

**A GENDER ASSESSMENT OF WATER RESOURCE MANAGEMENT IN KISAMIS,
KAJIADO COUNTY**

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**A RESEARCH PROJECT SUBMITTED TO THE INSTITUTE OF ANTHROPOLOGY,
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DECLARATION

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

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This project has been submitted for examination with my approval to the University supervisor.

Dr. Salome Bukachi _____

Date _____

DEDICATION

This work is dedicated to my God for giving me strength and enabling me to be where I am. I also dedicate it to my mother and daughter who have always encouraged me.

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LIST OF ABBREVIATIONS AND ACRONYMS

AMCOW	African Ministerial Council of Water
DFID	Department for International Development
HWC	Human-wildlife conflict
NACOSTI	National Commission for Science, Technology and Innovation
PANAFCON	Pan-African Implementation and Partnership Conference on Water
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children Emergency Fund
WHO	World Health Organization of the United Nations

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ABSTRACT

Gender sensitive approaches have been emphasized in policy and development programs. The approach of gender balance has been instrumental in the enhancement and application of gender sensitive approaches in water resources management for integrated management. This study, a gender assessment of water resources management in Kisamis, Kajiado county, sought to establish the roles of men and women in water resource management, the water needs of men and women and the constraints faced. Using a qualitative methodology, the study was guided by the Carol Moser Framework in the assessment. The findings show that the water needs for men and women range from domestic to livestock use. However, despite the role of women in supplying water for household use and knowledge on location of water resources, they have limited participation in the management of the resources. This is because of the cultural norms that view women as not suitable for management of water resources and men as sole decision makers. Other challenges faced include limited knowledge on water resources management among men and women, and general poor access to sustainable water resources. The study concludes that gender agenda is important in integrated water resources management and recommends a gender policy and inclusion of women in water resources management.

CHAPTER ONE: BACKGROUND OF THE STUDY

1.0 Introduction

The need for development and economic empowerment of people across the world has necessitated the need for inclusion of both men and women, not as objects of development but as equal partners, which is essential for sustained interventions. The approach of gender balance has been instrumental in the enhancement and application of gender sensitive approaches in water and sanitation programs and, more recently, in integrated water resources management (Hamdy, Quagliariello, & Trisorio-Liuzzi, 2004). Water resources management has an urgent need of gender specific analysis due to the rapidity by which notions of integrated water resources management and development have been swept onto international policy-making agenda. (Lundqvist, 2004). Sustainable water management requires the integration of gender dimensions at all levels and for all water activities, from policies to projects. Yet, too often, under-represented users, particularly women who are the main users and managers of water, are excluded from decision-making and planning (Hamdy & Quagliariello, 2003).

Gender refers to the roles and responsibilities of men and women and the relationship between them. Indeed, it does not simply refer to women or men, but to the way their qualities, behaviors and identities are determined through the process of socialization. In this sense, gender is seen as the social construction of men's and women's roles in a given culture or location. These socially determined roles are influenced by historical, religious, economic, cultural and ethnic factors (Hamdy & Quagliariello, 2003). The omission of women in management of water resources has made water management systems less responsive to demands of water services, and this has squandered the skills and energy of the world's population that could have been used in developing countries to provide water services and management of natural resources contributing to sustainable social, economic, environmental and personal development (Hamdy & Quagliariello, 2003).

The importance of involving both women and men in the management of water resources is recognized at the global level. The first significant recognition of gender issues in the water sector was at the United Nations Water Conference at Mar del Plata Argentina in 1977 (UN, 1977). At the conference, it was noted that gender issues needed to be taken into account. Equally important was also the need to make equitable access to safe and adequate water for

domestic needs, sanitation, food security and environmental sustainability which are the basic rights for both men and women in the promotion of poverty eradication (UN, 1977). Studies show that the water needs for men and women are not the same (Machibya, 2003). In most cases, because of culturally imposed roles in the household and in society at large, men and women access and use water differently. These issues have led to the importance of gender mainstreaming in the water sector, and in the study of gender in water.

At regional level, the African Water Vision (2025) calls for an “equitable and sustainable use and management of water resources for poverty alleviation, socioeconomic development, regional cooperation, and the environment (UN Water, 2010). The vision further recommends gender mainstreaming in water resources management with a special call on both genders to occupy positions and participate in decision-making processes on water issues. The vision also emphasizes the need for stakeholder involvement in water resources management. In 2003, the Pan-African Implementation and Partnership Conference on Water (PANAFCON) saw African ministers of water commit to ensure that gender concerns are taken into account. This was done through a recognized process of consultation with African Ministerial Council of Water (AMCOW). This helped in policy formulation in all sectors of water including the harmonization of policies and laws and the domestication of international treaties.

At a national level, the constitution of Kenya recognizes water accessibility as a human right in which every person is entitled to have access to sufficient, affordable water and sanitation of acceptable quality for personal and domestic use (GoK, 2010). The government consequently has decentralized water management responsibilities to county governments with the aim of promoting local governance and public participation in water projects. Indeed, the decentralization strategy facilitates greater social ownership of water resources and hence more sustainable environmental outcomes.

1.2 Statement of the problem

Although some efforts have been made towards addressing gender issues in Kenya, a gap exists between how men and women access, use and get involved in the management of water resources. In some cases even the official state policy on water has not changed to reflect the changes in perception on gender. Where policies have changed to reflect gender needs, practices at the water user level to mainstream gender practices have lagged behind and this affects women.

Understanding gender issues at the management of water resources is essential because it is at this level where households are influenced by gender issues of access and use of water. Kisamis is a semi-arid area and the residents of the area face the challenge of accessing water. The available water resources are mostly managed by men as the society is patriarchal, which means that women do not have the same opportunities as men when it comes to the management of water resources. Against this backdrop, gender and water resources management has been unbalanced as women are not given equal opportunities to manage water resources. Moreover, the government is not putting in enough effort concerning water in Kisamis because the region continues to face the water challenges and this drawback affects women and this has forced women groups to draw approaches on how to fix this water challenges.

Gender and water resource management has been one of the unanswered questions in most of the Kenyan societies, as most of these societies are patriarchal. The available legal and institutional frameworks have not been efficient in addressing the issue of gender and gender mainstreaming in the management of water resources. To this end, Kisamis is a male dominated region and the realization of gender balance in the management of water resources has not been successful as the community views women to be unequal to men. Community participation and management approaches have failed to address this inequality. Moreover, the relevant county and national ministries have been reluctant to address the question of gender and water resource management and as such, there is paucity of research on the role of both men and women in water resource management in Kisamis, Kajiado County and therefore, this study seeks to undertake a gender assessment of water resource management in Kisamis, Kajiado county. In doing so, the study examined the water needs of men and women and the constraints, which men and women of Kisamis county face in their endeavor to access water.

This study will strive to answer the following research questions;

- i. What are the roles of men and women in water resource management in Kisamis Kajiado County?
- ii. What are the water needs of men and women in Kisamis Kajiado County?
- iii. What constrains do men and women face in accessing water in Kisamis Kajiado County?

1.4 Research Objectives

1.4.1 General Objective

The overall objective of this research was to undertake a gender assessment on water resource management in Kisamis, Kajiado County

1.4.2 Specific Objectives

- i. To establish the roles of men and women in water resource management in Kisamis, Kajiado County
- ii. To investigate the water needs of men and women in Kisamis, Kajiado County
- iii. To identify the constrains men and women face in accessing water in Kisamis, Kajiado County

Assumptions of the Study

- i. Men and women play different roles in water resource management in Kisamis, Kajiado County
- ii. Men and women in Kisamis, Kajiado County have varying water needs.
- iii. Men and women face the problem of walking for long distance in access water in Kisamis, Kajiado County

1.5 Justification of the Study

Gender and gender mainstreaming in the management of water resources is an essential component of societal growth, as both men and women will get an opportunity to contribute to the management of the said resources. Accordingly, research on this topic would enhance the understanding of gender and water resource management to an extent that this would add to the existing literature. By finding out the influence of gender in water management, it will be possible identify strategies, which can be used to empower both men and women through capacity building and other training programs to enable them to participate in the management of

water resources. The gender assessment of water resource management in Kisamis, Kajiado County would promote the adoption of the best practices by policy makers to an extent that this would improve the accessibility and management of water resources in the aforementioned place. In other words, this study has practical policy making implications. To this end, the findings and recommendations of this research would also contribute knowledge to the existing literature on gender and water resource management in Kenya, with a specific emphasis to Kisamis Kajiado County as the available literature is fragmented and sketchy.

1.5 Scope and Limitation of the Study

This study covered gender and water resource management in Kisamis Kajiado County. It specifically examined gender roles and participation in water resource management activities in Kisamis Kajiado County. In this regard, the scope of the study was to cover both men's and women's perceptions. The research was limited to KisamisSub-Location, Kajiado County, Kenya. Given that this study utilised a qualitative approach, the findings from cannot be generalized to other areas but they provide useful information on the gender roles in water resource management. .

1.6 Definition of key Terms

Gender: It refers to a socialization process which assigns certain attitudes, roles and responsibilities to women and men which leads to a certain forms of behavior.

Assessment: It refers to the nature, quality, and ability of water resources management in Kisamis Sub-Location Location.

Water Resource Management: It refers to the process which promotes the coordinated development and management of water in order to maximize the resultant economic and social welfare.

Gender Roles: They entail the assigned and expected duties to different individuals especially across the gender dimension.

