what it takes as a leader? If leaders are committed	Nominal. Ordinal. Nominal.

2. To explore how women involvement influence the sustainability of water resource in Sotik sub- County, Bomet County?	Decision making Mobilization of available resource. Involvement of women.	Participation and awareness. Knowledgeable. Opinions. Resource mobilization.	If women participate fully and aware of their role. What knowledge do women have in relation to water management? If opinion are respected and acted upon.	Nominal. Ordinal.
3. To examine the influence of training on sustainable of water resource in Sotik Sub-county.	Training	Professionalism vocational. Relevance of qualification. Nature of Training. Frequency of Training.	If they have acquire the right skills. Do they have any formal training?	Ordinal Nominal
4. To determine the extent which availability of funds influence sustainability of water resource projects.	Adequacy of funds. Sources of Funds. Mode of disbursement . Frequency of mobilization	The adequacy of funds on the project. How is the mode of transfer of money to the project?	If the funds allocated are enough in implemented the projects. If the source of funds are from individual, Government and other organization. The mode of disbursement of funds to the project.	Nominal Ordinal

3.9. Methods of data Analysis

The collected data will be analyzed using simple descriptive statistics. Frequencies and percentage tables will be used to describe the respond from the respondent.

3.10. Ethical issues in Research

The ethical issues guiding the researcher are; the copy rights laws, patency right, homogeneity and humility. The entire respondent will be treated with respect and the information they will give is confidential. In addition the researcher will ensure that norms of scientific research are following and it will be done using correct research design.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter consists of data analysis, presentation and interpretation, done on the basis of the major study variables; influence of leadership, women involvement, influence of training and availability of funds on sustainability of water resource projects in Sotik Sub-County.

4.2. Response rate

The respondent return rate is the percentage of the questionnaires that were returned by the respondent and were completely filled. The questionnaires given to the household were 384 and out of this 345 were returned. The return questionnaire is express in percentage as 89.8 %.

4.3. Demographic Characteristics

The demographic characteristics were given as age, marital status, professional qualification and duration taken in water projects. All this was taken into consideration to ascertain if these factors had any influence on the sustainability of water resource projects by women in Sotik Sub County. The respondent's demographic characteristics age, marital status, level of Education and duration in water projects.

4.3.1 Age of the respondents

Table 4.3.1 Description of respondents according to age (years)

Category	Frequency	Percentage.
20 and below	10	2.89
20-30	64	18.55
30-40	90	26.08
40-50	101	29.30%
Over 50	80	23.20%
Totals	345	100%

Table 4.3.1 Among the respondents, (10) representing 02.90% were aged 20 and below, sixty four (64) representing 18.55% were aged between 20-30 years, ninety (90) representing 26% were aged 20-40 years, hundred and one (101) representing 29.3% were age 40-50 years, and eighty (80) representing 23.2% were aged over 50 years. This shows that those who dominated and have benefited from water project are members between 40-50 years also they were experience and understood the importance of using water sustainably.

Table 4.3.2 Description of respondents according to marital status

Category	Frequency	Percentage.
Married	205	59.40
Single	90	26.00
Divorced	50	14.50
Others	0	00.00
Total	345	99.9%

Table 4.3.2 Among the respondents, two hundred and five (205) representing 59.4% were married, ninety (90) representing 26% were single, fifty (50) representing 14.5% hundred were divorced. This shows that 59.4% of the female in the Sub County are married and it implies they need a lot of water for domestic purpose and other usage in the homesteads.

Table 4.3.3. Description of respondents according to professional qualification

Category	Frequency	Percentage.
Primary and below	115	33.30
Secondary	100	28.98
Tertiary	90	26.00
University	40	11.59
Others	0	0.00
Total	345	99.87%

Table 4.3.3 shows that among the respondents, one hundred and fifteen (115) representing 33.3% are primary and below, hundred (100) representing 28.98% have attained secondary level of education, ninety (90) representing 26.00% have obtained tertiary level of education, forty (40) representing 11.59% have attained university level. It depicts that most women are illiterate and might not influence the water projects. Also those who attained secondary as compared with primary school is a small margin which indicates that if given opportunity they will manage water projects since this requirement of high school and primary qualify one to join polytechnic which they may be trained in different courses like plumbing etc.

Table 4.3.4. Description of respondents according to duration in water projects

Category	Frequency	Percentage.
Two year and below	100	28.98
2-4	95	27.53
4-6	90	26.00
6-8	60	17.39
Above 8	0	0.00
Total	345	99.9%

Table 4.3.4 shows that among the respondents, one hundred (100) representing 29.98% have been in water project, ninety five (95) representing 27.53% have taken in water project, ninety (90) representing 26.00% have been in water project, sixty (60) representing 17.39% have been involved in water project. This indicates that 28.98 % of women representing hundred respondents have been in water projects either in one to two year. Moreover at least ninety five of respondents which represent 27.53 % have been in water projects.

