

**ROLE OF WOMEN IN THE MANAGEMENT OF COMMUNITY WATER
PROJECTS IN GEM SUB-COUNTY, SIAYA COUNTY, KENYA**

JOSEPHINE ORONDO

M10/6655/2017

**A RESEARCH PROJECT SUBMITTED TO THE AFRICAN WOMEN
STUDIES' CENTRE IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE AWARD OF THE DEGREE OF MASTER OF ARTS IN WOMEN,
LEADERSHIP AND GOVERNANCE IN AFRICA OF THE UNIVERSITY OF
NAIROBI**

2018

DECLARATION

This project is my original work and has not been presented for examination in any other university.

Signature..... Date.....

Josephine Orondo

Registration number: M10/6655/2017

This research project has been submitted for examination with our approval as University Supervisors.

Signature..... Date.....

Dr. Tom Ondicho

Signature..... Date.....

Dr. Dalmas Ochieng' Omia

DEDICATION

This work is dedicated to God for He is Great, to my fellow Kenyans, the women all around the world, the people of Gem Sub-County, my late parents the late Assistant Chief John Willis Orondo Boyi and Mama Rosa Akumu Orondo, my sister and guardian Patricia Orondo, a special dedication to my loving and caring husband Mr. Allan Okoth Okuta and to our beloved daughter Rose Mia Okoth.

TABLE OF CONTENTS

DECLARATION.....	i
DEDICATION.....	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	iv
LIST OF FIGURES	v
LIST OF ABBREVIATIONS	vi
ACKNOWLEDGEMENT.....	vii
ABSTRACT.....	vii
1.0: CHAPTER ONE: BACKGROUND.....	1
1.1 INTRODUCTION	1
1.2 Statement of the problem.....	5
1.3 Objectives of the Study.....	7
1.3.1 Overall Objective.....	7
1.3.2 Specific Objectives	7
1.4 Research Questions.....	7
1.5 Justification of the study.....	8
1.6 Scope of the study.....	9
1.7 Limitations of the study	9
1.8 Definition of terms	10
2.0: CHAPTER TWO: LITERATURE REVIEW.....	12
2.1 Introduction.....	12
2.2 Women’s role in community water projects	12
2.3 Level of involvement of women in the management of community water projects.....	13
2.3.1 Involvement of women a boost in promoting project sustainability	13
2.3.2 Women and decision-making in community water projects	14
2.3.3 Design, operation and maintenance of water systems	17
2.4 challenges in water resource management	18
2.4.1 Biased water resource allocation process.....	18
2.4.2 Lack of management capacity by existing male-dominated leadership	19
2.4.3 Inadequate capacity building and lack of follow-up by N.G.Os & funding agencies	19
2.5 Theoretical framework	19
2.5.1 Longwe’s Women’s Empowerment Perspective	22
2.5.2 Relevance of this theory to the study.....	24
3.0: CHAPTER THREE: RESEARCH METHODOLOGY	25
3.1 Introduction.....	25
3.2 Research site.....	25
3.3 Research design	26
3.4 Study population	26
3.5 Sampling procedure.....	27

3.6 Data collection methods	27
3.6.1 Survey.....	27
3.6.2 Key Informant Interviews.....	28
3.6.3 Secondary Sources.....	28
3.7 Data processing and analysis	28
3.8 Ethical consideration	29
3.9 Challenges in the field and how they were mitigated	30
4.0: CHAPTER FOUR: FINDINGS AND DISCUSSION OF RESULTS.....	31
4.1 Introduction.....	31
4.2 Socio-demographic characteristics of participants.....	31
4.2.1 Sex/Gender of the respondents	31
4.2.2 Age.....	32
4.2.3. Level of education	33
4.2.4 Marital status.....	33
4.3 Women's participation in the management of community water projects	34
4.4 Women's inclusion versus project sustainability.....	36
4.4.1 Inadequate participation by women	37
4.5 Challenges for women in the management of community water projects.....	38
4.5.1 Lack of capacity building by the funding agency	38
4.5.2 Women's lack of power to control the revenue collected from the sale of water.....	38
4.6 Membership of water committees (Formation criteria)	38
5.0: CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	41
5.1 Introduction.....	41
5.2 Summary	41
5.3 Conclusions	42
5.4 Recommendations	44
5.5 Suggestions for further research.....	45
References	47
Appendices	51
Appendix I: Introduction letter	51
Appendix II: Letter of informed consent	52
Appendix III: Survey questionnaire	53
Appendix IV: Key Informant Topic Guide	60

LIST OF TABLES

Table 2.1: Measures of impartiality	Pages 21
Table 2.2: Women’s problems versus women’s issues.....	Page 22
Table 2. 3: Tenets/Components of Longwe’s empowerment model	Pages 23
Table 4.1: Sex of participants	Pages 31
Table 4.2: Age of the participants	Page 32
Table 4.4: Marital status of the respondents.....,,.....	Page 33
Table 4.5: Gender analysis of the management committee of water projects in Gem Sub-County.....	Page 35
Table 4.6: Women’s inclusion versus project sustainability	Page 36

LIST OF FIGURES

Figure 4.3: Level of Education of participants.....Pages 33

LIST OF ABBREVIATIONS AND ACRONYMS

GEPA – Gender Equality in Public Administration

NGO – Non Governmental Organization

KIWASH – Kenya Integrated Water Sanitation and Hygiene project

STEM – Science, Technology, Engineering and Math Programs

UNEP –United Nations Environmental Programme

UNICEF –United Nations Children’s Fund (formerly United Nations International Children’s Emergency Fund)

UN- United Nations

UNDP- United Nations Development Programme

WASH –Water, Sanitation and Hygiene for All (Campaign of the Water Supply and Sanitation Collaborative Council, Switzerland)

ACKNOWLEDGEMENT

The accomplishment of this study has been substantially aided by a number of people and institutions. To begin with, I wish to express my deep gratitude to Professor Wanjiku Mukabi Kabira, Director, African Women Studies' Centre, and supervisors Dr. Dalmas Ochieng' Omia and Dr. Tom Ondicho; for their motivation, patience, guidance, and insightful critiques of this research work. I would also like to thank Dr. Marygoretty Akinyi for her advice and help in keeping my progress on schedule.

My appreciation also goes to the University of Nairobi for the library resources, the African Women Studies' Centre and other resource centers which enabled me the researcher to acquire relevant secondary information.

Fieldwork, always a laborious task, was considerably made easy by the co-operation and generosity of my informants in their work stations, homes and elsewhere. I am most indebted to them for helping make this study a reality. My sincere regards also go to the women traders at Akala Market, Women of Koyundi Self Help Group, Kopiyo Self Help Group, Kwee Gi Lamo Self Help Group and Kobunga Self Help Group, very significant community gate keepers including Chiefs, Assistant Chiefs and Schools Head Teachers, Assistant Chiefs in Gem Sub-County. Chief of Gem south East Mr. Paul Nyajure, Assistant Chief at Gongo Sub-Location Mr. Vincent Kowuor, Assistant Chief at Kanyadet Sub-Location Mr. Jecton Omboo, Assistant chief at Kaudha East Mr. Joseph Ogombo, Head teacher at Migosi Primary School; Mr. Maurice Okinda Sume and Head teacher at Wagai Primary School; Teacher Solomon. It is also my desire to recognize the passionate and hardworking data collection assistants who represented me well in administering the questionnaire, and aided in my coverage of a wider research area. Mr. Silphanus Owino of Malele Village, Mr. Stephen Kizito and Bonface Kizito of Kaudha East Sub-Location.

Finally, I wish to thank all the members of my family whose love and unending encouragement has been a source of inspiration in my academic pursuits. Finally, my sincerest thanks go to my entire family, both immediate and extended for their great encouragement throughout the course of this study. A special thanks to my young and beloved daughter Rose Mia, for being an understanding child, and lovingly sacrificing our together-time in order to allow her mother to work through the research process.

ABSTRACT

This study set to assess the role of women in the management of community water projects in Gem Sub-County. Specifically the study set to determine the extent to which women are involved in the management of community water projects in Gem Sub-County, Siaya County and the challenges faced by women in the community water management committees. The study was guided by the Sarah Longwe's Empowerment framework which suggests that women's progress should be regarded in respect of welfare, access (ability to use resources), conscientization, participation (in decision-making platforms) and control (power balance between women and men). In addition, data were collected using survey and key informant interviews. Data analysis of quantitative data from survey was done through Microsoft Excel; while qualitative data arising from key informant interviews were analyzed through thematic approach. The findings indicate that a small percentage of women are involved as treasurers, secretaries or chairpersons of community water projects. Further, it was established that selection of management committees specifically to service, is largely male dominated and this marginalizes women in the process. The study concludes that in order to increase women's participation, societal expectations in respect to leadership in community projects infiltrates into selection of individuals, which is in favor of men. Therefore the study recommends that more support interventions targeting women and girls for the purposes of promoting equality and reduction of vulnerabilities should be incorporated in the community water project's operation guidelines and intervention strategies.