Water needs: Refers to the inclusive demands for water as a resource including access, use, quality and sustainability.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the theoretical framework underpinning this study. It begins with a review of the literature relevant to the topic and ends with the theoretical position. In keeping with the objectives of the study, the literature to be reviewed will be the role of men and women in water resource management, the water needs of men and women and constraints men and women face in accessing water.

2.2 Water Resource Management

The challenges of managing water resources for a multiplicity of uses and threats must be set within the much broader contexts of changes in the economic, social and political landscapes. Climate change continues to pose a threat; in which there is increasing evidence of changes to the earth's climate has prompted concern and controversy (Guide, 2006). The need to cope with existing variability and to adapt and build resilience brings significant implications for water resources availability and reliability associated with the greater likelihood of extreme events; in many regions water availability has been reduced due to drilling of groundwater, pollution and abstraction from upstream water sources. These changes, inter alia, form the backdrop against which water resources management must be evaluated. The growing need to address water resources emanates from profound failures in water management over many years, as many studies have shown. The rapidly accelerating pressures on freshwater systems arising from increasing demands and climate change are exacerbated by local management, which is not equipped to adapt and respond adequately (Water, 2012). As a result, the resilience of water resources and ecosystems is threatened, so is the well-being of communities and the economic growth of countries and industries that are dependent on their related services.

Water resource management is the activity of planning, developing, distributing, and managing the optimum use of water resources. It is a sub-set of water cycle management. Current approaches to water management are highly segregated, focusing on technical improvements and sector solutions without sufficient attention to their basic social and sustainability goals. Recent research has shown that shifting the emphasis to the social base has major implications for strategy and the technologies employed. More technology is not always better. A reorientation of the technological approach may be more effective in delivering water services where they are

needed, when they are needed, at a cost that is realistic and acceptable, and with consideration of the larger time frame and scale necessary to ecosystem sustainability. Within this social re-orientation, most recent policy documents have recognized, a gender approach is essential to the development of effective, efficient, and sustainable systems and strategies. The differences and inequalities between women and men influence how individuals respond to changes in water resources management (Guide, 2006). Understanding gender roles, relations, and inequalities can help explain the choices people make and their different options. Involving both women and men in integrated water resources initiatives can increase project effectiveness and efficiency. Gender relations and inequalities influence collective responses to water resources management issues. Women and men tend to organize in different ways. Women often face specific obstacles to participating in a project, joining a water-users committee, or providing input into a consultation session (Water, 2012).

2.3 The Role of Men and Women in Water Resource Management

Women and men share different roles and responsibilities with respect to water use and management. These differing roles influence interactions with resources and how changes in the resources affect men and women differently. Other studies have been done related to water resource management. According to Wanjala(2009), women are not empowered to participate in water resource management and they are other numerous reasons which include poverty, education, cultural beliefs and gender inequality which make women passive to become involved in water management. It is important to understand these gender roles, and develop action plans to reduce any negative impacts of these differences

Kiptugen and Freeman (2014) observe that all societies just like Kisamis Kajiado County, women and men of different socio-economic and cultural categories have different needs, interests, and means in the use, development, and management of freshwater resources. Hence, principles for integrated water resources development and management need to be specified according to the interests which such categories have, the roles they do and should play and the impacts which changes in water use and management have on them. In other words, each principle has to be understood in the context of what it means for poor and less poor men and women with different ages, economic roles and ethnic and religious backgrounds.

Effective management of water resources in Kisamis, Kajiado County by both men and women is important in preventing conflicts that occur when users with different priorities are unable to access enough water to meet their needs. Men and Women play essential roles in the community structures that govern water management by offering unique perspective as domestic water users. In Kisamis, Kajiado County, Women's groups mitigated overcrowding and competition between livestock and domestic users at shared water points, key influences of water-related conflicts. Engagement of existing gender groups or formation of new groups with a specific mandate for water management may present a more culturally appropriate mechanism the involvement of men and women (Yerian et al., 2014).

Amongst users, one of the largest visible groups can be identified by gender. In most societies, the provision of water for fulfillment of fundamental human needs has always been a woman's responsibility. Women are responsible for preparing food, washing clothes, cleaning. Family hygiene is in their hands - and caring for the ill when hygiene is insufficient. In developing countries, women and girls spend an estimated 40 billion hours every year hauling water from distant and frequently polluted sources. Women have been reported to spend as much as 8 hours per day carrying up to 40.8 kg of water on their heads or hips (Lundqvist, 2004).

Gender does not simply refer to women or men, but to the way their qualities, behaviors, and identities are determined through the process of socialization. Gender is generally associated with unequal power and access to choices and resources. The different positions of women and men are influenced by historical, religious, economic, and cultural realities. These relations and responsibilities can and do change over time. It has become increasingly acceptable that women should play an important role in water management and that this role could be enhanced through the strategy of gender mainstreaming (Lundqvist, 2004). The importance of involving both women and men in the management of water, sanitation, and access-related questions has been recognized at the global level. Starting from the 1977 United Nations Water Conference at Mar del Plata, the International Drinking Water and Sanitation Decade (1981-90) and the International Conference on Water and the Environment in Dublin (January 1992), which explicitly recognizes the central role of women in the provision, management and safeguarding of water.

Today, there appears to be consensus that women must be involved in water resources management if there is to be sustainable development in Kisamis, Kajiado County. Systems would then become more efficient, user-focused, financially viable and environmentally sustainable and economic production would improve. So would payment of costs, since women value water as an input to their economic activities, as well as to the health and well-being of their families, and are often willing to pay fair costs. Hence, many water management programs now place a focus on 'women's involvement'. But this raises a problem. Such programs often seek to alter women's conditions and position without taking into account the larger social picture: the entrenched and dynamic power relations that are capable of negating any gains women may achieve. This can simply result in more burdens being placed on the backs of women (Lundqvist, 2004).

In Kenya, significant efforts to enhance the participation of both men and women in development of the country is been made. This includes the environment and water sector as reflected in various Government policies, development plans and programs, ratification of various international instruments as well as other gender related legal reforms. The new Constitution of Kenya (GoK, 2010) provides that every person has a right to a clean and healthy environment as well as a right to clean and safe water in adequate quantities. It is also provides that both men and women should be given equal opportunities in the development of the country. In this regard, no more than two thirds of the appointive or elective positions should be held by the same gender. In effect, it follows that even in water resource management; both genders be given equal opportunities to participate. Kenya's Vision 2030 blue print recognizes that women play a critical role in the social and economic development of any nation. However, in recognizing that women are underrepresented at all major decision making levels within Government, the Vision proposes that women be empowered through access to resources, education, training and health care (Wijk-Sijbesma, 1998).

The country's development agenda has expounded, as the vision has been to transform Kenya into a newly industrializing middle-income country providing a high quality of life to all its citizens in a clean and secure environment. While achieving that it is simultaneously meeting the Millennium Development Goals for Kenyans by 2015. The government established the Ministry

of Gender, Children and Social Development in 2008 through a Presidential circular No. 1. In its strategic plan of 2008 –

2012, the Ministry embraced millennium development goal number 2 which commits Kenya to promote gender equality and empowerment as an effective way to combat poverty, hunger, and diseases in order to stimulate sustainable development (GoK, 2008). One of the national challenges stated in this strategic plan is that women are still underrepresented in strategic decision making processes although they account for slightly more than half of the total population (about 51%) and comprise a large voting population in Kenya.

The National Water Master Plan, launched in 1974, had the express aim of ensuring that potable water was made available, at a reasonable distance, to all households by the year 2000 in all the parts of the country, Kajiado County included. Following the Water Master Plan, the Ministry of Water and Irrigation formulated Sessional Paper No. 1 of 1999, which is the National Policy on Water Resources Management and Development in Kenya. There is need to recognize the importance of enhancing participation in the water programs by the Kajiado County for both genders and the importance of incorporating gender issues as critical to sustainable water resources management (GoK, 2000).

While it is laudable to ask women to take part in decision-making and management of public services, the statement says nothing about the gender basis of old and new water systems. Such a gender basis is not new. Both women and men often play public and private roles in decision-making and the indigenous management of water and waste. In modern systems it is the equitable share of women and men from different classes and user categories that is required for a well-balanced service, not the ‘representation of women in general.

Mwaura, Kiringe and Warinwa (2016) observe that the contemporary social setup in Kisamis, Kajiado County has made it possible for both genders to have considerable knowledge about water resources, including location, quality and storage methods. Recent studies have suggested that men and women have different interests in the management and use of water resources. The two genders obtain different benefits from the resources. When there is poor sanitation, water and food scarcity, girls, and women become the major victims. As such, they are most committed to ensuring that water resources are managed in a sustainable way. This attests to the fact that when people influence or control decisions that affects them, they have a greater stake

in the outcomes and are committed to ensuring success. Participation of both genders, therefore, would produce more efficient and more sustainable water plans, projects, and programs.

2.4 The Water Needs of Men and Women in Kisamis, Kajiado County

Water is a natural and universal resource used by every society and individual, both men and women for different purposes including household and agricultural uses. In industrial processes, water has conventionally been used as coolant and as a solvent (Rached et al. 1996). It is also an important source of energy especially in the light of hydroelectricity and other forms of energy. In domestic circles, water has found greatest use for men and women. It is useful in cleaning, washing, and maintaining general personal and household hygiene and food preparation. According to Mkandla (2004), domestic use of water is not only frequent but also common in all communities. The emphasis access to clean and safe water is pegged on the common and important use of water- drinking (Rached et al. 1996).