4.4 Influence of Leadership on Sustainability of Water Resource projects

Introduction

In this variable the researcher sought for opinions from female members of household on the view of influence of leadership on sustainability of water resource. It is because leadership a key component in the organization. A good leaders communicate, promote teamwork and when conflict arises they solve it amicably.

These are show in the following tables;

4.4.1 Effective system of communication in water resource projects

Item	Response	Frequency	Percentage%
System of communication	Strongly Agree	150	43.47
	Agree	90	26.08
	Neutral	15	4.34
	Disagree	70	20.28
	Strongly Disagree	20	5.79
Totals		345	99.96%

Table 4.4.1 shows that 150 respondent which represent (43.47%), strongly agree that there a clear system of communication and it influence sustainability of water projects. Those who agree are 90 respondents which represent (26.08%) it's show that members of household believe there is an effective means of communication. While 15 respondents that represent 4.34% are neutral

on communication system in water projects. Those who disagree that they are effective system of communication are 70 respondents that represent (20.28%) and those who strongly disagree are 20 respondents which represent (5.79%). It's essential to note that sustainable water projects need effective communication system.

4.4.2. Work implementation strategy use in performing projects task

Item	Response	Frequency	Percentage%
Implementation strategy	Specialization	77	22.31
	Individualism	78	22.60
	Sourcing	60	17.39
	Work Teams	130	37.68
	Others Specify	0	0.00
	Totals	345	99.98

Table 4.4.2 indicates the work implementation strategy adopted in performing water projects. It shows that (77) respondent which represent 22.31% adopt specialization as a work implementation strategy. Also (78) respondents which represent 22.60% apply individualism as a work implementation strategy adopted in performing projects task. The other strategy is sourcing of which (60) respondents that represent 17.39% have adopted this in their work implementation strategy use in performing their tasks. It is a small percent strategy which the water users have adopted in their implementation strategy. The other strategy which have been widely use and adopted is teamwork, (130) respondents which represents 37.68% they in team work and this have influence in sustainability of water resource. It shows also that by this women working together they can be able to influence the sustainability of water projects. This teamwork increase productivity in the water projects since they work together and each member skill are developed.

4.4.3. The motivational drives used in water resource projects

Item	Response	Frequency	Percentage%
Motivational Drive	promotion	95	27.53
	Salary review	90	26.08
	Rewards	100	28.98
	Fringe benefits	60	17.39
	Other specify	0	0.00
	Totals	345	99.98

Table 4.4.3 shows that among the respondents, one hundred (100) representing 28.98% believe rewards as a key motivational drive use in their water project. Ninety five (95) representing 27.53% believe promotion has been use as a motivational factor in influencing sustainability of water project. Ninety (90) representing 26.08% consider salary as a motivating factor which influence sustainability water project, and sixty (60) representing 17.39% view additional benefits given on top of their salary as a motivating factor and it has influence water project.

4.4.4. Strategy used in solving conflict in the water resource projects

Item	Response	Frequency	Percentage%
Solving conflict	Litigation	60	17.39
	Arbitration	80	23.18
	Mediation	95	27.53
	Negotiation	110	31.88
	Totals	345	99.98

Table 4.4.4 shows that among the respondents, one hundred (60) representing 17.39% believe that litigation should be use in solving conflicts in water project. Eighty (80) representing

23.18% think that if conflict arises an arbitrator should be use to solve conflict in the organization.

Ninety five (95) representing 27.53% takes mediation as a better option to solve conflicts in water project and hundred and ten (110) representing 31.88% believe that should there be any conflicts in the organization negotiation is appropriate method to solving conflict and this has influence the sustainability of water projects in the region.

4.5. Influence of women involvement on sustainability of water resource projects

Introduction

In this objective the researcher sought for opinions from members of household on the of women involvement on sustainability of water resource. The researcher found out that these women have been involved in the activities of the projects by doing the work in the water projects instance digging trench, contributing resources, making decision related to the water project and committed to ensure the success of the project.

The following tables show it;

Table 4.5.1 Activities they have be involve in water resource projects

Item	Response	Frequency	Percentage%
Activities Digging drainage		80	23.18
Involve in Fixing pipes		50	14.49
Repair and			
Maintenance		58	16.81
Digging trench		130	37.68
None		27	7.82
Totals		345	98.98

Table 4.5.1 shows that (80) 23.18% have engaged themselves in the water activity by digging drainage. While (50) respondents which represent 14.49% have been involved in fixing pipes and its show they have skills and knowledge. Therefore they need to be given more opportunity

to exercise such a skills and knowledge since no one know especially from administration part. Also the fifty needs to be identify by the water company so that they may be engaged in the water projects work especially in fixing of pipes and this will help them in earning a living for themselves and their families. Fifty eight (58) respondents which represent 16.81% have been doing repairs and maintenance of the water projects work. One hundred and thirty (130) respondents which represent 37.68% have been involved in digging of trench in the water projects and these have influence in the sustainability of the projects. While twenty seven (27) respondents which represent 7.82% have not been doing any work for the projects and it's a minimal number compare with those they have been actively engage in water projects work.