1.0: CHAPTER ONE: BACKGROUND TO THE STUDY

1.1 Introduction

As stated by Third World Centre (2015:1) “Women and Water Management”; participation of women in the planning and management of water is an important issue. This is because women play a very important role in water management in terms of water collection, preservation and within the household arena; they also get to decide how the water is used. Women’s traditional involvement in water management shows that women have a potential role in community water projects which in most cases end up benefitting both the water program and the women themselves and which will eventually contribute to sustainable community development in a broader perspective. The United Nations in a published article Women 2000 and beyond: Women and Water, 2005:20 posits that women who are also known to be the managers of their respective homes can always choose where to collect water for different uses, quantity of the water to collect and advise on what to do with the water. Women’s potential roles in water management projects include planning and design, construction, maintenance and management of improved water supply as well as to health education. Since women play an important role in the provision, management and safeguarding of water, there is need to place more focus on adequately incorporating and representing women-related factors in water resource management through the facilitation of women’s participation and enhancing the access benefits of both gender groups in the availability of water.

A study by Bukachi (2017) on Gender Analysis of vulnerability and resilience to household water insecurity in Kitui County, Kenya – Implications for institutional and policy response in the face of climatic variability. FAO (2011) and WHO (2011) note that women relative to men are more vulnerable to climate-related stress. In addition, findings by WHO (2011)

indicate that water crisis has prompted women to spend more time for their journeys in search of water.

The situation of gender power inequalities in many African societies has resulted in women being staged at a very disadvantaged position. For instance, if a borehole was to be drilled in a given area within Gem Sub-County, the owners of the homestead (in this case the men) would be consulted for authorization and location identification, meaning women will be locked out of the decision-making opportunity in a matter which would truly affect them directly. Women's inability to access formal power negatively affects their capacity to negotiate for water supply as required. In order to ensure equitable access to water, there is need for a gendered approach in the community water projects management which basically requires proper gender analysis in order to understand fully the existing gender relations within the community (Kithomeo, 2017: 10).

Mainstreaming of gender in water supply to non-urban areas is one of the key changes under decentralized rural water service, and which is yet to be realized. The plan was designed in the 1970s and 1980s and intended to meet the resolutions of the rural water interventions for men and women (Wijk-Sijbesma, 1998). To foster this, recruitment of both men and women through community participation was emphasized. The third world countries including Kenya have attempted to encourage community participation after the failure of many water projects in terms of non-functionality and lack of sustainability, as a result of institutional and managerial problems (Therkildsen, 1988; Wijk-Sijbesma, 1998). Besides, it was assumed that issues such as gender relations could therefore be easily looked into (Narayan, 1995; Wijk-Sijbesma, 1998; Harvey and Reed, 2004; Harris, 2009; Furlong, 2010).

A report by the Inter-American Development Bank "Women in Development" (2018) asserts and upholds that women will only be effective participants of a development agenda when

special consideration is given to their numerous roles, their particular needs including their family economic situation. Special consideration must be given to women's functions both as decision-makers and income generators. At the same time, successful water projects which include active participation of women will always be accepted and their overall vision realized since the women are primary users of water and will have their own opinions towards any water projects or water sources.

Sadly, the engagement of women in community water projects is enshrined within a patriarchal context, which is usually found to be in conflict with program objectives that seek to enhance women's involvement. So there is need to expand the institutional frameworks to include the social complexity of women's participation in the coordination of community water projects. Baker (2008) in her article 'Worldwide water shortage on Horizon' proclaims that 'A drought disaster will soon befall the future world generation'. Baker goes ahead to declare that 'By 2025 more than half the world population will lack freshwater and by 2050 more than three quarters of the world's population will lack access to freshwater'.

Women's participation in community water projects should be felt in development and management of the water projects. Ordinarily, the management process according to Henri Fayol, involves planning, organizing, commanding, coordinating and controlling. Part of this study's research objectives is to examine the level of women's involvement during project stages including design, promotion, mobilization, implementation and follow-up or monitoring and evaluation. Again, women should be assigned positions of facility maintenance experts since women have a world-renowned attribute of being great custodians of facilities, properties and environmental resources. As propounded in the Siaya County Annual Development Plan 2018-19, the water facilities are damaged and hence dysfunctional

making them less maintainable and will require rehabilitation and expansion to make them utilizable in order to meet the ever increasing need for water.

Gem Sub-County is one of the constituencies in Siaya County. The Dorcas Aid International & Development Foundation has already started the implementation of its North Gem Water Project which it spear-headed. It had been planned that the implementation plan be rolled out in partnership with the local N.G.O the North Gem, the County Government of Siaya and a privately owned company Maji Milele. The project whose goal was to supply to a population of 100,000 with access to clean and safe drinking water in the coming 5 years is partially funded by the Dutch Government (RVO) through Sustainable Water Facility. In addition, the project will uplift and improve East-Uyoma and Naya Water schemes to assist a further 60,000 people with sufficient, affordable and clean drinking water. Fortunately for the women, the Dorcas Relief Foundation Water project is also intended to provide and enhance chances for women in leadership in order to increase the women's income and participation in the mainstream development. This poses another research gap as it is yet to be seen whether the women living in these communities will actually be actively and positively involved in the community water projects.

1.2 Problem statement

Women are the managers of water. However they are usually isolated from matters decision-making when it comes to issues to do with water supply; which is meant to benefit them. Consequently, the water projects are not owned by the women and the capacity of the water project to meet their domestic water needs is sometimes not achieved, hence leading to ineffectiveness of the project (Olubukola, 2012:8).

Past studies indicate that in many parts of Africa, little efforts have been made to factor in the issue of gender into community water management. A UNDP/GEPA-Global report (2014: 7) stresses that equality for men and women is both a crucial development goal both for human resource and in overall. And as international law dictates; everyone has a right to participate in public activities, but this remains to be attained in terms of women's equal participation, more so in decision-making. The value of advancing women's leadership in politics has slowly made progress. Although much more must be done to ensure continuous progress. A UN Women Annual report 2012-2013 p.7 upholds that the 2012 UN Conference on Sustainable Development or Rio+20 echoed that women as category play principal, transformative roles in sustainable development, and that equality of gender must be a key priority when considering economic, social and political participation and leadership. In yet another Women Leaders' Summit sponsored by UN Women during the conference mobilized high-level political commitment through a Call to Action that was endorsed by female heads of state and government. UN Women also made sure grass-roots voices were heard. We sponsored a day-long civil society forum to complement the summit and presented findings from an extensive global survey that asked civil society groups for their perspectives on sustainable development.

It is sad to note, that less attention and support has been given to advancing women's leadership in public administration. Generally, women have been perceived as passive recipients of water resource with no significant role to play in decision-making on water sourcing, use, and maintenance of the water infrastructure. UNDP, (2003). The Victorian entry points with respect to water management institutionalization have tended to follow societal architecture of leadership which paints leadership as a position assumed by male, yet this has for long continued to undermine the ability of women to meet their specific gender needs. Additionally, the continued informal organization around water management giving rise to old age patriarchy. The imbalances in power relations in these societies have constantly led to conflicts in resource sharing and proper management of the same resources because the contribution of women in development is generally overlooked.

Magala (2017) stresses a significant point brought up in the WHO/UNICEF Joint Monitoring Program Report (2012) that women are in charge of collecting water in a larger part of Africa. This role extends further to Operations and Maintenance (O&M) of community water sources and the concept of Community Management has been widely used to promote sustainability of investments in O&M projects such as water supply systems. Moreover, women's voices are rarely heard or given adequate attention due to the power dynamics within water management structures. As it is, some of the water sources in Siaya County are seasonal, meaning they only exist during times of consistent rainfall. Therefore as part of its key KIWASH interventions in the water sector, the county intends to protect such sources by establishing community associations to manage and protect water sources. Most of all, the county government intends to promote gender mainstreaming in water management through its government and policy intervention strategy.

According to Deloitte Insights (2017) on Thirsty for Change: For the past twenty years or so, women's function in the water division has been evaluated in interrogations that have found that more meaningful advancements in the governance, transparency, and viability of water supplies are realized when men and women are involved in equal measure than when women are included only marginally or not at all.

1.3 Objectives of the study

1.3.1 Overall objective

To assess the role of women in the management of community water projects in Gem Sub-County, Siaya County

1.3.2 Specific objectives

The following specific objectives guided the research:

- i. To determine the extent to which women are involved in the management of community water projects in Gem Sub-County, Siaya County; and:
- ii. To establish the challenges faced by the women involved in the management of community water projects in Gem Sub-County, Siaya County.

1.4 Research Questions

In investigating this problem, the below research questions were raised:

- i. To what extent are women involved in the management of community water projects in Gem Sub-County, Siaya County?
- ii. What challenges do women in the management of community water projects face in Gem Sub-County, Siaya County?

1.5 Justification of the study

The overall purpose of looking into the role of women in the management of Community Water Projects in Gem Sub-County of Siaya County, Kenya was to evaluate the governance and socio-economic roles of women in water resources development projects among the local communities of Gem Sub-County.

Moreover, the study of women's role in the management of community water projects in Gem Sub-County has given insights in pushing for the county government in charge to design better strategies to work actively towards promoting the leadership capacity of women, women groups and female leaders within the community while at the same time enabling the women to meaningfully influence the decisions that directly impact on their day-to-day lives.

In the academic world, this study has added to the literature about gender in the participation of community members in development projects.