Men and women also use water for agricultural purposes in two major ways: crop and animal husbandry. On one hand, in areas with poor rainfall or when crop production is not limited to rainfall, water is used for irrigation. In arid and semi-arid areas across the globe, crop production has been boosted through irrigation where water has found considerable use. Across Kenya and East Africa, there are several irrigation schemes that sustain crop production in the event of rainfall shortage. Producing certain crops such as rice requires regular use of water as exemplified in basin irrigation in Mwea irrigation in Kenya (Lusuva, 2009). Smallholder rice production in the Kano Plains in Kenya has shown similar water use for both men and women (Hulsebosch, 1993). In Kajiado County et al., the main areas for irrigated cropping are along the Ngong Hills, along the Lolturesh River in the Kimana area, in the Kilimanjaro foothills and around Namanga (Mukuna, Kamuru & Bebe, 2015).. On the other hand, livestock keeping involves considerable water use. Men and women have found water useful for livestock. Nomads and pastoralists such as the Maasai move from one place to another in such of water for their animals, illustrating the importance and use of water in animal husbandry.

However, despite the common and universal use of water, there are notable gender differences. Specifically, men and women may have different water uses and this rests mostly on the established and the culturally or socially embedded gender roles. According to Upadhyay and International Water Management Institute (2004), men and women have different uses of water

based on ascribed gender roles. Household water needs rank high for women compared to men. This is attributable to women's domestic gender roles including cleaning and maintaining household hygiene. Supplying water for household use is a major role vested on women as they often collect, use and manage water at household level (Lusuva 2009). Women often visit water sources to fetch and supply water for use in domestic chores and this role and water use has been used to demonstrate women's centrality in water resources management (Mkandla, 2004). Men on the other hand use water mostly for livestock. Especially in pastoralist and nomadic communities, men are responsible for looking after livestock and move from one to another in search of water and pastures (Morara, MacOpiyo & Kogi-Makau, 2014). In Kajiado County, men mostly find use of water in their day-to-day pastoral activities (Mukuna, Kamuru & Bebe, 2015). Use of water for both men and women may be affected by water shortage (Njiru, 2013). In Kisamis are affected by water shortages. Nearly 95% of the streams in the County of Kajiado are seasonal, while the rest are perennial. The perennial streams are found at the foot slopes of Mt. Kilimanjaro, Ngong Hills, Ngurumani Escarpment and Namanga Hills (Mukuna, Kamuru & Bebe, 2015). Other sources of water include boreholes, dams, pans, wells, springs, roof, and rock catchments. The average distance to nearest potable water point is 20 km to 15 km during the dry season and 10 to 5 km in the wet season. Conflicting interests in water and land use in the catchment areas of community water supply systems also have an increasing negative impact on the availability and quality of drinking water (Galaty, 2013; Wilk & Jonsson, 2013).

2.5 The Constraints Men and Women Face in Accessing Water in Kisamis Kajiado County

The high population growth rate in the county at 5.5 percent per annum has led to tremendous pressure on the natural resources particularly land where sub-division is now a common phenomenon. Encroachment of land in fragile areas such as water catchments, forests, wetlands and conservation areas has led to desertification in the county and breakdown of natural ecological cycles. High demand for the available land has led to human-wildlife conflict (Ogutu, Piepho, Said & Kifugo, 2014).

The overall effect of water resource management should be of overall benefit to all members of society. But the assumption that, "both women and men benefits equally" is false. The division of labour and responsibilities (who does what work), social attitudes, and unequal access to resources all contribute to a situation where policies and programs have a different impact on

women and men. Furthermore, these differences and inequalities influence how women and men participate in and respond to water resource management (Poku, 2006).

In most African societies men and women's situations, interests, and priorities are different not because of biological differences, but because society's conception of male and female roles and qualities, positions the two groups in a specific relationship to one another. Another underlying root cause of different priorities of men and women in relation to water and sanitation programs is the low value which is placed on women's time (Department of Water, 1999). Women have traditionally been assigned most of the domestic roles, such as cooking, disposing human waste, drawing water to the point that their public life is severely limited (DFID, 2002). Their narrowed public life is further restricted since men hold positions of authority. In Kisamis Kajiado County still there exists gender imbalance in water resource management. This is because women are still regarded as subordinates of men due to the cultural prejudices while men are regarded as the heads of the households and make major decisions in the household level and community level.

In the development and management of water resources it is still rare for implementing organizations and program staff to ask who requires water for what purposes at household or community level, and what effects demand regulating measures and management structures have on these uses and user groups (Suda, 2000). For many years programs dealing with irrigated agricultural, domestic water supply, environmental sanitation and industrial development have seen the household as the lowest homogeneous unit of production consumption and decision making. Yet in most cultures men and women, often supported by children, do different work, have different access to resources and different areas in which they can make decisions and exercise control over resources and benefits (UNDP, 2004).

As demand for wood fuel increases in the county and its environs particularly Nairobi, there has been rampant cutting of trees for firewood and charcoal production. Degradation of vegetation has also been noted where vegetation is being cleared for farming and human settlement (Kindiki, 2015). This has led to degradation of water catchments, riverside vegetation, hilly areas and the result has been soil erosion, loss of biodiversity, wildlife habitats, and adverse climatic phenomena like recurring droughts. Global warming has led to adverse climatic changes. There is need to carry out environmental screening before implementation of projects and programs in

order to assess the likely environmental and socio-economic effects (Willy & Chiuri, 2010; Kindiki, 2015).

Encroachment of conservancies and wildlife migratory corridors are some of the challenges that men and women of Kajiado County face in their endeavor to access water. Human-wildlife conflict (HWC) is a worldwide problem that causes suffering both to people and wildlife. The population of carnivores is declining globally probably due to conflict with human beings. These animals face a risk of disappearing from the face of the earth unless proper management strategies are put into place to reverse the trend. Elephant attacks in Enkaroni, Oltetepesi, IBissil and Imbuko had become rampant especially during the drought season because of the changes in their migration patterns as they search for water.

The elephants are invading homes and schools because of the drought as they search for water. This has caused a lot of tension and people cannot go about their normal activities very early in the morning or late in the evening, as they fear elephant attacks. We need a long lasting solution to this menace. Human –Wildlife conflict has been a big problem in Kajiado County especially during the dry season as the animals change their migration patterns in search of water. Female farmers face challenges in accessing water for irrigation in large-scale irrigation schemes as they are often biased towards the needs of men. In addition, some water storage infrastructures, such as wells, require heavy labor to lift water unless one can afford motorized pumps. Both limit women's access to water infrastructure.

Water crisis in Kenya is disrupting social-economic activities throughout the country. Unfortunately, the current wave of droughts and water shortages in Kenya is due to massive deforestation and environmental degradation making the problem of water shortage more severe. The water shortage and crisis is not due to the wave of droughts, but also to poor management of the water supply, under-investment, rampant deforestation, and pollution of water sources by domestic and industrial effluents (WHO/UNICEF, 2004). Only 61% of the population in rural areas has access to an improved drinking water source, and time-consuming venture of fetching water often prevents women from taking up income generating activities, or in the case of girls, prevents them from attending school or irregular attendance of school (Kindiki, 2015). Water contributes to social well-being and economic growth of human populace. Most of the economic

and social activities rely heavily on access to clean and adequate quality and quantity of water (WHO and UNICEF, 2004).

In a study conducted by Gathagu (2013) in Kajiado County, distant between the water source and the homestead is a major challenge faced by men and women of Kisamis as they strive to access water. The study established that in four out of the nine locations, all the respondents had to walk for more than 5 kilometers in search of water. The locations which had the highest percentage of respondents who obtained water within 5 kilometers were Township (11%), Bissil (10%), and Namanga (8%). It was also noted from the findings that in all the locations, there were people who walked for more than 15 kilometers from the homestead to the water points. From the findings, most of the respondents in all the locations carried water on their backs. Loodokilani and Nkama locations had the highest percentage at 58% while the lowest was Township at 45%. Use of donkeys for water transport was also common in all the locations with Township having the highest at 35 % and the lowest was Loodokilani and Nkama at 15% each. Other respondents, 20% and 25% used bicycles.

According to the Kajiado District Development Plan (GOK, 2008), Kajiado County experiences serious water scarcity and people travel an average of 15 kilometers from the homesteads in search for water. On water and sanitation, the Development Plan states —the provision of water for household is usually the duty of women—. This task exploits their energy and time. Their daily and direct contact with water makes them particularly susceptible to water related diseases which further endanger their health poor access to clean water has adversely affected both women and girls as they are the people culturally given the role to look for water for domestic use by the family. Time wastage and abandoning school are cited as the main problems affecting women as a result of poor access to clean water. Women are also attacked on the way to and from the water sources by the wildlife and other members from the different villages guarding their water sources. They also suffer illnesses due to carrying water for long distances and consuming contaminated water.

Gathagu (2013) infers that the responsibility of fetching water wastes a lot of time for women and keeps them from performing other domestic functions. It also has wide implications on children's school. The respondents revealed that it is customary for girls to be kept home from school to help their mothers in fetching water. Girls in the County blame lack of access to clean

water as one of the major causes of school drop out. Education level among women is therefore very low in the County hence they lack technical knowledge to participate in community development projects especially in water resources management. Sometimes women are forced by circumstances to collect water from contaminated sources because as it is easy to access it. This concurs with the findings by Aberman et al (2015) that the rhetoric of women's role as naturally privileged water managers tends to overlook the divergent needs that women and men have in relation to water. She stresses that there is widespread understanding of the impact of water scarcity on women's health, on the drudgery of water collection, and on girls' education. However, women have little voice in water resource management.