4.5.2 Resource they have contributed to water projects

Item	Response	Frequency	Percentage%
Resource contribute	Labor	60	17.35
	Money	80	23.18
	Labor and money	110	31.88
	Advice	95	27.53
	None	0	0.00
	Totals	345	99.94

Table 4.5.2 shows that among the respondents, sixty (60) representing 17.35% have given their resource in term of labor to the project. Eighty (80) representing 23.18% have been giving money to the water projects so that it can be used in running the project. One hundred and ten (110) representing 31.88% have been giving labor and money to the water projects and this has a bearing in the projects. Ninety five (95) representing 27.53% such give advice to the implementers of the projects.

In the opinion of the respondents they believe that women involvement influence sustainability of the water projects. They strongly agree if women are involved from the onset of a program it is crucial and the project will success.

4.5.3 Participation in decision making on water projects

Item	Response	Frequency	Percentage%
Decision making	Strongly Agree	145	42.02
	Agree	95	27.53
	Neutral	35	10.14
	Disagree	45	13.04
	Strongly disagree	25	7.24
	Totals	345	99.97

Table 4.5.3, sought opinion from the respondent on how women participate in decision making. The results are; one hundred and forty five (145) respondents which represent 42.01% strongly agree that their participation in decision produces more efficient and sustainable water resource in their community. Ninety five (95) respondents which represent 27.53% agree on their participation that its result influence the sustainability of water projects. Thirty five (35) respondents which represent 10.14% have no idea of what is going on. Forty five (45) which represent 13.04% disagree, it imply that their participation in decision making does not influence water projects. Twenty five (25) respondents which represent 7.24% strongly disagree on the influence of decision making on water projects.

4.5.4 Level of Involvement in water projects

Item	Response	Frequency	Percentage%
Level of Involvement	Expert	75	21.73
	Stakeholders	125	36.23
	Interested Parties	65	18.84
	Top down management	45	13.04
	None	35	10.14
	Totals	345	99.98

Table 4.5.4 seventy five (75) respondents which represent 21.73% have been involves in water projects as experts which show they may be having certain skill which influence in the sustainability of water projects. One hundred and twenty five (125) respondents which represent 36.23% it shows that they have been involved in the water projects as stakeholders which crucial and thus they influence positively on the project. Sixty five (65) respondents which represent 18.84% have been involved in the water projects as interested parties; they are just interested in course of the work but not involved in it. Forty five (45) which represent 13.04%, view involvement to come from top management and there are junior in the program and thus they influence in a small percent the water project. Thirty five (35) respondents which represent 10.14% have no idea on how they been involved in the water project.

4.6. Influence of women training on sustainability of water resource projects

Introduction

In this objective the researcher sought for opinions from members of household on the involvement of women on sustainability of natural water resource. The can of training they have been which have influence the sustainability of water resource projects. The professional qualification of women on the field of water have an influence of sustainability of water, if they have the right qualification and how often they are engage in the training since it has a bearing on water sustainability.

4.6.1 Level of Education on sustainability of water projects

Item	Response	Frequency	Percentage%
Level of Education	Strongly Agree	105	30.45
	Agree	78	22.60
	Neutral	40	11.59
	Disagree	66	19.13
	Strongly disagree	55	15.94
	Totals	345	99.71

Table 4.6.1 Show that one hundred and five (105) respondents which represent 30.45% strongly agree that education has an influence on the sustainability of the water project. Seventy eight (78) respondents which represent 22.60 % do agree on the influence of education on sustaining the project. Those neutral are forty (40) respondents which represent 11.59% have no idea. Sixty six respondents that are 19.13% disagree on the influence of education in sustaining water project. Fifty five (55) respondents which represent 15.94% strongly disagree on influence of education.

4.6.2. Have relevant qualification for managing water projects

Item	Response	Frequency	Percentage%
Relevant qualification	Strongly Agree	66	19.13
	Agree	70	20.28
	Neutral	09	2.60
	Disagree	90	26.08
	Strongly disagree	110	31.88
	Totals	345	99.97

Table 4.6.2, indicates that sixty six (66) respondents which represent 19.13% have the relevant qualification. Seventy (70) respondents which represent 20.28% have obtained the required qualification for managing water projects. Nine (9) respondents which represent 2.60% are neutral. Ninety (90) respondents which represent 22.08% do not have the qualification for managing water projects. One hundred and ten (110) which represent 31.88% lack the required qualification in managing water projects and this influence the sustainability of water projects.