It is very important that water management issues adopt a user-oriented approach. Regardless of the fact that women and girls in the developing countries usually spend many hours daily to seek for water, inequalities in power issues and decision-making processes impact negatively on their ability to access and negotiate on water resource matters. In order to achieve sustainable means of managing community water resources, it is vital that a new and democratic approach for decision making and power sharing be devised, to ensure fairness and equity in the use of water resources and related benefits. This study is therefore significant in enhancing a more participatory management and decision-making process for a sustainable community water resource management.

Additionally, this study is aimed at adding to the body of knowledge on gender relations in community water project management, which will in turn help policy makers and funding partners in ensuring that water resources are equitably shared among different categories of people in the society.

1.6 Scope of the study

Several studies have in the past been conducted on village or community water management. Nonetheless this study, specifically limited itself to the socio- cultural factors that hinder or promote gender participation in the management of water projects. The main target population of the study was the women as a category, in the rural setting of Gem Sub-County. The study was guided by specific objectives that examined the role of women in the management of community water projects in Gem Sub-County, Siaya County.

The Sub-County and by extension the County was selected for the study mainly due to its arid and semi-arid weather conditions. Nevertheless, other factors like unequal participation in the decision-making process by all the project beneficiaries place Gem Sub-County as one of the constituencies whose water resources need careful and proper management and planning.

Even though there was need to explore the entire Siaya County, the study was limited to Gem Sub-County due to limited time and funds. In an effort to gather the relevant data, the study observed all the ethics of social science research.

1.7 Limitations of the study

The study was faced by quite a number of challenges which did not hinder the achievement of the study objectives but only enhanced for the approaches to mitigate them.

About 80% of the people who participated in the survey and key informant interviews had high expectations for instance getting some compensation in exchange for their submitted information. However, the researcher was able to give small tokens of calling airtime in amounts of Kenya Shillings 150.00 and in a few cases Kenya Shillings 100.00 per respondent.

In addition, given the constraint of very limited time, and lengthy questionnaires which the researcher had to administer, the researcher had to engage three data collection assistants to help gather the primary data. At the same time, 2 of the survey questionnaires were returned incomplete.

Limited finances lowered the researcher's ability to explore a wider coverage of the study site given that some locations could only be accessed by use of motorcycles which charged high fare charges, and sometimes by use of bicycles which meant spending more time in transit between locations and also to reward respondents with tokens.

Furthermore, the study title prompted research questions that are subjective or 'leading' in nature. Unfortunately for the study, some women respondents were too busy to participate in the questionnaire survey.

1.8 Definition of terms

Management in this study means a leadership function which is dominated by the responsibility of making key decisions which affect how community projects are run, and how such important decisions influence the outcome, benefits and sustainability the water project to the community.

Community Water project in this research refers to a localized solution or plan, a practical arrangement by local governing authorities or by funding agencies like Non-Governmental Organization; a program that either leads to the creation of a new water facility or a scheme which works towards the improvement of an existing water resource with the overall aim of increasing the level of access to clean water by the local community residents.

Empowerment of women in this study means enabling the local women to fully and genuinely get involved in matters community development especially their ability to engage in decision-making without being discriminated on the basis of their gender.

Women in this context are a term group of people, socially constructed and who in most cases are of female sex; whose identification are defined by certain norms and responsibilities as dictated by their given society.

2.0: CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature that has been used in the study. The literature has been reviewed along the following sub-themes. The chapter concludes with a theoretical framework, Longwe's Empowerment framework, which deludes that women's development can be estimated in five levels of equality: Welfare, access, conscientization, participation and control.

2.2 Women's role in community water projects

Women's traditional participation in water and sanitation management demonstrates that women have a potential role in such projects which will benefit both the project and the women themselves and which will contribute to wider development. Comparison of their actual participation with these potential roles shows the contributions made by women to planning and design, construction, maintenance and management of improved water supply and sanitation and to health education, and denotes areas for further development and research.

The drawbacks of implementing programs without the involvement of users, especially women, have now become clear. Many water and sanitation schemes have fallen into disrepair. A number of countries have been obliged to give precedence to rehabilitation of existing systems over investment in new facilities.

2.3 Level of involvement of women in the management of community water projects

2.3.1 Involvement of women a boost promoting project sustainability

In a public talkin the roll out of Siaya Water and Sanitation scheme (July 2018) the County Governor said: that it has always been the norm that most rural water supply gets managed by community water committees. Nevertheless issues such as poor management structures, limited capacities, troubles with revenue collection, poor accountability and unviable water tariffs settings, has resulted into many projects ending as unsustainable and are under performing. As a result, only 36% of the Siaya population uses improved sources of water, with 49% having access to proper sanitation.” It is interesting to note that poor management structures are one of the major limitations of the rural water supply projects. This begs the question: Were women adequately involved in the management of the water projects? This study suggests that women as the primary users of rural community water, are highly likely to be better managers in the water committees since they already know the level of suffering that their households would face if the projects were mismanaged to cause a community water shortage.

Thomson (2017: 3) in ‘Thirsty for change’ stresses that:

Women being the key providers, organizers, and consumers of water;they are often in an ideal spot to help push for productive change in the planning and maintenance of water systems, water distribution, and policy-making. The big question is: What can be done to increase women’s involvement in water management?

The cultural and social setting usually influences one’s capacity, standing, prestige, rights and obligations. In the same manner, it shapes women’s access to various resources such as land,

water, education, health and employment compared to men. That is to say, women and girls are disadvantaged with water-related chores like water fetching, transport, storage and usage, while men and boys are assigned the task of watering animals. The female members of society are also tasked with sanitation responsibilities. This division of labor, together with the complication of accessing water, affects the frequency of school attendance especially by girls and this has in a way contributed to women's literacy levels. Despite women's role as chief users being acknowledged, women are excluded in managing and developing the water reserves, because social hindrances prevent their incorporation into the decision-making platforms (African Development Bank, 2009).

2.3.2 Women and Decision-Making in Community Water Projects

As asserted by Marilee (1995): For a long time, African women have been victims rather than beneficiaries of development due to the underlying cultural biases. Development planners have been lumping women together with the other target groups with no special considerations. Marilee says that there is need for the development planners to do a social analysis to understand the underlying socio-cultural factors in a given community.

Despite the United Nations and the World Bank resolutions on acknowledging the function played by women in the management water, gender issues regarding water management in Kenya have been ignored as the case in other African countries. Manundu (1997) as cited in the UNDP report (2003) cites unequal women participation in family decision-making as one way on how women are disadvantaged in comparison to men on water issues. Razavi and Miller (1995), agrees with Manundu that to ensure fairness and equality in resource sharing, there is need for mainstreaming gender in development planning and examining social

structures, processes and relations that may give way to further women subordination in a given community.

In nearly all communities, women have been depicted as the underprivileged group which has been faced with great unfairness of conventional power and supremacy in the public sector. Eventually, they suffer prejudice when it comes to control of resources. In matters to do with water, for example, the biases are perceived in terms of access to water resources alongside the convenience that derives from water development projects plus the ability to make decisions with regards to the management of the water reserves (Gender and Water Alliance, 2005).

According to a study done by UNICEF (1992) and as recognized by Rathgeber (1996:56), there is clear evidence in many Kenyan communities that existing cultural gender roles for women and men greatly influence attitudes towards water management "There is evidence that in some communities men will give precedence to the building of a corrugated iron roofed house, purchase of a bicycle or marry a second wife over the supply of basic household necessities such as food and water" UNICEF (1992). Another UNICEF report (1992) notes that despite women working from light until after dark in order to meet the family's needs, the reward they get in return is generally, less food, less education and training, and less basic rights.

Razavi and Miller (1995) appreciate the essential role played by social - cultural factors in determining the process of power-sharing. They argue that in order to have equity in gender power sharing, there is need to consider renegotiating power relations. A social relations analysis would ensure equity in redistribution of resources and increase women's bargaining

power within the decision-making processes. Maharaj (1996) says that under representation of women in key decision making processes undermines their valuable contribution in water resource management as noted in Tanzania. "In Tanzania, most villages have established what are generally known as village water committees in which women are greatly under-represented in these Committee with an argument that they lack self-confidence and education to compete with men "(Maharaj, 1996)

Maharaj continues to argue that cultural bias is a serious barrier to women participation in water management including those situations where women are more qualified with moreskills and experience than men. In support of this view, Rathgeber, (1996) discusses a case in Kenya where a hand pump project sponsored by PROWWESS and UNDP in partnership with the Kenya's Ministry of Water development stressed on female participation in the repair and maintenance of pumps. However, due to cultural stereotypes, the women themselves requested their replacement by men even after the successful completion of the training claiming that the young women would be married off and migrate to other communities.

Full participation of women in water management is further hampered by prevailing cultural norms of male dominance. Men domination in community meetings is a common trait in Africa and Asia. During the community meetings, men occupy the front seats as their female counterparts dominate the rear seats where they hardly hear. Numerous studies show that even though women may be willing to contribute during the discussion, prevailing cultural norms greatly influence their participation. In most cases, women may shy off to stand and speak in front of their husbands or community elders (Maharaj, 1996).