2.6 Theoretical Framework

2.6.1 Caroline Moser Framework

Moser developed the framework for gender and development in the early 1980s and the theory grew in reaction to the women in development approach whose aim was to include women in development and to free the women from subordination by treating their issues as a separate concern (Moser, 2012). It focuses on integrating gender in all planning perspective as well challenging the assumptions behind traditional planning to achieve development by including women in decision making and participating in the control of natural resources.

Thomas (1979) criticized the traditional views of planning methodology as neutral and universally applicable set of technical procedure which is countless and context less. The approach has been described as a trans-historical, political and technical set of procedures as a public-sector activity. Moser's framework recognizes the triple roles such as reproductive, production and community management activities. She argues that the triple roles are labour intensive and time consuming.

This framework recognizes that women's productive work, functions and responsibilities are less visible and less valued than men's roles within the society. Moser critically analyses the institutional structure and operational processes in project cycle and the challenges faced by women whether political or technical in nature.

2.4.2 Relevance of the theory to the study

Moser's Framework of Gender Planning and Development touches on the interrelationships between gender and development. The focus on the gender relations is instrumental in

understanding the factors that influence access to and role of men and women in water resource management. This is because gender relations between men and women yield differential power relations and this may influence water resource management. The gender roles explained in the Framework situated men and women in different positions which influence management of key resources such as water. In this regard, the theory helped explore the roles of men and women in water resource management in Kisamis, Kajiado County. The Framework also helped answer the second research question through its focus on how gender relations satisfy or create needs for the people. It helped establish the waters needs of men and women in Kisamis, Kajiado County as influenced by gender roles and relations.

Finally, the Framework notes that the barriers to development and planning are conceivably the results of gender relations and roles that subordinate women. This produces challenges that can be understood along gender dimension especially based on the view of who experiences these challenges more. In this regard, the Framework helped answer the third research question on the constrains men and women face in accessing water in Kisamis, Kajiado County.

CHAPTER THREE: METHODOLOGY

3.0 Introduction

Research methodology is a systematic way of solving a problem. It is essentially, the procedures followed by researchers for describing, explaining and predicting phenomena. It provides the work plan of a research. This chapter discusses the methods that were employed by the researcher in carrying out the study. Specifically, the location of the study, research design, target population, sampling procedure, data collection, reliability and validity, ethical considerations, methods of data analysis and presentation are discussed.

3.1 Research Site

The study site was Kisamis, located in Kajiado County. Kisamis borders Ngong Game Reserve, Olesayeti and Oldoinyo Keri. The researcher chose Kisamis because the location faces water challenges as the place is semi-arid and most of the dwellers are the Maasai community. The community is generally male dominated and most of the decisions are made by the male who are considered superior to women and as such, the issue of gender and water resource management has not been pronounced because of the different roles that men and women of Kisamis perform (GOK, 2008).

3.1.1 Climate and Vegetation

Kisamis has a varied climate, with a bimodal rainfall pattern with the long rains falling between March and May while the short rains fall between October and December. The rainfall ranges from 1250mm to less than 500mm per annum. Temperatures vary in altitude to a mean maximum of about 34⁰ C to 22⁰ C (GOK, 2008).

The vegetation of Kisamis is determined by altitude, soil type, and extent of human occupation and utilization of the land. The main vegetation types consist of grassland, scrub and semi desert bush land. The vegetation cover throughout the Kisamis varies seasonally with rainfall and grazing intensity (GOK, 1995).

3.1.2 Population Distribution

The population distribution in Kisamis is scattered. On average, Kisamis is sparsely populated with an average density ranging between 2-10 persons per kilometer. The dominant tribe is the Maasai. The total population was recorded at 2,947 persons (Census, 2009).

Semi-nomadic pastoralism has been the traditional Maasai mode of life, practicing on land that was communally owned. However, this lifestyle has undergone changes due to ongoing land adjudication and sub-division of group ranches leading to individual land tenure system (GOK, 2008).

3.2 Research Design

This study used a cross-sectional exploratory design to undertake a gender assessment of water resources management in Kisamis, Kajiado County. The study adopted a qualitative design that guided qualitative methodology in data collection and analysis. The qualitative approach was appropriate for this study because analyzing the data from the participants' viewpoint enabled the researcher to understand their perceptions about gender and water resource management. The qualitative approach provided detailed data on participant's knowledge, experience and perception on gender and water resource management in Kisamis area.

3.3 Study Population and Unit of Analysis

The study population for this study comprised of men and women in Kisamis, Kajiado County. The unit of analysis was the individual woman or man in households. For the inclusion criteria, the participants for this study had to be at least 18 years old and residents of Kisamis, Kajiado County.

3.4 Sample Size and Sampling Techniques

The study employed purposive sampling in selecting the villages and participants who were the members of Kisamis community. Purposive sampling involves focus on a particular characteristic of a population that is of interest to the researcher and for this case, 3 villages involved in water resource management were purposively selected. A key informant from each village was selected for the interviews. Focus Group Discussions comprising of between 6-12 participants were conducted with participants from the three villages.

3.5 Data Collection Methods

3.5.1 Key Informant Interviews

According to Carter (1992), key informant interviews are qualitative in-depth interviews with people who know what is going on in the community. The key informants in this study were persons knowledgeable on the topic and included community leaders and the village elders. They

had first-hand knowledge about the community. The researcher prepared an interview schedule which was administered to the key informants. The Key informant interview guide focused on key themes on gender and water resource management.

3.5.2 Focus Group Discussion

A Focus Group Discussion (FGD) is a rapid assessment, semi-structured data gathering method in which a purposively selected set of participants gather to discuss issues and concerns based on a list of key themes drawn up by the researcher (Kumar 1987). This involved exploring the perceptions, experiences and understanding of gender in water resource management. For this study, four (4) gender disaggregated Focus Group Discussions were conducted comprising of 2 men only and 2 women only FGDs. A focus group discussion guide was used as the instrument for data collection. It focused on key areas related to gendered water resource management. The discussions were facilitated by a moderator while a note taker helped record the discussions in a note book.

3.6 Data Processing and Analysis

Qualitative data from the key informant interviews and focus groups discussion were transcribed verbatim and coded for analysis. Thematic analysis was used to analyze the data by systematically and objectively identifying specific themes from the data representing gender in water resource management in Kisamis, Kajiado County. This is due to the fact that the study sought to solicit for data that is qualitative in nature. The findings were presented in the form of text and verbatim quotes.

3.7 Ethical Considerations

Prior to the start of the research, permit was sought from the Institute of Anthropology, Gender and African Studies and National Commission for Science, Technology and Innovation (NACOSTI). The researcher explained to the respondents about the research and that the study was for academic purposes only. It was made clear to the participants that their participation was voluntary and that the respondents were free to decline or withdraw any time during the research period. The participants had informed consent to make their choice to

participate or not and those who participated did so willingly. They were guaranteed that their privacy would be protected by strict adherence to anonymity.

CHAPTER FOUR: GENDER ASSESSMENT OF WATER RESOURCE MANAGEMENT

4. 0 Introduction

This chapter presents the study findings on gender assessment of water resource management in Kisamis, Kajiado County. There are two sections in the chapter. The first section is a description of the demographic characteristics of the respondents as related to the research questions and objectives. In the second part, the findings on gender assessment of water resource management are presented as obtained through Focus Group Discussions and Key Informant Interviews and in line with the study's specific objectives.

4.1 Socio-demographic Characteristics of Respondents

The study sought to establish the demographic information of FGD discussants. These are: gender, religion, occupation, education levels, and age. In total, there were 40 discussants from the 4 FGDs.

4.1.1 Gender

The study targeted both men and women. Out of the 40 discussants, 24 (60%) were women while men represented 16 (40%) of all the respondents as shown in Table 4.2.

Gender	Frequency	Percentage
Men	16	40
Women	24	60
Total	40	100

Table 4.2: Gender of the Respondents

Measuring gender in the study was relevant because of the influence of gender identity/roles in water resource management, compounded by the ascribed gender roles, relations, and power balance. According to Michael (2010), water resource management is highly linked with gender where men or women are vested with certain gender roles that influence their participation in water resource management. The gender relations and power balance influence who makes decisions and level of participation in decision making on water resource management. This is reinforced by one FGD discussant:

Most decisions are made by men here and women follow their [men's] judgment(Female FGD Discussant 28 years).

4.1.2 Age

Most respondents were aged between 26 and 35 years, they represented 30% as shown in figure 4.2. The age category 18-25 years accounted for 10 (25%) of all respondents while the 36-45 category accounted for 11(27.5%) of all the respondents. The respondents aged 45 years and above were 7 and this represented 17.5%.