4.6.3. The type of training done on water project

Item	Response	Frequency	Percentage%
Types of Training	Technical training	75	21.73
	workshop	90	26.08
	Induction course	50	14.49
	None	130	37.68
	Totals	345	99.98

Table 4.6.3 shows that 75 (21.73%) have attended technical training which they have obtained basic skills. 90 respondents which represents 26.06% have gone for workshop for related to water projects. Fifty (50) respondent 14.49% have been have attended orientation briefing which helps them on how to managed water resource. One hundred and thirty (130) respondents 37.68% have no training.

4.6.4 Number of Times they have attended training on water projects

Item	Response	Frequency	Percentage%
Number time attended Training	Regularly	68	19.71
	Annually	88	25.50
	Quarterly	113	32.75
	Weekly	76	22.02
	None	0	0.00
	Totals	345	99.98

Table 4.6.4 Show that, 68 respondent representing 19.7% have been attending training regularly.88 respondents which represent 25.5% have attended training on water projects once a year. 113 respondents which represent 32.75% have been in training three times a year which done every after three month. 76 respondents which represent 22.02% have done weekly

training. Training is crucial in water management since if these women are empowered through this it will influence the sustainability of water.

4.6.5. They have the necessary qualification for managing water projects

Item	Response	Frequency	Percentage%
Qualification necessary for water management	Strongly Agree	25	7.24
	Agree	55	15.64
	Neutral	45	13.04
	Disagree	95	27.53
	Strongly disagree	125	36.20
Totals		345	99.95%

Table 4.6.5 (25) respondents which represent 7.24% strongly agree that they have the required qualification for managing water project. (55) Respondents which represent 15.64% agree that they have the right qualification for managing water resource. (45) Respondent which represent 13.04% have no ideas if they gotten they required qualification for managing water project. (95) Respondents which represent 27.53% disagree since they do not have the right qualification for managing water resource. While (125) of the respondents which represent 36.20% strongly disagree that they have the require qualification for managing water resource.

They believe if equip with the require training for managing water resource projects positive result will be realize. Since this women are the users of water at home for domestic use.

4.7. Influence of availability of funds on sustainability of water resource projects

Introduction

When funds are available at the right amount it will influence the project positively. In this objective the researcher sought for opinions from members of household on the influence of availability of funds on sustainability of water resource project.

4.7.1 Adequacy of funds for water projects

Item	Response	Frequency	Percentage%
Adequacy of funds	Shortage	68	19.71
	Enough	87	25.21
	Average	40	11.59
	Fair	56	16.23
	None	94	27.24
	Totals		345

Table 4.7.1 shows that (68) 19.70% indicate they shortage of finance. (87) Respondents which represent 25.21% have believed that they is enough finances to mange water projects. Forty (40) respondent 11.59% indicates that they is average meaning it is half. (56) Respondents which represents 16.23% indicates that the finances allocate to water projects is fair. This is relation to nothing or without any finances. 94% respondents which represents 27.24% indicates that they no finance given to managed water resource.

4.7.2 Sources of funds for water projects

Item	Response	Frequency	Percentage%
Sources Funds	Individual	28	8.11
	NGO,s	88	25.50
	Ministry of water	25	7.24
	CDF	96	27.82
	Community Groups	18	5.21
	Financial institution	90	26.08
	None	0	0.00
	Totals		345

Table 4.7.2 (28) respondents which represent 8.11% indicate that finances have come from individual to run the projects. (88) Respondents which represent 25.50% have indicated that the projects obtained finances from Non-governmental organization (NGO's). (25) Respondents representing 7.24% indicates finances have been wire from the government through the ministry of water to the projects. (96) Respondents which represent 27.82% indicate that CDF have been a major financier to the water projects in the area. (18) Respondent representing 5.21% show that their community groups have funded the projects. (90) Respondents representing 26.08% show that different financial institution have funded the water projects in the regions.

Table 4.7.3 Mode of disbursement of funds to water projects

Item	Response	Frequency	Percentage%
Mode of	Transparent	80	23.18
	Fast &reliable	57	16.52
Disbursement	Fast, reliable		
	And Transparent	78	22.60
	None.	130	37.68
	Others Specify	0	0.00
	Totals	345	99.98

Table 4.7.3 (80) respondents which represent 23.18% trust that the mode of disbursing the money to the water projects is Transparent. (57) Respondents representing 16.52% indicate that the mode of disbursement is fast and reliable. (78) Respondents representing 22.60% indicate that this mode of disbursement of funds is fast, reliable and transparent. (130) respondents representing 37.68% are not sure of the means of transferring the funds since they are not involved in it. As a result it has influence the water projects.