Adams and Castle, (1994) discusses the importance of empowering women to be able to play a major role in decisions concerning their productive and reproductive roles. They argue that many development programs have failed because development planners have failed to recognize the importance of understanding gender relations in a community. Adams and Castle feel that women's ability to have authority over material resources in the household has a lot of influence on overall welfare and that of the entire community. In the patriarchal societies, men have control over all household resources including women's labour, which consumes their time and prevent them from engaging in the rest of development activities outside their household.

2.3.3 Design, operation, and maintenance of water systems

As deluded by Thomson (2017):Most female consumers of water have critical insights about the planning, functioning, and sustainability of water systems, which resonate with their needs and likes as the sector's prime consumers. Using a consumer-focused methodology to water supply systems that includes the end-users' wishes, wants, concerns, and cultural contexts has many advantages for the consumers, societies, and authorities. This means that the infrastructure applicable in such a scenario will favour the intended beneficiaries by rendering the newly constructed water systems as utilisable by its targeted users.

A proper user-centred design that generates better knowledge about the market requirements should be generated from a solid understanding of cultural sensitivities and an insider's perspective—both inputs that women as primary users, chief providers, and central managers of water can readily offer supply solutions. The inclusion of women in conducting the market research should therefore translate into their increased enrolment for formal education by the local women and girls, specifically in STEM programs. Some of the ways of motivating young girls to register and also complete STEM academic programs include: targeted

scholarship programs that start from secondary school level and assist promising STEM students finish secondary and higher education programs; performance-based conditional cash transfer systems that offer incentives to girls in order that they may enrol and later graduate from STEM programs; international academic exchange programs; and opportunities for prize competitions aimed at enhancing technological innovations. Curricula development and modified training for teachers of vocational, college, and university programs whose core business revolves around the design, operation, and maintenance of water infrastructure preferably with attached incentives which attract more female students to enrol in and be able to teach such programs. Companies and institutions, local and national governments, and other water supply organizations and enterprises that actively hire the female graduates and alumni from this kind of programs will positively influence higher enrolment and course completion (Thomson, 2017).

2.4 Challenges in water resource management

2.4.1 Biased water resource allocation process

Water is a valued resource. High competition and water use conflicts amongst and between groups of water user communities and irrigation users, and various other use interests.

Water allocation practices and enforcement are very weak and fundamentally are the cause of the conflicts. Poor information base for determining the available supply and use. The process of allocation is often distorted, biased and frequently undermined by powerful and vested interests. The financial capital for supporting activities of the catchment board is generally weak, and consequently, the decision making process is slow and often distorted. Monitoring and enforcement of the abstractions is weak.

2.4.2 Lack of management capacity by existing male-dominated leadership

This is yet another limitation. Many community groups have not put in place the basic management processes to operate efficiently and professionally, such as book keeping, record keeping and payment collection systems. Their water tariffs are not based on real costs or on government guidelines, and often are contradictory. Such tariff inequalities undermine the willingness to pay among customers, which is generally very low, especially if there is an (unsafe) surface water source nearby. Furthermore, in many cases, communication and accountability between the group and the community (hence, its customers) is weak. Most groups do not hold regular open meetings to report their incomes and expenditures for the water system and to receive and discuss complaints or other issues with customers. Customers (majority of whom are women) are rarely involved in the main decisions related to the management of the system, including tariff setting. Consequently, customers have little trust in the community group and are hardly willing to pay for water services (Procedia, 2016: 42).

2.4.3 Inadequate capacity building and lack of follow-up by NGOs and funding agencies

Inadequate capacity building and follow-up by NGOs. According to a self-assessment survey among 65 civil society organizations (CSOs) and external validation among 11 CSOs working in the Kenyan water and sanitation sector, performance, in terms of O&M of water systems constructed by CSOs, is weak (KEWASNET, 2016).

2.5 Theoretical framework

This subchapter reviews the theory which guided the study and later used to unpack the findings of the study. The research was guided by Sarah Longwe's framework.

2.5.1 Longwe's Empowerment Framework

The theory of Women's Empowerment, or Longwe Framework, was formulated by Sara Hlupekile Longwe, a Zambian gender and development consultant based in Lusaka specializing in gender and development issues. The theory has always aided planners to comprehend the practical meaning of women's empowerment and equality, alongside guiding them to decide whether a development program is in line with this empowerment. Its central argument is that women's development can be estimated in regards to five levels of equality: welfare, access, "conscientization", participation and control. Empowerment is paramount at each of these stages. Welfare solves basic needs, and access resolves ability to utilize resources such as credit, land and education. "Conscientization" is a primary element of the concept: acknowledgement that prejudice creates gender-related complications and sometimes women may themselves bring about this unfairness. Inclusion of women brings about fairness at the decision-making table. Control ensures the balance of powers between men and is equal. This paradigm facilitates the study in questioning the level of involvement of women in the decision-making and running of the affairs of the community water committees.

A report by the World Bank's regarding "Engendering Development," (2001a) outlines rights, resources, and voice as the three necessary elements of gender egalitarianism. Chen (1992) defines "resources, perceptions, relationships, and power," as the main modules of emancipation, and Batliwala (1994), characterizes empowerment as "control over assets and doctrines." UNICEF is one organization which has been known to apply the principles arising from this school of thought invented by Sara Longwe, which includes comfort or well-being, ability to obtain and use resources, awareness-raising, involvement, and authority (UNICEF 1994).

As stated by the International Labor Organization (ILO/SEAPAT, 1998), this philosophy points towards attaining women's empowerment by allowing women to accomplish equal power over the available resources and engage fairly and meaningfully in the development undertakings.

Longwe proclaims that poverty generates from subjugation and unfair treatment. She proposes five accelerating phases of fairness, exhibited in pecking order, with each higher degree denoting a higher magnitude of enabling. These form the grounds to evaluate the magnitude of women's emancipation in the socio-economic domain. The measures of impartiality are:

Table 2.1: Measures of impartiality

Power	Using the engagement of women in the decision-making scenario to attain balance of supremacy between women and men over the factors of production, ensuring no gender group dominates the other.
Involvement	Refers to women's inclusion in the act of reaching decisions, drafting of policies, drafting groundwork and governance. In matters development, it comprises of engagement in evaluation of necessities, program plan, execution and appraisal.
Critical consciousness	Includes an understanding of the distinction between sex roles and gender roles and the notion that gender associations and the gender dissection of labor ought to be just and pleasant to both sides, and not on the basis of dominance of either divide.

Access	Encompasses women's ability to obtain and use major resources e.g. land, labor, opportunities for training, credit, marketing facilities, plus any public amenities and enjoyments fairly with men. Impartiality of access is reflected by attainment of justness of chance through review of some laws to eliminate any clauses that promote prejudice.
Well-being	Covers the degree of material well-being of women, compared with men, in terms of provision for nourishment, earnings and healthcare, regardless of whether the women are actively engaged in production.

Source: ILO/SEAPAT: 1998

The Longwe's proposition also differentiates between women's problems and women's concerns.

Table 2.2: Women's problems versus women's concerns

women's problems	These are about equality with men in all socio-economic functions considering any of the levels of equality.
Versus	
women's concerns	which comprises of women's traditional and subordinate, sex-stereotyped gender roles

Source: ILO/SEAPAT: 1998

Table 2.3: Tenets/Components of the theory

Negative level	Here the goals of the program are silent about women's issues. Past incidences have indicated that women were left out of the development process.
Neutral level	In this case the goals of the development scheme will identify women's prevailing problems but no action taken to eliminate the challenge.
Positive level	A scenario in which program objectives are truly focused on the women's issues and also come up with ideas to counter the challenges presented.

Source: ILO/SEAPAT: 1998

Longwe's theory comes in handy especially to people aiming at enhancing egalitarianism and advancement of women through their local activities.

Some positive attributes of this premise include the fact that it stems from the notion of immediate and well thought out gender needs into a continuous progress. Also, it clarifies on the significance of empowering women when it comes to development agenda and enables an evaluation of suggested solutions. Furthermore, Longwe's argument has a powerful political notion that targets attitude change.

Unfortunately, this proposition is limited to presuppositions of levels of justness. It gives no room for grey areas. Furthermore, the theory has not evolved and has no consideration for any changes that have occurred after a while. Additionally, this school of thought evaluates gender links from the perspective of equality only; no room has been given for

interconnection between roles and entitlements. This model also turns a blind eye to other dimensions of inequality.

2.5.2 Relevance of this theory to the study

Sarah Longwe's empowerment framework by use of its 5 levels (welfare, access, conscientization, participation and control) will guide the study to determine the level of involvement of the local women in the management of community water projects, and by so doing, the theory will help in addressing objective number one of this study which seeks to determine the extent to which women are involved in the management of community water projects in Gem Sub-County.

Longwe's framework will also aid in addressing this study's objective number two which is about establishing the challenges (issues) faced by the women in Gem Sub-County. In equal measure the women's empowerment concept identifies three stages of identification of women's problems in project planning.

Longwe's framework as a gender analysis tool helps in generating a pattern of women's and men's access to and control of resources, so that a picture is generated of who has control over what resources at different levels.

3.0: CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the various procedures and techniques used in gathering data, which was analyzed to completing the study. It defines the area of study, the target population, data collection techniques, sampling techniques, procedures of analyzing data and a brief explanation on ethical consideration.

The data were collected using survey and key informant interviews. Data analysis of quantitative data from survey was done through Microsoft Excel; while qualitative data arising from key informant interviews were analyzed through thematic approach.