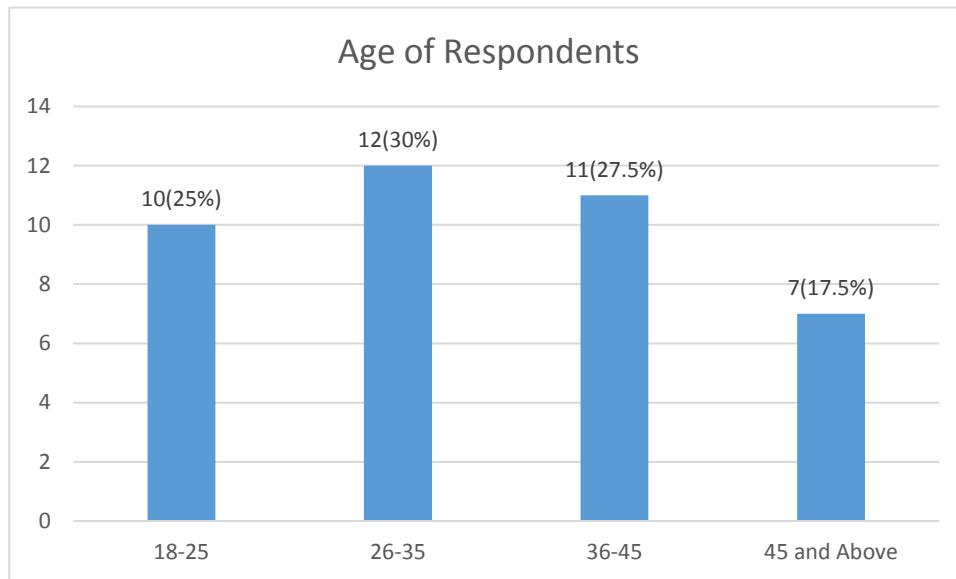


Figure 4.2: Age of the Respondents

4.1.3 Marital Status

Only 3(7.5%) of the respondents were single while most respondents, 35(87.5%) were married. Only 1(2.5%) and 1 (2.5%) of the respondents were divorced and windowed respectively. Table 4.2 shows the breakdown of the respondents' marital status across gender dimension.

Gender	Single	Married	Divorced	Windowed
Men	1	15	0	0
Women	2	20	1	1
	3	35	1	1

Table 4.3: Marital Status of Respondents

The importance of measuring the marital status of the respondents rested on the influence of this variable in water resource management and the consequent gender roles. In the study, it was found out that married women were more likely to be involved in decision-making than the single ones as illustrated by a quote from a female discussant

Decision-making is mostly the role of men but if you are a woman and you are mature, married and respected in the community, they may listen to you, but not always (Female FGD Discussant, 38 Years).

However, collection of water from water points remained largely the role of women, regardless of the marital status.

4.1.4 Education

The study sought to establish the level of education of the respondents and from the analysis of the findings, it was established that majority of the respondents, 17 (42.5%) had no formal education and do not know how to read and write while only 14 (35%) of the respondents had primary education. The respondents who had attained secondary education accounted for 12.5% (8) of the respondents had secondary education and only 1(2.5%) had tertiary/university education. This is shown in figure 4.3.

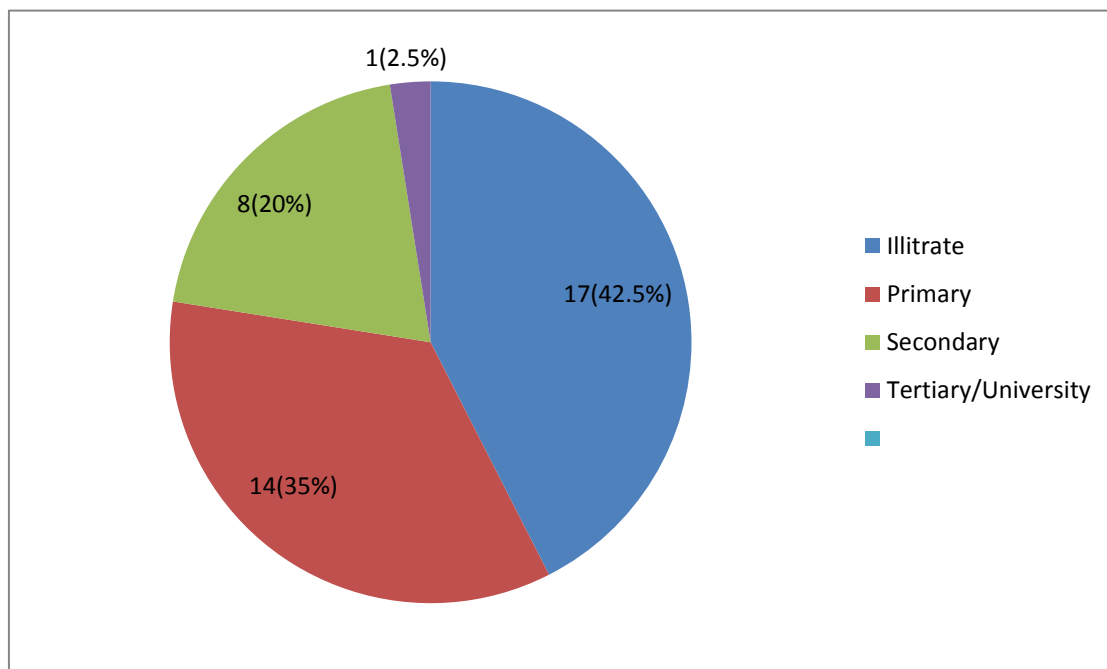


Figure 4.3: Respondents' Level of Education

4.1.5 Occupation

The respondents' occupation was measured depending on the kind of income-generating activity each respondent reported. Those who reported livestock keeping and generating income from sale of livestock or products accounted for half of the respondents or 50% as shown in Figure 4.4. Business category included respondents who reported to depend on other businesses such as running small and medium scale enterprises. These accounted for 8(20%) of all the respondents. Formal employment category consisted of respondents who reported to have permanent and salaried jobs such as teachers. This group accounted for 3(7.5%). The respondents who reported to engage in informal jobs whose payment is daily or weekly were classified under informal employment category. These accounted for 9(22.5) of all the respondents.

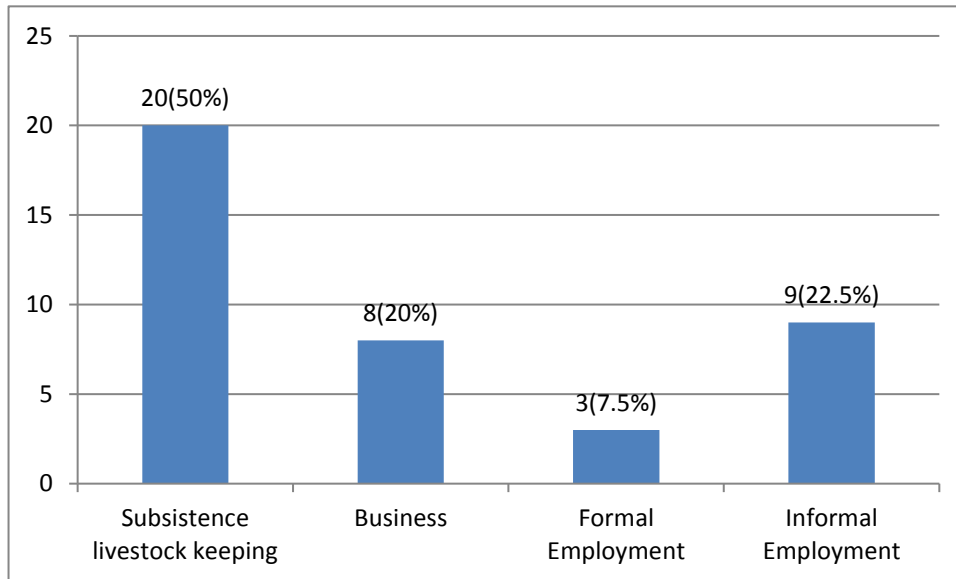


Figure 4.4: Respondents Occupation

4.2.6 Religion

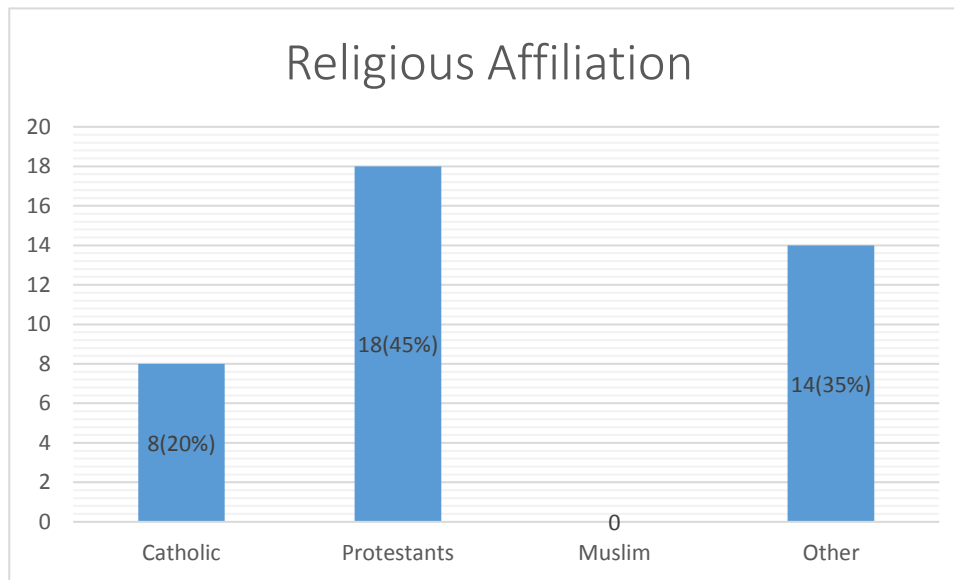


Figure 4.5 Religious Affiliation of respondents

The study sought to establish the religion of the respondents and from the analysis, majority of the research participants, 18 (45%) were Protestants, while there were no Muslim participants. Catholics accounted for 8 (20%) of the participants, while there were three 14 (35%) participants belonging to African Traditional and other religions.