4.7.4 How the mobilizes community to get funds for water projects

Item	Response	Frequency	Percentage%
Mobilizing community	Always	109	31.59
	Sometime	156	45.21
	Rare	80	23.18
	Others specify	0	0.00
Totals		345	99.98

Table 4.7.4 Show that one hundred and nine (109) respondents which represent 31.59% always they mobilize their communities to get funds for the water project. One hundred and fifty six (156) respondents which represent 45.21 % indicate that sometime they mobilize their communities to source funds for the water project. Eighty (80) respondents representing 23.18% indicates that they rare mobilize their communities to get funds for the projects.

When funds are available it influences sustainability of water projects. Since any projects to be run need funds for its operations and maintenance. It is the view of many women that more money to be allocated on the projects.

4.8. Sustainability of water resource projects

Introduction

This is a dependent variable which the researchers sought opinion from members of household on the sustainability of water resource projects. That the sustainability of water projects have improve water supply in the community, also they have enable them to access clean water, they have water for commercial purpose and it has reduce burden on women.

Table 4.8.1 Improved water supply

Item	Response	Frequency	Percentage%
Improved water supply	Strongly Agree	105	30.45
	Agree	78	22.60
	Neutral	40	11.59
	Disagree	66	19.13
	Strongly disagree	55	15.94
Totals		345	99.71

Table 4.8.1 Show that one hundred and five (105) respondents which represent 30.45% strongly agree that they is improved water supply and sanitation. Seventy eight (78) respondents which represent 22.60 % do agree that water has improved on sustaining the project. Those neutral are forty (40) respondents which represent 11.59% have no idea. Sixty six respondents that are 19.13% disagree that there is improved sustainability of water project. Fifty five (55) respondents which represent 15.94% strongly disagree on improved water supply.

4.8.2 Sustainable water projects lead to access clean water

Item	Response	Frequency	Percentage%
Access clean water	Always	109	31.59
	Sometime	156	45.21
	Rare	80	23.18
	Others specify	0	0.00
Totals		345	99.98

Table 4.8.2 Show that one hundred and nine (109) respondents which represent 31.59% always they have access of clean water. One hundred and fifty six (156) respondents which represent 45.21 % indicate that sometime they access clean water on the water project. Eighty (80) respondents representing 23.18% indicates that they rare accessing clean water for the projects.

4.8.3. Availability of water for commercial use

Item	Response	Frequency	Percentage%
Water for commercial use	Strongly Agree	105	30.45
	Agree	78	22.60
	Disagree	40	11.59
	Neutral	66	19.13
	Disagree	55	15.94
	Totals		345

Table 4.8.3 Show that one hundred and five (105) respondents which represent 30.45% strongly agree that they is water for commercial use. Seventy eight (78) respondents which represent 22.60 % do agree water is available for commercial use. Those neutral are forty (40) respondents which represent 11.59% have no idea. Sixty six respondents that are 19.13% disagree on availability of water for commercial use. Fifty five (55) respondents which represent 15.94% disagree on availability of water for commercial use.

4.8.4 Sustainability of water projects have reduced burden on women

Item	Response	Frequency	Percentage%
Reduce burden on Women	Average	68	19.71
	Fair	87	25.21
	Good	40	11.59
	Excellent	94	27.24
	None	56	16.23
	Totals	345	

Table 4.8.4 shows that (68) 19.70% indicate it is average that it is bad or good, (87) respondents which represents 25.21% fair meaning it has reduced the burden but not has expected. Forty (40) respondent 11.59% indicates that they is good, which show it is better than before. This is relation to nothing or without any finances. (94) respondents which represents 27.24% indicates that it has reduced the burden of women.56 respondents which represents 16.23% have no idea if has reduced or not.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter gives the summary of the research findings, discussions, conclusions, recommendations, recommendations for policy formulation and recommendations for further research.

5.2. Summary of the findings

The findings of the study have been summarized according to the four variables of the study namely; influence of leadership, influence of women involvement, influence of training and availability of funds for sustainability of water projects.

This research was based on the topic, factors influencing sustainability of water resource projects by women in Sotik Sub-County. The study established that they is effective system of communication indicated by 150 (43.47%) of the respondents. Moreover the study established that the work implementation strategies adopted in performing the work is teamwork as indicated 130 (37.68%) of the respondents who strongly agree that they is good teamwork. For a projects to succeed good teamwork is essential since people can achieve great things when they are united in one purpose. On the motivational drives which they commonly the study noted that rewards as shows by 100 (28.98%) of the respondents. This shows that on the influence of leadership they are good motivational drive which drives the women to achieved great things for the organization. When conflict occurs the study established that negotiation is used to solved those differences as indicated by 110(31.88%) of the respondents. Therefore, influence of Leadership is essential because if an organization reward people for good work done it motivate them to do better as indicated by respondent that good leadership influence sustainability of water resource projects in Sotik Sub-county.