Survey was the primary data collection method. Key informant and secondary reviews were complimentary methods.

3.2 Research Site

The study was conducted in Gem Sub-County of Siaya County in Kenya. Generally in Siaya County, the distribution of water sources, surface and underground in the County are naturally widely spaced and make people walk long distances to fetch water. The Government interventions were intended to reduce the long distance coverage to about 500m distance. The intervention measures the Ministry of water has put in place so far in terms of piped schemes, point water sources like boreholes, shallow wells and spring protection has not met the target. The rural population of the County depends on various types of water sources for their domestic needs. The southern part (Bondo and Rarieda) have less than one water point per 2.5km², while the north and north-eastern parts have a water point density of more than 3 per km². Streams are the most wide spread type of water points, but occur mainly in north-eastern part of the County. Other sources of water in the County include; wells,

boreholes, roof catchment, rivers, Lake Victoria, water holes, dams, ground catchments and piped supplies. A large number of water points cannot be used during the dry season because they are seasonal (Siaya County Integrated Development Plan 2013/2017: 24). The Water, Irrigation, Environment and Natural Resources department has constructed 30 boreholes and 100 shallow wells already. In addition, water tanks have been installed in schools and health facilities, 30 water pans rehabilitated and 30-kilometre water pipelines extended across the county. About 125 new boreholes and 30 shallow wells have been constructed across the county.

The study site of Gem Sub-County is subdivided into five sample areas: Malele & Akala area, Kaudha & Wang' Bith area, Wagai Area, Gongo and Migosi Area, from which key informants were identified for the study including women in welfare groups, market women and a few women from selected households.

3.3 Research Design

The study used a descriptive cross-sectional design. Data were collected through quantitative and qualitative approaches. Survey was used to collect quantitative data while key informant interviews were used to collect qualitative data. The mixed method was used for variables that are central to triangulation. The community water projects were randomly selected on the basis of proximity to the researcher. Women members of the management committee for the water projects were purposively selected.

3.4 Study population

The estimated total population from the target population was 200 respondents. However the sample for this study consisted of 20 respondents. This represented 10% of the target population.

3.5 Sampling Procedure

The sample was distributed as follows: All women in community water project management all drawn from Malele/Akala area, Kaudha area, Wang' Bith, Wagai Area, Migosi Area and Gongo Sub-Location. The researcher drew the sample from each of these study locations. This accounted for 2 women per chosen location.

An in-depth content analysis of the data collected from the interview respondents, documentary and internet sources was done to find out the different results and compare responses from the different respondents, as well as the information gathered from different document and internet sources, etc. In brief, the study involved collation, triangulation and analysis of all available data for final study report.

3.6 Data Collection methods

3.6.1 Survey

This was the main data collection method which was used to gather data from women in the sample size using a structured questionnaire (Appendix III). The questionnaire contained both closed and open-ended questions to generate quantitative as well as qualitative data. The data collection tool was administered by the researcher with the help of three data collection assistants. The questionnaire is divided into four sections (A, B, C, D) where section A seeks information on the demographic characteristics of the respondents. Section B seeks information on the level of women's participation in the management of community water projects. Section C of the questionnaire brings to light some of the challenges that the women face both as management committee members and as women of the Sub-County. Section D of the survey questionnaire dwells on the election of committee members and other challenges experienced by women as regards management of the community water projects.

3.6.2 Key Informant Interviews

The study also employed the use of key informant interviews (KIIs) for qualitative data. Eight (8) key informants were purposely selected to participate in the interviews. This technique was used to gather information from key knowledgeable persons who included women in leadership positions; drawn from different women self-help (welfare groups) associations, women traders and a few women from selected households that are located near communal water points in Malele/Akala area, Kaudha area, Wang' Bith, Wagai Area, Migosi Area and Gongo Sub-Location. A key informant guide was used (shown in Appendix IV) to facilitate face-to-face interviews which were conducted orally. These groups of respondents were regarded as potential sources of useful information for this study. Based on their experience and exposure in matters to do with community water projects, they provided information that enriched the responses from other techniques. Fortunately all the 8 key informants were eager to participate in the interviews which unfolded successfully.

3.6.3 Secondary Sources

Secondary sources have been used in developing the background. In cross-discussing the findings, scholarly journal articles and books on gender and sustainable community development were used in this study. References were also made to the documents of Siaya County including the governor's public speeches and the County's Integrated Development Plans / Strategic development plans. For this reason the study adopted a qualitative and descriptive analysis with the use of secondary data which generated the background data regarding the participation of women in the community water management projects.

3.7 Data Processing and Analysis

Quantitative data was analyzed using Microsoft Excel, a process which was used to generate descriptive information for quantifiable data aligned to the study objectives. Particularly,

these were data on the respondents' demographic information. The questionnaires were checked for accuracy and completeness and a template was created in the Microsoft Excel sheet based on the study variables. The template was used to feed data from all questionnaires. After generating the descriptive statistics, data was presented using tables and figures.

Qualitative data was tape recorded during interviews. The interview audio files originally recorded in the local Luo language were translated and transcribed to English. The conversion of the audio records to text enabled content analysis. Content analysis involved reading through the transcripts while checking key themes and emerging ones. The procedure also involved checking recurrences within and across data.

3.8 Ethical consideration

In order to avoid incidences of plagiarism, the study has provided reference information for quoted texts originating from writers of past study reports. This study also sought consent from the survey participants, resource persons (gate-keepers and key informants) by presenting them with a letter of consent a few days prior to the interviews, so that they could willingly participate in the research survey. The researcher also explained to the respondents that they did not have to reveal their real names in the research process, and that the information they provided would be used for academic purposes and that the information they gave would be handled with utmost confidentiality. Fortunately for the researcher, most of the letters of consent presented got approvals, except for one failed case in Kaudha area, where regardless of the researcher's firm assurance that matters of the study would be kept strictly for academic purposes and respondents' names in confidence, the gate keeper did not agree to participate in the study and for that reason his wish was respected.

Again, to observe professionalism and ethics, the researcher obtained a letter of introduction from the university to validate and legalize the research process. The letter of introduction made it easier for the researcher to create rapport with the informants at the research area.

3.9 Challenges in the field and how they were mitigated

The research process slightly got affected by irregular weather patterns including rainfall and muddy marram roads during two days of the research period. As a result, timings for activities that were scheduled for the two days had to be adjusted a bit in order to accommodate the study. The means of transportation proved to be a little expensive for areas which could only be accessed by motorcycles. About 3% of the survey respondents returned their questionnaires incomplete citing the need for them to rush home to attend to some domestic responsibilities.

4.0: CHAPTER FOUR: FINDINGS AND DISCUSSION OF RESULTS

4.1 Introduction

This section comprises a presentation of the study findings based on the research objectives that sought to examine the level of extent of participation of women in the management of community water projects and the challenges that the women in community water management committees face.

4.2 Socio-demographic characteristics of participants

4.2.1 Sex/Gender

The study was dominated by female respondents. There were a total of 20 women accounting for 100% similar gender as shown on table 4.1 below:

Table 4.1: Sex identity of the participants

Sex	Frequency	Percentage
Female	20	100
Male	0	0
Total	20	100

The reason for engaging only female participants was to ensure that the primary data was collected from women themselves (first-hand information) because this study's main focus is on women.

4.2.2 Age

The respondents were aged between 20 and 60 years and the distribution is shown in table 4.2 below. While those aged between 20 and 24 accounted for 20% of the total participants, those aged above 25 comprised the majority of the participants.

Table 4.2: Age of the participants

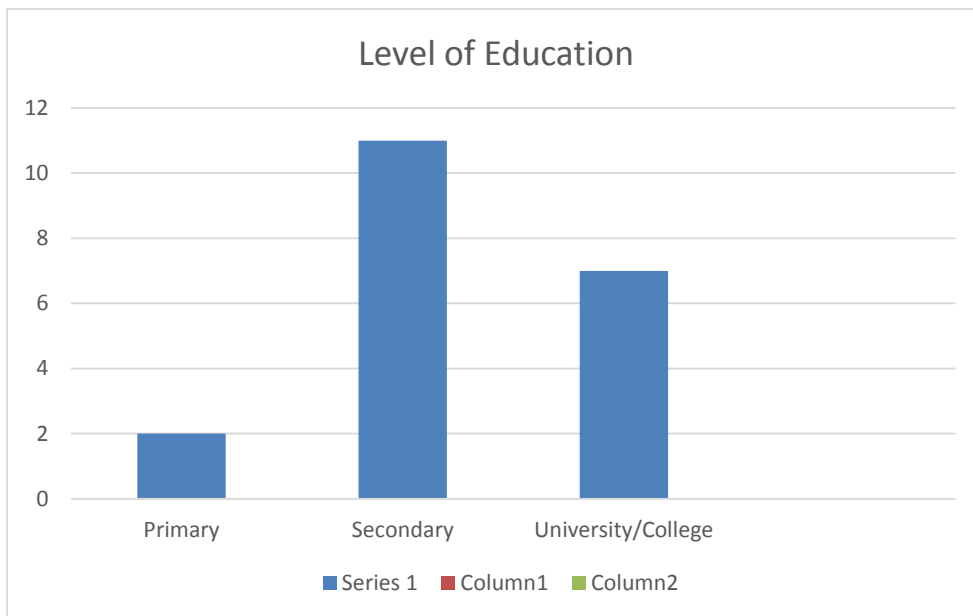
Age	Frequency	Percentage
20-24 years	4	20
25-29 years	2	10
30-34 years	3	15
35-39 years	3	15
40-44 years	3	15
45-49 years	2	10
50-54 years	2	10
55 years and over	1	5
Total	20	100

Even though women's participation in the management of community water projects may vary across different ages, this research did not find significant variation in the study population.