The following section presents the findings on the gender assessment of water resource management with respect to the specific objectives.

4.2 Role of Men and Women in Water Resource Management

The study sought to establish the position of both men and women in water resource management. The findings indicated that women had primary responsibility for managing household water supply, sanitation, and health as shown by the following quotes.

Women here have traditionally been involved in availing water at home mostly because men are out with animals or other activities (Male FGD Discussant, 35 Years)

Every woman in the community is concerned with whether there is enough water in the house. When the water is contaminated or not clean, the woman tells other family members. (Female FGD Discussant, 26 Years).

When it comes to ensuring that there is water at home, this is mostly the role of girls and women. They are the ones who fetch water from the sources (Key Informant 1, Male, 29 Years)

The findings indicate that women, by nature of their involvement, are involved in the maintenance of water resources. This is evident in their role to establish the suitability of water sources in terms of replenishing clean water. It is also evident that women are in close contact with water sources since men are often out with animals.

Due to the role of ensuring availability of water in household, women often go to the water resources for water collection. This exposure and role make women have accumulated considerable knowledge about water resources, including location, quality, and storage methods as exemplified in the following quote

Going to the water sources daily increases my knowledge on where to find water and know how to store it in the house (Female FGD Discussant, 40 years)

This places women at an appropriate position to be included in water management based on their knowledge on key aspects of water management. They are custodians of crucial information on water resource and therefore important stakeholders in the management.

Moreover, the findings indicated that women and girls are the primary users and providers of water as well as the guardians of household hygiene. In Kisamis, fetching water influences women's and children's time and energy distribution, as well as health conditions as one of the key informants pointed out.

Our girls and women carry so much water daily - their backs constantly ache and their hands get longer. Children, especially girls, do not have energy for studying and advancing their careers (Key Informant 1, Male, 29 Years).

In addition to the role of women, girls are also brought out in the water management picture. As a gender role, they visit water points for fetching water alongside women, although as the findings show, this involvement has detrimental effect on health and schooling.

Men are also involved in water management primarily based on their power and decision-making responsibilities. Majority of the respondents who were women acknowledged men's position or responsibilities in water resource management as overarching. Accordingly, men make essential decisions in water resource management. This is substantiated by their overrepresentation in water committees. Consider the quote below.

Women have little say in water resource management and this is noted in the community water committees. The committees are dominated by men and this means that it is them who make the decisions (Female FGD Discussant, 25 Years).

Despite the position of women in water management and as key custodians of water sources, they do not make meaningful contribution in active water management and decision making. This underrepresentation of women in water resource management is rooted in the traditional cultural values that do curtail women representation in key decision-making processes. According to the FGD responses, women are supposed to be submissive and not managers and there are expected to be more passive than active.

Men hold a lot of power here and women do not seem to count when decisions are being made. Traditionally, men are the heads and women only follow. We have to consult them [men] every time (Female FGD Discussant, 36 Years).

While we have women who can make important contribution in water management, they are frustrated by the rigid gender roles that do not allow their meaningful participation in water related projects and the view that women come second (Male FGD Discussant, 37 Years)

From the study findings, the researcher established that men and women played different roles in water resource management and this was because men are culturally predisposed to make societal decisions. For instance, one of the key informants brought this to perspective.

Men have a responsibility of checking whether the water pipes are working from the borehole to the different water points (Key Informant 1, Male, 29 Years).

Women have traditional roles with key decisions being made by their fathers, husbands, and brothers. Moreover, women appeared to be more effective in sharing information within their families and through informal networks and the men in sharing information outside their families and through formal networks.

Thus, gender relations and inequalities influence collective responsibilities to the issues of water resource management. Women and men tend to organize in different ways. Women often face specific obstacles to participating in a project, joining a water-users committee, or providing input into a consultation session.

Further, the study established that women are often the ones most motivated to establish and maintain an improved water supply, yet do not necessarily participate in decisions and management of water resources. On the other hand, men dominated the management of water resources, as they are the ones who make essential decisions on when and where to dig boreholes or the time to supply water. In addition, men possessed most of the water points and as such, had the powers to determine when and how much to sell the water.

The study sought to establish the participatory nature of men and women in water resource management and from the findings of the study, it was established that both men and women participate in water resource management. However, men had more roles owing to the patriarchal nature of Kisamis. Moreover, the cultural role expectations delineated the role of women, whereby women have more roles at the household level and not communal level as one of the key informants observed.

“Women cannot attend public meetings as easily as men and if they can, they have to stay on the edge and keep silent. They also have less access than men to written information because of the lower proportion of literate women and lower knowledge of official languages” (Key Informant 3, Female, 34 Years).

The findings indicated that knowledge and expertise of women, which differs from that of men because of their different tasks, cannot play a role and its value is not acknowledged. Projects, which assume that information and communication with women can take place through men, do not recognize that each group has their own channels and topics of communication and hence information and consultation of the women will not take place. Analysis of the findings from one of the focused group discussions indicated that water resources development and management practices, which have a negative impact on women, also have a negative impact on development. One FGD discussant observed this.

“Water development and management projects that exclude women as actors and as an interest group bypass half the population and do harm to the efficiency and effectiveness of the project” (Male FGD Discussant, 28 Years).

Further, the study established that women’s work increases as they acquire more roles (productive and community role on top of reproductive role), while men’s roles and responsibilities are being bypassed. Existing social prejudices do not allow men to enter traditional women’s roles. One of the key informants pointed out that,

“If a man is seen helping his wife everyone would say that she keeps him under her shoe heel [dominated].” Some men understand when the wife is tired and would be ready to help but they are ashamed to be seen helping her by senior family members or people around”(Key Informant 3, Female, 34 Years).

Thus, men and women have complementary roles in water resources management and both have the capacity to increase water accessibility. This demonstrates the centrality of each party in water resource management. However, women are sidelined in water resource management based on socio-culturally induced forces that subordinate women. Although women have the potential of strengthening water resource management, this chance may remain under-utilized if women participation is viewed merely as a way of achieving project efficiency goals at the community level rather than gender equality and mainstreaming.

4.3 Water Needs of Men and Women

The second objective of the study was to investigate the water needs of men and women. From the findings of the study, it was established that although water in Kisamis is scarce, men and women have needs and use it for different purposes such as household and livestock uses. Nevertheless, one of the issues discussed in the FGDs was the water needs of both men and women. Findings show that both men and women use water for different functions. Women use water for household purposes such as washing clothes, and cooking. Men on the other hand use water for irrigation and livestock purposes as illustrated by the quote below:

“Men use water for irrigation, as majority of us do not conduct any household chores” (Key Informant 1, Male, 29 Years).

“Water has many uses here and irrigation is just the newest use. Traditionally, water has been meant for our livestock and women use it in household chores such as cooking and washing” (Male FGD Discussant, 23 Years).

Apart from the uses of water, water needs in Kisamis is understood along the access/availability dimension. Water shortage in the area has led to construction of boreholes because the area is dry and has no major rivers, and this shows a significant water need. The water from the boreholes is pumped and stored in water tanks as a response to recurrent water shortages, although this is not always the case. From the analysis of the study findings, majority of the respondents indicated that they have to walk for long distances as the boreholes, water points are at far distances, and these force women to wake up early in the morning to look for water. Access to water remains a key water need in Kisamis as illustrated by the quotes below.

“Men walk for long distances to the water points in search of water for their animals such as cows, goats, and sheep” (Female FGD Discussant 26 Years).

“Fetching water often takes better part of the day for women and girls especially when there are no boreholes or water is not stored in tanks” (Key Informant 3, Female, 34 Years).

The major cause of water shortage was because the area receives very little rainfall and suffers frequent droughts as observed by one FGD discussant.

“Prolonged drought, resulting from inadequate rainfall, has led to acute water shortages. This makes access to water and its availability a major water need in our community” (Male FGD Discussant, 47 Years).

The other aspect of water needs is the issue of water quality and quantity in Kisamis. Due to water scarcity, vending of water is common and may compromise water quality. The quotes below illustrated the idea of vending water in the first place.

“The residents buy fresh water at Sh.70 for a 20-Litre can while salty borehole water retails at Sh. 20 or Sh. 30 per 20-Litre can”(Female FGD Discussant, 45 Years).

“I have been vending water for the last five years and am happy my business is doing well. We don’t hike the price of the water but the perceived high cost is due to the cost we incur” (Key Informant 2, 32 Years).

Vending of water puts its quality in terms of safety or cleanliness at risk as illustrated by FGD discussants.

“The people supply water at a fee may be tempted to compromise the water quality and fetch it in unsafe place and sell to people in order to maximize profits” (Male FGD discussant 22 Years).

“We are aware that vendors might take advantage of desperate consumers because of the water scarcity and sell bad water. We are therefore telling consumers to make sure the water they are buying has been approved by the Ministry of Water (Key Informant 3, Female, 34 Years).

In order to ensure water safety, household water treatment methods have been emphasized where people are sensitized to use chemical detoxification of water as stated by a key informant:

Due to the danger of unsafe water, we are sensitizing people to use locally available water treatment reagent such as water guard. Many may however lack the money (Key Informant 3, Female, 34 Years).

The study thus found that water needs for men and women in Kisamiscan be conceptualized along the dimensions of water uses (functional need), water availability and access, as well as the water quality. Men and women walk for up to 20 kilometers to the water sources. If men and women have to spend so much time collecting water, their other obligations are not fulfilled and this created conflicts. Carrying water for long distance and sometimes up a steep terrain also led to health risks such as frequent headaches and backaches, malformed spine. Due to the problem of water scarcity, individuals may buy the commodity from vendors or collect it from contaminated sources because it is an easy to access it or lack money for household water treatment in case of contamination. The study also revealed that it is customary for girls to forfeit school to help their mothers in fetching water. The water needs therefore may create gender inequalities based on gender roles where girls may lack access to education opportunities and be at the receiving side of gender health inequalities.