Whether women were involved in any activity of water the study established that 130 (37.68%) of the respondents are involved in water projects by digging trench for installing and connecting pipes for the project also they contributed resources as indicated by 110 (31.88%) respondents by

giving their money and labor to the projects. Whether women were involved in decision showed that, 145(42.02%) of the respondents have been involved in decision making that participation of users in decision-making produces more efficient and more sustainable projects. Further the study established that meaningful management of water by women lead to the design of effective new solutions to water problem. Since good decision making produce efficient and sustainable water resource. In the level of involvement in water projects the study established further that women have taken part as stakeholders as indicated by 125 (36.23) of the respondents not as interested parties who are mere inspectors. The findings further shows that women involvements in the projects have an influence in the sustainability of water projects since they are the major user and collector of the commodity in Sotik sub-county

On the influence of training in the sustainability of water projects the study established that 106 (30.45%) of the respondents strongly agree that the level of education have an influence in the sustainability of the water project. If they have relevant qualification for managing water projects 110 (31.88) strongly disagree that they do not have the required qualification to managed water projects. In terms of the kind of training they have done on water projects 130 (37.68%) of the respondents have no training for managing water project. To indicate the number of times they have attended training 113 (32.75%) show that they attending on quarterly basis. The finding found out that 125 (36.20%) have not obtained the required training for managing water projects. On the influence of availability of funds on sustainability of water projects, 94 (27.24%) indicates that funds given for the project are not sufficient to sustained the project. On the sources of funds 96 (27.82%) constituency Development funds have been channel for installation and managing the water projects. Also the study established that financial institution have been funded the projects as indicated by 90 (26.08%) of the respondent. On the mode of disbursement of funds to the project the study established that it is not clear as indicated by 130 (37.68%) of the respondent. Whether they have been mobilizing their community to obtained funds the study established that it sometime do it as indicated by 156 (45.21%) of the respondent.

5.3. Discussions

The findings of the study have been discussed according to the four variables of the study namely influence of leadership, involvement of women, influence of training on sustainability of water project and availability of funds on sustainability of water project.

Leaders should communicated this is in agreement with Tissafi, Maya (2004), who noted that community-based organizations for water management can improve social capital of women by giving them leadership and networking opportunities and building solidarity among them as it has noted from the study.

It was further affirmed by scholar Warner Dennis B (2005), Women should be encouraged to take on leadership roles on the committee. Committee membership is not sufficient if the women members have no functional roles. Women are encouraged to take key leadership positions and are given the training and support to assist them to do so. In order to aid the management committees to carry out the functions successfully and to avoid conflicts the study found out that negotiation is a measured for mitigating conflict.

On the influence of women participation that women have engaged in such activities like digging trench, contributing their resource in ensuring that their sustainable water resource project and participating in decision making. Women participation in water projects is crucial agreement with what Sijbesma, C. (1998) noted that water supply schemes in developing nations have shown higher success when planned and run with full participation of women in the affected communities.

It was also found out that majority of the women in the community are not trained and therefore it was necessary for them to be trained in order to manage water effectively. They need to be empowered to obtained relevant qualification, get the required skills for instance technical skills and be given opportunity to use it. This study is not in agreement Ademiluyi and Odugbesan (2008) identified lack of community education as one of the important factors which could lead to breakdown and non-sustainability of water supply projects in developing countries. Further the study is not in agreement with Branco,A.M (2002), who noted that women have taken the lead in their communities to protect water resources and be trained on its management for effective sustainability. Moreover the study noted that training have a big influence on sustainability of water projects and more training ought to be offer that equipped the women on the right skills of managing water projects. Also those training need to done at convenient time that all women can be able to attend for instance during afternoon for just one hour.

On the availability of funds, the study established that the design and implementation of water projects was mostly funded by constituency Development Funds (CDF) and other financial institution. The study is in agreement Rukunga G. et al (2006) noted that a number of channels are used to fund water supply schemes in Kenya and include: Government of Kenya budget which is the dominant channel for financing water sector in Kenya, Second, local Authority budgets. Third Non Governmental Organizations who implement water projects directly or indirectly through community based organizations. Fourthly, Internal generation by service providers mainly local utilities, Community based organizations and Private small scale providers. The money generated is used for repair and maintenance of the water facilities or expanding the investments, lastly, direct expenditures by communities and households. This includes money paid to small scale water vendors, and water kiosk operators.

5.4 Conclusions

The researcher noted that good leadership skills influence the sustainability of water resource. Thus it is necessary to promote effective system of communication, promote teamwork as best practice in performing project task, intrinsic motivation should be a factor in the project as they solve issues amicably.