4.2.3 Level of Education

The study sought to measure the highest level of education attained by the participants. From the data presented in Figure 4.3 below, we can deduce that a majority of the participants had attained secondary or university/college as highest level of education, accounting for 56% and 49% respectively.

Figure 4.3: Level of Education of participants



Establishing the level of education helped in assessing how well the respondents comprehended and interpreted the questions. Only 2 participants reported primary education as their highest level of education. None of the respondents reported that they were below primary level of education.

4.2.4 Marital status

Table 4.4: Marital Status of the respondents

Marital status	Frequency	Percentage
Married	17	85
Divorced	1	5
Widowed	3	15
Single	0	0
Total	20	100

The findings indicate that 0% of the respondents were single, 85% of the respondents were married and 5% of the respondents were separated while 15% of the respondents were widowed. This implies that the married respondents were the majority and were therefore likely to understand gender-related issues.

4.3 Women's participation in the management of community water projects

This study sought to assess the role of women in the community water management activities, in terms of the extent to which women are involved in the management of the community water projects and the challenges including socio-cultural factors limiting women's participation in the decision-making, planning, designing implementation and maintenance processes of community water management. The results of the study revealed that a good number of women participate in the community water projects only by undertaking activities such as: selling water at the boreholes and springs to raise money that is used to maintain the borehole or spring, encouraging residents to chlorinate their water at the collection point, contributing funds towards the success of the project, preparation of food for the labourers, being consumers of water, campaigning for water preservation to avoid pollution, encouraging communities to use the chlorine dispensers located at the water springs and borehole water collection points, etc In the water committees, majority of the leaders are men. It is only in a few cases that women occupy positions of treasurer and sometimes secretary. In some areas like Gongo Sub-location the Assistant chief (currently a male) plays the role of the water committee patron.

Table 4.5: Gender analysis of the management committee of water projects in Gem Sub-County

Position in water committee	Akala community water project	Wagai primary water project	Migosi Primary water project	Kaudha/Wang’Bith Sec. Sch. water project	Lidha Hospital water project	Gongo Health Centre Community Water Project
Patron	A male	A male	A male	A male	A male	A male
Chairman	A male	A male	A male	A male	A male	A male
Treasurer	A female	A male	A female	A female	A male	A female
Secretary	A male	A male	A male	A male	A female	A female
% of females	25%	0%	25%	25%	25%	50%

Source: Field survey

The study findings displayed on the table reveal that despite women being primary users of family-reserved water, they are hardly involved in the planning, designing and implementation of the community projects. Key positions in the water committees are dominated by men. Out of the six water projects sampled, women hold only six positions in the executive committee; far much lower than the seventeen positions for men. Only one project at Gongo Health Centre had women enjoying a 50% representation. When the study sought to find out why men formed the majority in the key decision-making positions in the water committees, about 48% of the respondents claimed that women are too occupied with their domestic-centred duties and so they avoid seeking leadership positions. 13% of the

respondents said some women fail to seek elective positions in fear that they may contradict their spouses' opinions and be ostracised as rebels. The remaining 39% gave reasons indicating that male domination in leadership positions is as a result of cultural unfairness that discriminate against women.

4.4 Women's inclusion versus project sustainability

The study findings indicate that the relationship between women's inclusion in the projects and the sustainability of the community water projects are co relational. This is illustrated in table 4.6 below:

Table 4.6 Women's inclusion versus project sustainability

Women's inclusion in the water project activities promotes sustainability of the project	Frequency	Percentage
Strongly agree	18	90
Agree	1	5
Uncertain	1	5
Disagree	0	0
Strongly disagree	0	0
Total	20	100

From these findings, we can relate that a good majority of the participants 90% are convinced that it is important to include women in the management of community water projects in order to increase the project sustainability.

4.4.1 Inadequate participation by women

Further findings of the research confirmed that most women get enticed with money (handouts) in order to attend committee meetings, especially in those water committees which get formed by groups of men seeking to be identified and prequalified by an NGO for a water project sponsorship. This was revealed in the qualitative data.

Well capable men of this locality have familiarised themselves with how some NGOs go about looking for and identifying the areas intended to benefit from sponsored drilling and construction of boreholes in the villages; their main target often being the funds that are left in their custody so that they may implement the borehole water projects. Early this year a group of ten men formed a welfare group and had it registered and indeed their group was handpicked by the funding agency in order that they may oversee the establishment of a borehole in the village. This group paid women each Kenya Shillings 100 to attend a 'water committee' meeting. One of the men from the welfare group offered his parcel of land to act as the site for the water project. Funds were transferred to the group and each of the members was given their previously agreed share of finances to keep them silent. A simple borehole was dug up, but unfortunately the land owner only allowed the villagers to fetch water from that borehole for only three months, after which he locked the villagers away from collecting water claiming he needed privacy in his property (KII 1 secretary of a water committee).

The narration above clearly gives a picture of cartels of men who are promoting corruption in a scenario where women and the community at large are supposed to benefit from funded water projects.

4.5 Challenges for women in the management of community water projects

4.5.1 Lack of capacity building by the funding agency

Findings indicate that a good number of the water projects in Gem Sub-County are sponsored by N.G.Os; some of which include: the NGW (North Gem Water), KWAHO, Africa Now, the World Bank Group, World Vision and Millennium Projects, who drilled boreholes, upgraded springs and in a few instances installed water tanks in schools. The funding organization usually selects a few contact persons (the three confirmed cases of Gongo, Migosi and Wagai water tank projects all included male custodians) to engage with the beneficiaries of the projects after they have left the site.

4.5.2 Women's lack of power to control the revenue collected from the sale of water

Results of the research show that water collected from the boreholes and springs is sold for Kenya Shillings 2/= per 20L jerrican, and Kenya Shillings 5/= per 20L jerrican for the piped / tap water. In most cases it is the women who are put in charge of selling the water to the rest of the community. A spot check at Wagai Primary school, which has a borehole fitted with a hand pump, alongside a water tank for collecting rain water confirmed that one woman, who also happens to be the school's cook was in charge of selling the water.

4.6 Membership of Water Committees (Formation Criteria)

Results of the study reveal that the most common criterion for selecting members of the water committee includes membership and residency of the local area/ sub location, age must be

above 18 years, ability to communicate well, and ability to attend the committee meetings whenever called upon.

In Gongo Sub-location, the area Assistant Chief directed the researcher to a number of families whose women were registered members of a welfare group. One of the women explained that it is the Assistant Chief who usually calls for a baraza (a meeting convened by the local area chief), which in most cases is attended by men since women are very busy attending to their domestic and socio-economic roles. In this baraza, the Assistant Chief then selects confirmed members of the sub location; whether men or women.

On the other hand, Kanyadet sub location residents were blessed with an offer from NGOs to have boreholes drilled in their village. Their water committees were formed by the coming together of already-existing self-help groups like Kopiyo Self-help group, Kwee Gi Lamo Self-help group and Kobunga and Koyundi Self-help group. This is because the NGO in charge had required the community members to organize themselves in such a manner.

Contrary to what many have always believed, that being educated is a requirement to be elected as a member of the water committee, this research's findings show that education is not a requirement at all. In normal circumstances, the area Sub Chief convenes a Chief's baraza (a meeting convened by the area chief) in which members of the community are selected by the Sub Chief, who at that time is acting in the capacity of the committee's patron. Looking at this scenario from a critical mass perspective, one can clearly see that women are losing out to men as a result of their heavy laden productive and reproductive roles. It would be important that Gem constituents allow their girls and women to be freed

from cultural traditions which prevent them from pursuing their careers and commitments in the public sphere.

It is very important for community members to organize themselves in groups for development initiatives as this also saves them a lot of time when NGOs require them to come together to benefit from their funding of projects.

Wagai Sub location had the experience of getting an NGO which had offered to drill boreholes in their community. One of the prequalification requirements for the project to be adopted in the community was forming a group of 10 representatives from the community. Interestingly enough, such groups were formed by men who were quickly able to come together and present their details to the NGO. The Chairman, Secretary and the Treasurer all did self-selection into the positions. The borehole got drilled in the Chairman's parcel of land. Unfortunately, these groups existed only for a period of time, after which (upon confirming that the NGOs do not make any follow-ups) the Chairman decided to individually own the borehole, by introducing purchasing charges which the community members cannot sustain. Eventually, the borehole remained to be his, instead of the community's. In such a case again, the community women do not benefit from the village water projects at all.

It was noted in some of the site visits that a few water springs and roof-water collection tanks in schools have dried up, because either they are seasonal springs which are active only during and after the rainy seasons, or in the case of water tanks, there is no rain water for them to collect in the dry seasons. Given such circumstances then, where should the local women fetch water from? Has the water project offered a sustainable water supply solution to the women?