4.3 Constraints Men and Women Face in Water Resources Management

4.3.1 Socio-cultural Norms

The analysis of water needs of men and women in Kisamis provide insights on the challenges experienced. Gender relations among men and women as embedded in the cultural norms pose challenges not only for women but also for men. Rigid cultural norms in the community are a major constraint that men and women face in Kisamis in relation to water resource management. The cultural values demand that women play different roles from men. Although division of labor is apparent in most communities and important in livelihoods and subsistence systems, certain gender roles are discriminative. For instance, the study findings indicated that in Kisamis

women are supposed to be submissive and not managers. Women's roles are viewed with domestic lenses rather than in the light of community development and decision making in water resources management. Since the Kisamis women do not own livestock, they cannot control or manage the water and this is well illustrated by an FGD discussant.

In our culture here, it is men who own livestock. This means that management of water sources is the role of men as we consider livestock keeping as major activity and major use of water here (Male FGD Discussant 48 Years)

The study established that the culture of the Kisamis people favors men as they have a greater say in terms of the management of water resources. Majority of the respondents opined that water is meant for livestock and because men control the water points, women are forced to wake up early in the morning to fetch water before men come with cattle. To this end, the study established that men give first priority to livestock before women can fetch water for household purposes as substantiated by the quote below:

“No woman will dare fetch water when men are at the water points with their cattle” (Female FGD Discussant, 36 Years).

Due to this conflict of interest, the quality of the water in Kisamis has deteriorated to an extent that the people developed health complications as the livestock contaminate the water meant for domestic use. In addition, the study established that women are not allowed to contribute to the water resource management as they are culturally not allowed to speak in front of men and this is because the society views women to be subordinates of men.

The constraints faced by men and women can also be understood in term of gender inequalities, embedded in the cultural norms. The analysis of the collected data established that the Kisamis locality forms part of the larger Maasai community, whereby women are viewed to be the property of men. Kisamis is a patriarchal society and this means that there is gender inequality as

the society expects women to play their roles as per the rules of the men. The study established that Kisamis women experience subordinate social status and they are responsible for most of the household chores with no decision making power within the household and the community. An FGD quote puts this to perspective.

There are certain things that men own and those that women own. For men, they own almost everything including the women themselves. Being the decision-makers, managing water sources and determining where to establish new water sources is the men's discretion (Female FGD Discussant, 32 Years).

Management and control over resources such as livestock and income from all sources is vested in the man. Further, the study revealed that Kisamis women are regarded as dependents and, therefore, they are supposed to abide by verdicts and directions given by the men as shown by the quote below.

“What men say should not be contested and that is way of life” (Female FGD Discussant, 44 Years).

To this end, women have unequal access to information in terms of water resource management to an extent that they underrepresented in decision-making.

This study established from focus group discussions and key informant interviews that in most areas, women were still underrated and thus not deemed fit to be in leadership position. Nonetheless, due to the constitutional requirement for equality, men were left with no option but to allow women to be part of the managing team. However, it was found that even after women are included in water management, they still fear speaking in the presence of men because of culture. Men are also revered in the community because they own all the resources, are the family heads and decision makers. Women are not allowed to speak in public as per the culture and are not expected to argue with or oppose men. Women, therefore, fear in demanding their rightful position in elective posts to avoid discrimination both at home and in public.

Women in Kisamis still face lot of barriers to participate in community development activities including water projects. These barriers include refusal by husbands to attend meetings that addressed issue of safe water, discrimination, subordinate roles, weak leadership, lack of mobilization, lack of time and failure to see the benefits of their participation. Their participation in water projects is largely centered on the provision of their labour for unskilled work, often adding to their already heavy workload. This is an indication that although policymakers had undertaken efforts to encourage women's participation in Water resources management, women did not participate effectively due to lack of confidence in standing up for their rights. Illiteracy and social norms prevented women from taking up any public role. Even where women have been given a responsibility in the water committees, they have often been token representatives with a passive role without effective participation.

4.3.2 Lack of Knowledge in Water Resource Management

The demographic characteristics of the respondents indicate that most of the residents of Kisamis do not have formal education as most of them either dropped out and did not attend school. One of the key informants asserted that,

“To be honest, although am the chairperson of a water committee in this area, I do not know how to write since I did not go to school” (Key Informant 4, 50 Years).

Lack of formal education limits proper management of the water resources. Further, majority of the women respondents opined that they did not attend school and this limited their understanding of water resource management as illustrated by the quote below.

I did not go to school and even if I am given a chance to contribute to water resource management, I do not have ideas”(Female FGD Discussant, 38 Years).

Further, the findings showed a gender dimension in relation to knowledge for water resource management. In many occasions, girls had failed at times to go to school and had to assist their

mothers in collecting water. It was also revealed that young women are usually circumcised at the tender age. The Maasai community considers girls as assets who after being married off earn them dowry in terms of livestock. This denies the girl child an opportunity to acquire education and technical skills appropriate for water resources management. Most women therefore lack formal education, especially in rural areas where there is low level of awareness on the importance of education by the community. Consequently, women lack capacity to participate in water resources management.

4.3.3 Poor Access to Water Sources

The findings reveal that Kisamis is a semi-arid place and the residents face the challenge of accessing water. Respondents pointed out that they had difficulties accessing water points as they are forced to wake up early in the morning and walk for between 1 km and 20 km in search of water. Because women undertake household chores, they are forced to walk with children on their backs on steep terrains, as most of the roads in the area are poor. Men are forced to walk for long distances with their livestock.

“There is poor infrastructural development in Kisamis and it makes it hard for the residents to walk from their homes to the water points. The hilly terrain complicates the access to water points”(Male FGD Discussant 36 Years).

Consequently, children are unable to attend school routinely as boys have to take care of the livestock and girls forced to stay at home and perform household chores or help their mothers to fetch water. These findings are tandem with a report by Kajiado District Development Plan (GoK, 2008), which pointed out that the main challenge that the Kisamis people face is walking long distances sometimes up to 20 km to look for water. According to the report, the conflict of interest between men and women in water usage emerge because of livestock and to this extent, the water sources are contaminated. Moreover, the study established that women have obligation of fetching water and performing household chores, which has led to domestic violence as women cannot walk all the distance and still be able to carry out household roles. An FGD discussant put this into perspective.

“Domestic violence is often triggered by conflict where women are expected to do their household chores but have to walk for long distance to fetch water. This way, they may not be able to perfect both roles and run short of men’s expectation, hence violence and conflict at home” (Female FGD Discussant, 47 Years).

On the same note, water quality is also compromised and stands out as one of the major constraints men and women face. Contamination of water by livestock as noted above and the vending of water degrades the quality of water. Although there are household water treatment options such as use of reagents, the financial constraint may limit this. The demographic characteristics of the respondents show that most have low-income generating activities.

The chapter presented the study findings. The findings indicate that men and women are involved in water resources management albeit with gender-based differences in the participation. This is despite persisting water needs and the demonstrated ability and chance of women in making meaningful contribution to water management. This problem, stemming from sociocultural norms is in fact one of the challenges faced in water resource management compounded by limited knowledge on water resource management.

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a discussion of the study findings. It also presents the conclusion and recommendations for the study and provides areas of further research. In the discussion, the overall objective, gender assessment of water resource management is discussed under the specific objectives. These are: establish the roles of men and women in water resource management; investigate the water needs of men and women; identify the constraints men and women face in water management in Kisamis, Kajiado County.

5.1 Gender Assessment of Water Resource Management

5.1.1 Roles of Men and Women In Water Resource Management

Study findings indicated both men and women are involved in different stages or roles in water resource management. Women were found out to know and provide information regarding location of water resources and water quality, based on their exclusive role of supplying water to households from the sources. This way, they can be termed as custodians of water sources. On the other hand, men, although often out with animals, participate in water resource management mainly through decision making in water committees. Men also make crucial decision on water treatment and water use. Such inclusion of both genders water resources management recognizes that participation of both men and women in water resources management is a right and development issues. This is especially in the light of gender mainstreaming and sustainability issues. Michael (2000) reckons that inclusion of men and women in water resources management upholds the right to be included in decision making on matters that affect their lives such as use and access of natural resources such as water. It also builds effectiveness and sustainability since the roles and responsibilities of both gender are considered and felt (Khosla and Pearl, 2003).

Participation of men and women underscores the element of gender mainstreaming in water resources management. Gender mainstreaming encompasses the view that the implications for both men and women are considered. It means taking into consideration the responsibilities, perspectives, and roles of men and women in a development process or project. The issues of power relations and balances across the gender dimension are central in gender mainstreaming.

At the core of gender mainstreaming in respect to water resource management is involvement of men and women, taking into account their roles , responsibilities and underlying gender and power balances. It is about gender equality and equity. Resultantly, as a condition for inclusive and people-centered development, the Gender and Development (GAD) approach has focused on elimination of socioeconomic inequalities between men and women. Indeed, in respect to water sector, the GAD approach has informed gender inclusivity. The recognition that men and women have different level of participation in water resource management formed the platform for the discourse in mainstreaming gender in water management (GWA and UNDP, 2006).