Based on the study the researcher concludes that women participation during conception, design, implementation and operation and maintenance of water projects influences sustainability of water projects. Their participation ensures that projects being designed borrow from their opinions being the end users and are those that are in line with their interests. This factor increases women ownership of water projects thus enhancing their willingness to effectively manage these projects after implementation.

Training of women who are responsible for operation and maintenance of water projects influences sustainability of water projects. Trained operators who will be women are more efficient while operating the water structures thus minimizes any breakdowns during maintenance or operation. In cases of breakdowns, availability of trained women on maintenance to ensures that maintenance are done more promptly and cheaply as opposed to when women have to depend on hired skilled labor.

Women should be taught how to fix pipes and its show they have skills and knowledge. Therefore they need to be given more opportunity to exercise such a skills and knowledge since

no one knows especially from administration part. Also they need to be identified by the water company so that they may be engaged in the water projects work especially in fixing of pipes and this will help them in participation hence break down the cycle of dependence which characterizes much top down.

Sources of project financing whether government, non-governmental organizations or community member's contributions influence sustainability of community water projects. There is need for adequate funds for implementing water projects according to the designs and plans. Thus it is necessary to have a transparent, fast and reliable mode of disbursing funds to the project.

5.5 Recommendations

5.5.1 Recommendations of the study

The following are the recommendations of the study: First training should be promoted by women on water resources operation and maintenance is very crucial. It is recommended to the water management committees that untrained community members should not be entrusted to manage these facilities as this can lead to mismanagement and unwarranted system breakdowns. It is also recommended that implementers of water projects should ensure that water management committees are formed and members adequately trained especially women who are the user and collectors of water.

Second, there is need to enhance transparency and accountability levels among these members. Openness should be encouraged in the management of finances raised from sale of water and community contributions with proper records. Auditing of these financial records by independent parties should be encouraged by implementing organizations to ensure proper management of the resources. This will encourage women to contribute willingly to the project.

Lastly women should be encouraged to participate right from conception and design of water projects to implementation to enhance ownership of water projects.

5.5.2 Recommendations for policy issues / Formulation

From the finding of the study;

The leaders should advocate in their communities the importance of women empowerment to managed water project.

The county Government should priorities on it strategy plans and funds the water project. Also training of women on the skills needed to manage water resource.

5.5.3. Suggestions for further research

Recommendations for further research to do this area;

To investigates the factors that hinder women in raise finances for maintenance of water projects.

A research should be carried out on factors influencing monitoring and evaluation of water project.

A research should be carried out on the influence of training of women on the sustainability of water projects.

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APPENDIX I

TRANSMITTAL LETTER

Kitur Nelson,
p.o Box 295 Sotik.
Cell phone. 0725897610.

To ,
The sub- County Water officer,
Sotik Sub-County.

Dear sir/Madam,

REF: REQUEST FOR RESEARCH DATA COLLECTION.

Iam a student at University of Nairobi pursuing a course leading to the award of a Master of Arts Degree in Project Planning and Management at the School of Continuing and Distance Education. It is a requirement for me to submit a research project assessment. My proposal title is on, Factors influencing Sustainability of water resource by women in Sotik Sub-County.

As part of the proposal, I have come up with questionnaire to assist me to collect data from the household. I therefore seek your permission to collect the require data. The information obtained will be used for academic purpose. Your assistance and cooperation will be highly appreciated.

Your faithfully,

Kitur Nelson

APPENDIX II

QUESTIONNAIRE

I am a student of Master of Arts Degree in Project Planning and Management at University of Nairobi and currently carrying out a research on the Factors influencing Sustainability of Water resource projects by Women in Sotik Sub-County.

You have been identified as a potential respondent in the research work. The information you provide is useful in promoting sustainability of water resource in the sub-county in order to realize millennium declaration goals. Further the information you will provide will be treated with confidentiality. Kindly provide the information to the best of your knowledge.

Your support and cooperation will be highly appreciated.

SECTION A. DEMOGRAPHIC CHARACTERISTICS

Please answer the questions by ticking where appropriate.

1. State your age in years.
 - a) 20 and above ()
 - b) 20-30 ()
 - c) 30-40 ()
 - d) 40-50 ()
 - e) Above 50 ()
2. Indicate your Marital Status.
 - a) Married ()
 - b) Single ()
 - c) Widowed ()
 - d) Divorced ()
 - e) Others specify-----
3. State your level of Education.
 - a. Primary and below ()

- b. Secondary ()
 - c. University ()
 - d. Tertiary ()
 - e. Other specify ()
4. Indicate the duration you have taken in the water resource projects.
- a. Two years and below ()
 - b. 2-3 ()
 - c. 4-6 ()
 - d. 6-8 ()
 - e. Above 8 ()

SECTION B: OBJECTIVES OF THE STUDY.