5.0: CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter bears the summary, conclusion and recommendations drawn from the study findings. It also highlights other areas of interest that can be pursued by future researchers.

5.2 Summary

Until now, everyone has thought that community projects can be successful and sustainable as long as they get well-funded, but now from this study it can be argued that the inclusion of primary end-users of any community projects, water programs notwithstanding, is very crucial in achieving the intended project objectives in all stages of the projects. The study revealed that women are willing to participate in the community project management leadership roles, although most of them are caught up in the time-consuming household roles. The study can link this challenge to a low socio-economic status of the women which prevents them from hiring domestic assistants, or employing the use of time-saving machinery to enable them re-align their focus to other productive functions. From the findings, it was revealed that most of the community women were essentially very active participants in the community water projects mainly as site laborers, meal providers/cooks, meeting attendants to satisfy quorum, collective fund contributors, water vendors and committee treasurers. Very few women were in the leadership and decision-making positions. It has been the norm that decisions that largely affect the water projects are made by the high-ranking leaders, majority of whom are men.

Most women do not vie for elective positions due to lack of information and busy working schedules prompted by their productive and reproductive community roles. Most announcements are made on locations that are frequented by men, e.g. the town centers, with poor timing because most of the women are at the time working in the garden, or fulfilling their domestic duties.

As was discovered by the study, some of the challenges faced by women in regards to their participation in the water management projects include: cultural/traditional barriers which require women to focus more on their domestic duties and leave the other jobs out there in the public sphere for their husbands, male relatives and male descendants to participate in. In addition, the study confirmed that inability to articulate issues well owing to lack of confidence (brought about by a misconception that lower educational qualifications amounts to ignorance) for the women as compared to the men's, denied them some chances to competitively vie for elective posts in the water committees because the local communities as well as the area sub-chief were attracted to educated, articulate and informed individuals whom they elected as their leaders. Moreover, the women respondents reported that as wives, mothers and co-bread winners their daily program of activities did not allow them to seek additional responsibilities like those of the community water project management positions.

5.3 Conclusion

Since the results in this study revealed that there is a low representation of women in the water committees, and this has prevented some of them from having part of their water-related challenges addressed, there is need for a speedy reorganization of the management structures of the water committees, with an emphasis on gender mainstreaming.

The study discovered that heavy domestic workloads and sexual division of labour, alongside other forms of discrimination against women have greatly hindered their effective participation in the water committees. This study also noted that supportive regulatory frameworks impact directly on women's access to project benefits and their level of active participation in the water projects.

Other findings indicated that recognizing, understanding and addressing gender dimensions within community water projects promotes human rights and can lead to increased household welfare, improved health, increased gender equality and environmental sustainability. It also increases the efficiency and the effectiveness of the development resources invested.

The recognition of the role played by the community women in the village water committees and in the local water projects enhances the need to empower women in the village as critical agents in the water development projects.

The voice of women in the water committees can be strengthened by making sure that water sector meetings at community level are organized to overcome cultural barriers to women's participation (e.g. cultural norms and meeting times, etc.).

From the above discussion, it can be clearly be seen that this study is advocating for gender mainstreaming and gender equity in all aspects of the community water project's policies, main objectives and strategic interventions areas.

The community water projects are only a first step towards achieving sustainable water supply needs. At the project design stage, it is crucial that the gender perspective is

considered, towards ensuring that women's needs, issues, experiences, wishes and perspectives are prioritized and given due attention and the so that the gathered data can be shared with the relevant policy makers.

5.4 Recommendations

Gender mainstreaming should be prioritized in the intervention strategies designed by all the community water stakeholders, through clear procedures and policies and gender-sensitized personnel who will create awareness of gender equity in all the processes. Gender experts incorporated in each aspect of the water projects to enhance gender-responsive objectives and gender responsive implementation results.

The communities interviewed shared their wish to have more boreholes to be dug in areas that have not been catered for in terms of water resource area allocations. Also, more chlorine dispensers should be installed at water collection points to eradicate in totality, all the health risks associated with the consumption of contaminated water. Community programs designed for water management must target potential women leaders identified in the local community (e.g. women graduates from various training institutions, as well as informed and articulate women of the community; those with brilliant ideas but require the involvement of translators and interpreters, so that their ideas are not simply ignored) in a bid to increase the number of women in the leadership communities.

More support interventions targeting women and girls to promote equality and reduce vulnerabilities should be incorporated in the project's operation guidelines and intervention strategies. There is need for affirmative action measures to be incorporated in the Kenyan education system to ensure that more girls are enrolled for careers that will have a great

impact on their community's development projects e.g. more girls should be enrolled for engineering courses, particularly water engineering courses.

There is an urgent need to ensure transparency and fairness in the water committees and related issues. This is because some water committees usually spring up from small organized groups of men in a given village who want to benefit from an offered funding from an NGO that gives a pre-condition for the area residents to be organized in groups, so that a community borehole can be drilled. It is a common thing to find one of the most able of the men offering one of their parcels of land for the borehole to be drilled. Unfortunately after some time the land owner stops the community people from fetching water, especially by charging for the water service. Eventually the community gives up and the borehole is left to serve only one homestead, instead of an entire neighborhood.

At the community level, water resources are run by women. There is need to acknowledge the importance of the role played by women in the provision, management and preservation of water. Any gender-sensitive approach to water project management will seek to achieve equality between women and men in access to resources, benefits, power or control, information, decision-making, manual work, etc. Such a system is achievable when the different interests of men and women are taken into consideration.

5.5 Suggestions for further research

It would be necessary to conduct a study on the factors influencing the levels of participation of women and girls in leadership, education and leadership empowerment programs in overall because low levels of education among the local women was perceived to hinder their participation in leadership and management roles. This is so because high education levels

have always been linked to high confidence levels which in turn promote assertiveness in individuals.

There is also need that a further study be conducted on the particular ways of how women would wish to get involved in the management of community water projects, so that they can engage in the management and coordination activities with a founded passion so that they may succeed and enjoy being part of sustainable community development initiatives.

REFERENCES

Agarwal, B. (2001), "Participatory exclusions, community forestry, and gender: an analysis for south Asia and a conceptual framework", *World Development*, Vol. 29 No.10, pp.1623-48.

Alexander, K. T., Oduor, C., Nyothach, E., Laserson, K. F., Amek, N., Eleveld, A., Mason, (2011). *The State of Food and Agriculture: Women in Agriculture – Closing the Gender Gap for Development*. ... Kampala, Healthcare *Information for All*.

Baden, S., Green, C., Goetz, A.M., Guhathakurta, M. (2004), *Background Report on Gender Issues in Bangladesh*, Institute of Development Studies, Brighton, No. 26, .Beirut, Beirut, Lebanon.

Baker, C. (2008). Worldwide water shortage on horizon. *Retrieved on 20th June 2018 from <https://carolynbaker.net/>*

B. Agarwal,(2001) Participatory exclusions, community forestry, and gender: an analysis for South Asia and a conceptual framework, *World Dev.* 29 (10) 1623–1648

Constitution of Kenya (2010)

Dobash, R.P., Dobash, R.E. (1999), *Violence Against Wives: A Case Against the Patriarchy*, The Free Press, New York, NY,

Economic and Social Council, "Conclusions (1997) on mainstreaming the gender perspective into all policies and programmes in the United Nations system, the Report of the Economic and Social Council for 1997" (Official Records of the General Assembly, Fifty-second Session, Supplement No. 3 (A/52/3/Rev.1), p. 33).

Engle, (1970) *Origin of the family, property and state* International Publishers, New York.

Fayol, H. (1916) *General and Industrial Management*. Institute of Electrical and Electronics Engineering, Paris.

Gary, N. P. (1999). *A handbook of Gender and work*, Sage Publication Inc. USA, California

Halim, M.A. (1995), *Women's Crisis Within Family in Bangladesh*, The Bangladesh Society for the Enforcement of Human Rights, Dhaka, .

Haque, M.M., Kusakabe, K. (2005), "Retrenched men workers in Bangladesh – a crisis of masculinity", *Gender, Technology and Development*, Vol. 9 No.2, pp.185-208.

Hossain, F. (2002), "Small loans, big claims", *Foreign Policy*, Vol. 132 pp.79-82.

Implementing Integrated Water Resources Management, (2006) Report from the 4th World Water Forum Theme The Inclusion Of IWRM In National Plans, Co organized by the World Water Assessment Program (WWAP) with the Global Water Partnership (GWP), the United Nations Development Programme (UNDP) and the United Nations Environment Program (UNEP).

Jamali, D., Sidani, Y. and Safieddine, A. (2005), "Constraints facing working women in Lebanon: an insider view", *Women in Management Review*, Vol.20 No.8, pp. 581-94.

Karim, G. (2006), "Women, Islam and patriarchalism", in Yamani, M. (Ed.), *Feminism & Islam*, New York University Press, New York, NY, pp. 69-85.

Magala, J.M. (2017). Community Water Management: A woman's predicament. *A journal of Gender and Water*, Volume 4.

McConville J.R., & Mihelcic, J.R. (2007). Adapting life-cycle thinking tools to evaluate project sustainability in international water and sanitation development work. *Environmental Engineering Science*, 24(7), 937-948.

Mugenda, O.M & Mugenda AG (2003) *Research methods. Quantitative and Qualitative from Economics Approaches*. Nairobi: ACT

Mitchel, R.E (1983). Stress, coping and depression among married couples *Journal of Abnormal psychology*, 92, 433 – 418.

Odai, L.N., Mawuena, D.F., Doris, F. & Joseph, A. B. (2008). On Access to Sanitation and Safe Water: Global partnerships and local acts. *Journal of the WEDC International Conference*, 33(212)

Omolo, G. (2017). Retrieved from citizentv.co.ke/author/georgeamolo

Pastoralist Women and Water - Centre for Humanitarian Change www.whatworks.co.ke/our-publications/...women-water/31-pastoralist-women-water

Perrons, D. (2005) *Gender Mainstreaming and Gender Equality in the New (Market) Economy. An Analysis of Contradictions Social Politics*: London, Oxford University Press.

Rasanga, C. (2018, July 02). A speech: The launch of Siaya water and sanitation project in Ugunja and Rarieda Sub County. Retrieved from <http://siaya.go.ke/?p=14074>

R. Boelens, Cultural politics and the hydro social cycle: Water, power and identity in the Andean highlands, *Geoforum* 57 (2014) 234–247.

S.M., Chowdhury, M., Bhuiya, A. (2001), "Microcredit and emotional well-being: experience of poor rural women from Matlab, Bangladesh", *World Development*, Vol. 29 No.11, pp.1957-66.

Third World Centre (2015:1). Women and Water Management. Retrieved from <https://thirdworldcentre.org/project/women-and-water-management/>

UNDP /Gepa –Global Report (2014). Gender Equality and Public Administration. New York

Varghese, N.V. (1991), "Women and work: an examination of the female marginalization thesis in the Indian context", *The Indian Journal of Economics*, Vol. 34 pp.585-618.

Visvanathan, N., Duggan, L., Nisonoff, L., Wiergersma, N. (1997). The women, gender and development reader. Bangladesh: The university press ltd.

APPENDICES

Appendix I: Introduction Letter



UNIVERSITY OF NAIROBI
AFRICAN WOMEN STUDIES CENTRE
P.O Box 30197-00100
Tel: (+254-20) 3318262/28075; 725 740 025
Email: awsckeny@uonbi.ac.ke
Website: <http://awsc.uonbi.ac.ke>
Nairobi, Kenya

Date: September 18, 2018 **Ref:** UON/CHSS/AWSC/8/6

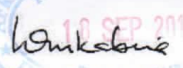
From: Director,
African Women Studies Centre
University of Nairobi

TO WHOM IT MAY CONCERN

SUBJECT: INTRODUCTION LETTER FOR MS. JOSEPHINE ATIENO ORONDO

This is to confirm that Ms. Josephine Atieno Orondo (M10/6655/2017) is a registered Master of Arts student at the African Women Studies Centre, University of Nairobi. She is currently working on her research project entitled, ***“Role of Women in the Management of Community Water Projects in Gem Constituency, Siaya County, Kenya”***.

Any assistance accorded to her during her research period is highly appreciated.


Prof. Wanjiku Mukabi Kabira
Director, African Women Studies Centre
University of Nairobi

Appendix II: Letter of informed consent

P. O. Box 73733 – 00200

Nairobi.

Cell: 0726009107

21st October, 2018

Dear Respondent,

Re: Research Survey

My name is Josephine Orondo. I am a student at the University of Nairobi undertaking a Master of Arts degree course in Women, Leadership & Governance. I am carrying out a research on: **Role of Women in the management of community water projects in Gem Sub-County, Siaya County – Kenya**. You have been chosen to participate in this study. Kindly provide the information sought by the questionnaire provided. The responses you give will be used for the purposes of this study with utmost confidentiality. At the same time, your identity will be kept confidential. You are hereby kindly requested to sincerely respond to the questions on the questionnaire.

Your assistance will be highly appreciated.

Yours faithfully,

Josephine Orondo.

Student

University of Nairobi.

I certify that I have consented to participate. Signature:Code number:

Appendix III: Survey Questionnaire

INSTRUCTIONS

- a. Please answer all questions (If possible)
- b. Where questions require written answers kindly make them brief.

Section A: Background Information / Socio-demographic Characteristics

Tick on the appropriate box

- 1. Indicate your age bracket

20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55 years and over

- 2. Marital status

Married

Divorced

Widowed

Single

3. Level of education

Primary K.C.P.E.

Form four K. C.S. E.

Certificate

Diploma

Bachelor's degree

Master's degree

PhD

Other

4. Sex: Are you male or female? _____

5. a) Your occupation _____

b) Your spouse's occupation _____

Section B: The community water project committees and women's participation

6. a) Give/name the water project(s) in your community _____
b) Who funds / sponsors the project? _____
7. Have you participated in the running of a water project in your community? ____
8. From your observation; have you seen women take part in the water project activities?
Yes/No _____
9. Give a brief list of the activities that happen in the community water projects
- | | |
|-----------|----------|
| i _____ | iv _____ |
| ii _____ | v _____ |
| iii _____ | vi _____ |
10. What specific role(s) would you say women play in the community water projects?
- | | |
|----------|----------|
| a. _____ | d. _____ |
| b _____ | e _____ |
| c _____ | f. _____ |
11. Do you know of any woman working in a water community? Yes/No _____
12. From your observation; what position(s) do women occupy in the water committee?
- 1) _____ 2) _____ 3) _____

13. Do women sell water? Yes/ No _____

14. Who maintains / services the water systems? Men / Women? _____

Section C: Access to Water

15. Where does your family obtain water for household use? _____

16. Who in your family is responsible for fetching water for domestic use? Tick
your response (s) Men _____ women _____ Boys _____ Girls _____

17. How near / far is the water source from your house? Estimate distance in meters/
kilometres _____

18. How long does it take one to fetch your water from the above mentioned water source (in
hours)? _____

19. Have you been involved in choosing the water project site or design?
Yes / No _____

20. a) Are you involved in the implementation of the water project? Yes / No _____

b) If Yes, in what capacity? (Tick one)

Executive committee member____, Committee member____, Member_____

Section D: Selection of the Community Water Management Committee

21. What criteria are usually used in electing the committee members and leaders?

22. a) In terms of gender analysis; who holds the below water committee positions (indicate with a tick)

Position	Sex: Male	Sex: Female
Chairperson		
Vice chairperson		
Secretary		
Treasurer		

b). Political leadership positions in your locality. Provide names of the below leaders:

a. Sub-Chief _____

b. Chief_____

c. County Ward Representative _____

d. Member of County Assembly (MCA) _____

e. Women Representative _____

23. Do you hold any position(s) in the committee? _____

24. Who forms a majority of the committee meetings' attendance; Men/ women?

25. In your opinion, women participate in the committee meetings; (Tick either)

i. Actively _____ ii. Passively _____

26. Do you think women play an important role in the community water projects/water committees? Yes/ No? _____ Why so? _____

27. What challenges do women in water management committees face?

a) With regards to leadership and governance in a male-dominated arena? Name them

b) In the management of community water projects? Name them _____

28. Indicate your level of agreement or disagreement with the following statements in regards to the role of women in community water projects (Tick appropriately)

Proposed statements of the study (Hypotheses)	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Water provision and water access should emphasize on gender relations and gender inclusivity in the projects' design, promotion, mobilization, implementation and follow-up or monitoring and evaluation.					
Women are largely involved in the management of the water management projects					
Water is life and accessible clean water promotes good health of women and the entire community					
Engaging women in the community water project activities promotes sustainability of the projects					
Women can run the water projects efficiently					
Women have the goodwill of their husbands to participate in the water project activities					
The timings for the community water					

committee meetings favour women's time schedules and ability to attend the functions.					
The burden of having to bear many domestic roles and duties by women influences their levels of participation in key decision-making practices of the water committees in Gem Constituency.					
Cultural bias and related challenges including low levels of education have hindered women's full participation in the community water project management in Gem Constituency.					
The existing policies (regulating frameworks) that govern the running of water projects are supportive towards women's participation in the water committees and their level of access to water resources					

Thank you for your time and participation.

Appendix IV: Key Informant Topic Guide

Assessing the role of women in the management of community water projects in Gem Sub-County, Siaya County in Kenya

Level of participation of women in the management of community water projects

- i. How would you rate the level of participation by women in the management of community water projects?
- ii. Are you satisfied with the current number of women in the water management committees? What specific functions are performed by the female members of the board?
- iii. Briefly describe your role in the community water management committee.
- iv. What are some of the transformations you would wish to see in the community water management committee?
- v. Do you believe in women leadership?
- vi. What would you say is the reason why the patron /chairperson of your water management committees are male figures?
- vii. From your experience, are women interested in occupying leadership positions in the water management committees?
- viii. Who elects the members of the community water management board? Or rather; what criteria applies in the short listing process for the management committee?
- ix. Have there been any female leadership mentors to guide the existing female board members?

Challenges faced by women in the water management committees

- i. What are some of the reported challenges that have been experienced by the women in your water management board?
- ii. Have the male and female members of the board been able to work amicably through the various water project management cycles?
- iii. What are some of the overall challenges that affect women's access to clean water in your locality as outlined by your board?