Please read the following questions/statement and tick where applicable

5. To what extent do you agree or disagree that there is an effective system of communication in your project?
- a. Strongly Agree ()
 - b. Agree ()
 - c. Neutral ()
 - d. Disagree ()
 - e. Strongly Disagree ()
6. Indicate the work implementation strategy you often adopt in programming your project tasks.
- a. Specialization ()
 - b. Individualism ()
 - c. Sourcing ()
 - d. Work teams ()
7. Indicate the motivational drives commonly used in your organization.
- a. Promotion ()

- b. Salary review ()
 - c. Rewards ()
 - d. Fringe benefits ()
 - e. Others specify _____
8. Should there be conflict in your project organization which strategies are commonly used to manage such conflicts?
- a. Litigation ()
 - b. Arbitration ()
 - c. Mediation ()
 - d. Negotiation ()
9. In your own opinion explain how leadership influence sustainability of water resource projects in Sotik Sub-county.....
10. Indicates the kind of activities your normally involved in water projects.
- a. Digging drainage ()
 - b. Fixing pipes ()
 - c. Repairs and Maintenance ()
 - d. Digging Trench ()
 - e. None ()
11. What are the resources you have contributed to water resource projects?
- a. labor ()
 - b. Money ()
 - c. Labor and Money. ()
 - d. Advice ()
 - e. None ()
12. To what extent do you agree or disagree, that our participation in decision making produces more efficient and sustainable water resource projects.
- a. Strongly agree ()
 - b. Agree ()

- c. Neutral ()
- d. Disagree ()
- e. Strongly Disagree ()

13. Indicates the level of involvement in water projects resources.

- a. Expert ()
- b. Stakeholders ()
- c. Interested parties ()
- d. Top down management ()

14. In your own opinion how does women involvement influence sustainability of water resource projects? _____

15. The level of Education has an influence on sustainability of water resource projects?

- a. Strongly Agree ()
- b. Agree ()
- c. Neutral ()
- d. Disagree ()
- e. Strongly Disagree ()

16. We have obtained relevant qualification for managing water projects?

- a. Strongly Agree ()
- b. Agree ()
- c. Neutral ()
- d. Disagree ()
- e. Strongly Disagree ()

17. What kind of training have you done in water projects?

- a. Technical Training ()
- b. Workshop ()
- c. Induction course ()
- d. None ()

18. Indicates the number of times you have been attending training for water project?

- a. Regularly ()
- b. Annually ()
- c. Quarterly ()
- d. Weekly ()
- e. None ()

19. We have necessary qualification for managing water projects?

- a. Strongly Agree ()
- b. Agree ()
- c. Neutral ()
- d. Disagree ()
- e. Strongly Disagree ()

20. In your own opinion, do you think training of women in water management influence sustainability _____ of _____ water projects? _____

21. Indicates the adequacy of funds you have received for water projects.

- a. Shortage ()
- b. Enough ()
- c. Average ()
- d. Fair ()
- e. None ()

22. Indicates the sources of funds you have receive to manage water projects.

- a. Individual ()
- b. NGO's ()
- c. Ministry of water ()
- d. C. D.F ()
- e. Community Groups ()
- f. Financial Institution ()

g. None ()

23. Indicates the mode of disbursement of funds to your water projects.

a. Transparent ()

b. Fast and Reliable ()

c. Fast, Reliable and Transparent ()

d. None ()

24. Indicates the number of times you mobilize your community to acquired funds for water projects.

a. Always ()

b. Sometimes ()

c. Rare ()

d. Others Specify_____

25. In your own opinion, does the availability of funds influence sustainability of water projects?

26. Sustainability of water resource projects has improved water supply and sanitation.

a. Strongly Agree ()

b. Agree ()

c. Neutral ()

d. Disagree ()

e. Strongly Disagree ()

27. Sustainability of water resource projects has enabled us to get access to clean water?

a. Always ()

b. Sometimes ()

c. Rare ()

d. Others Specify_____

28. Through Sustainability of water resource projects have water for commercial use?

a. Strongly Agree ()

b. Agree ()

c. Neutral ()

d. Disagree ()

e. Strongly Disagree ()

29. Indicates how you can rate sustainability of water resource projects has reduced burden on women.

a. Average ()

b. Fair ()

c. Good ()

d. Excellent ()

e. None ()

30. In your own opinion, what can be done to improve sustainability of water projects in Sotik

Sub County?_____

Thank you.

APPENDIX 111

**MORGAN'S TABLE FOR DETERMINING SAMPLING SIZE FROM A
GIVEN POPULATION**

Population size	Sample size	Population size	Sample size
10	10	300	167
20	19	400	197
30	28	1500	306
40	35	2000	322
50	44	3000	341
60	52	4000	351
70	59	5000	357
80	66	6000	361
90	73	7000	364
100	80	10000	370
150	108	20000	377
200	132	50000	381
250	162	100000	384