However, there is no equal participation of men and women in the management of water resources. Women are not involved in the management and decision-making. In the study, the findings show that although men and women have water uses and needs, women are negatively skewed concerning management of water resources. According to the International Water and Sanitation Centre (1997), women, who constitute half of the world's population are caretakers of children and household guardians. However, their role and representation in decisions regarding water supply and management of the water resources remains insignificant (International Water and Sanitation Centre, 1997; Michael, 2010).

The findings show that women are passively involved and only provide information on water sources and quality rather than being involved in key decision-making. Women and girls (children) in Kisamis only play the roles of replenishing water in the households and performing household chores without involvement even in water management committees. In fact, the findings show that women do not participate in the sessions since it is considered men's affair. This lack of participation of women in water resources management disregards the demonstrated potential and role of women in water resource management and the spirit of GAD.

Women's role in managing water resources and making meaningful contribution to the decisions cannot be overlooked. The study shows that women in Kisamis are mostly in contact with water sources as they pursue the gender role of fetching water and using it in domestic chores. They have gained sufficient and accumulated knowledge on water sources, use and storage. Ironically, their say it is not significant in water committees. Despite their knowledge and demonstrated potential, they have been invariably excluded in active water resources management processes. Similar findings have been reported in other studies. According to Lusuva (2009), women have

accumulated vast knowledge about water resources, storage methods, and quality. This was confirmed by the findings in Kisamis. In Kisamis, the study found that women are not involved in water resource management where they have weak or no voice in decision making, despite their responsibility in household water supply. Despite the knowledge and potential women have in water resources management, Alouka (2006) asserts that the central role of women has been overlooked. In Tanzania, Michael (2000) shows that there is conspicuous gender imbalance in water resource management and women are on the receiving side. Across the developing world, women provide water for households and men make decision on water resources management and development (GWA and UNDP, 2006).

Lusuva (2009) found out that women are not involved actively in managing water resources despite their roles in household water management. Women and children, especially girls, are involved in water collection for performing household chores. They bear the struggle of finding water during dry seasons (Lusuva 2009). This is reinforced by the study findings where in Kisamis, women and girls walk for long distances to find water to the extent of developing health (back) problems and compromising their schooling. According to Khosla Pearl (2003), this inordinate role thwarts girls' and women's participation in education and socioeconomic and political processes. Men on the other hand go out with animals, leaving the burden of water collection on women. In a paradox, only men in Kisamis are allowed to participate in water committees and make decision on new water sources and management. Findings showed that decisions regarding water treatment at water points or at the household is highly influenced by men. Women and girls remain with the responsibility of managing household water supply, health, and hygiene as in WASH.

Women and girls have thus limited participation in water resource management as their roles rest on supplying water and managing it in the households. This phenomenon rests on socio-cultural barriers that produce inequalities between men and women. This frustrates the aim of Integrated Water Resource Management (IWRM).

5.1.2 Water needs of men and women

The study sought to establish the water needs of men and women in terms of use. The findings showed that although water needs for men and women may vary, water is necessary for drinking and maintaining personal hygiene. Lusuva (2009) alludes that water is necessary for cleaning,

care for domestic animals and for food production and preparation. These water uses have however, gender use where certain water needs or uses affect men or women more. Indeed, according to CAP-NET and GWA (2006), there are noticeable gender difference in the use, access, and management of water. On the use, men are likely to use or need water on certain purposes than women. This is based on the gender roles and responsibility on water use. In the study in Kisamis for instance, apart from personal hygiene and drinking, men's water needs are well reflected in domesticated animals and irrigation. Men's gender role is mainly rearing livestock and therefore water sources and use become relevant for them in this respect. On the other hand, women in Kisamis have the gender roles of supplying water to households for cleaning and preparation of food. This way, the water needs vary considerably, depending on the gender roles.

However, water needs for men and women should inform the participation in water resource management. For example, since women are vested with the responsibility of supplying households with water from the sources, they should be involved in the management of the water sources. This is in the same breath that they (women) are involved in managing water at the household level based on the gender roles on domestic chores. Men on the other hand may justify involvement in water resource management by the virtue of being custodians of domesticated animals and using water for irrigation. This is however inordinate since women are excluded in water resources management despite their felt water needs.

The inclusion of both men and women in active water resources management based on the water needs become even more amplified when water supply declines or there is shortage. The study findings indicate that during dry seasons both men and women walk for long distances in search of water. Further, both experience the effects of water shortage especially when water quality (salinity) and safety are affected. Both men and women are affected in respect to their water needs and this should provide an offshoot for inclusion in water resources management (Khosla Pearl, 2003).

Water needs for women are compromised more when water supply declines during drought and this contrasts sharply with the effect on water needs for men. The study findings showed that vending water and pricing become common when there is shortage of water and this affects its quality and safety. On water quality, effect on the water needs for women become amplified

based on the sensitive nature of their water use in for instance food preparation and cleaning. On water vending and pricing, women's water needs are also affected negatively because water pricing has numerous gender implications (Lusuva, 2009). Women have limited access to financial resources compared to men. In addition, women have competing financial demands than men and their expenditure is different. Thus, a high pricing on water will have difficult implications for women, thereby affecting water needs for women. The water pricing will inhibit women's access to improved water supply for food production and hygiene promotion at the household.

5.1.3 Constraints men and women face in water resources management

The study was also interested in identifying the constraints men and women face in water management. The findings indicated that cultural norms and lack of knowledge in water resource management are major challenges. In addition, poor access to water sources was also cited as another problem men and women face. However, all these constraints weigh negatively more on women than men and further limits women participation in management of water resources.

The cultural norms that advance paternalistic and masculine interests preclude women from participating in water committee meetings. Keeping of livestock is considered the overarching cultural and economic activity in Kisamis and the findings show that because of this inclination, management of water sources is the role of men. The underlying reason is that livestock keeping is a major activity and forms the major use of water consequently, thereby giving men upper hand in management of water sources. However, this is a culturally posed idea stemming from traditional gender inequalities and meant to justify and propagate exclusion on women from water resources management and decision-making. Nevertheless, the cultural norm serves as an important impetus and is a constraint in water resource management as it exempts women on the grounds of male-centeredness cultural disposition.

The study revealed that gender power relations and imbalances, arising from traditional gender inequalities, discrimination, and subordination of women is responsible women's exclusion from active water resources management. Apparently, comprehensive water management is elusive as the study findings show well that women are left out in water management committees and cannot make decisions thereof. This is reinforced by CAP-NET and GWA (2006) who observed,

“Bonds with water reflect the cultural values and social differences embedded in societies, including gender differences” (p. 2).

Women have gender roles that are discriminative and that does not allow them to be decision makers. Women are supposed to be submissive rather than being managers. This tallies well with findings from other studies on gender and water resources management. According to Gathagu (2013) and Kindiki (2015), gender (domestic) roles that women have limit their capacity as active participants in water management. The gender inequality is a sufficient explanation why certain societies are more successful than others in management of water resources (CAP-NET and GWA 2006).

Findings also showed that men and women lack knowledge in water resource management. The study findings showed that lack of knowledge in water resource management is a significant barrier as community members lack the evidence-based methods in managing their water resources. Aberman et al (2015) assert that training on water resource management builds the capacity of the community members to be fully in charge of water resources management.

Study participants cited this as a major challenge that incapacitate effective water resources management and this lack of capacity building in water resource management undermines comprehensive water resource management. Women are even more affected since acquiring knowledge and formal education is frustrated by persisting gender inequalities and gender roles. Women have nevertheless acquired knowledge through exposure and contact with water resources and have indigenous knowledge on the same. The cultural issues however limit their participation in the management of water resources. On this, women are doubly disadvantaged since as they may lack the knowledge as men, they are underprivileged by the rigid cultural norms.

Poor access to water sources was also cited as a challenge. The water resources are located far from the homes and the terrain leading to the resources are unfavorable. Based on their gender roles of supplying water to the households, women and girls have to walk for long distance. As the study findings show, this has detrimental effect on their health. More importantly however, it overshadows the prospect of girls to gain formal education as their schooling is interrupted

significantly by this gender role. Their prospects of gaining knowledge for meaningful participation in water resources management are continually fading.

5.2 Conclusion

Gender is a major pillar for the efficiency, sustainability and overall success of any water project. In concept and practice, gender mainstreaming calls for involvement of both men and women in a development process and considering the implications for both genders. In regard to water resources management, inculcating gender issues imply that the roles and responsibilities of men and women are considered in making key decisions. This stems from the idea that women and men have different roles and knowledge that can be pooled to make meaningful and robust water resources management. Integrated water resources management should inculcate the gender concern where gender inequality and imbalances within a socio-cultural matrix need to be offset and allow full participation of men and women.

However, men and women are not involved equally and equitably in water resource management. The policy commitments to gender equity and equality have not resulted to demonstration of this idea in practice. In the gender assessment, it is evident that the commitments remain in theory and in development initiatives, there are glaring gender issues that negatively skew women. Traditional gender inequalities have served to maintain and justify not only socioeconomic inequalities but also exclusion of women in decision-making. The management of water resources negate gender equality fundamentally and the gender assessment in Kisamis demonstrates this well.

In the management of water resources, women's contribution is not felt despite their roles and responsibilities that put them at the heart of management. Women are passively involved and do not make decision on water resources. They are not allowed to participate in community water committees, thereby perpetuating traditional gender inequalities. The water needs for men unfairly override the water needs for women to warrant participation in water resources management. Women have other disempowering gender roles that limit their capacity to be key decision makers in managing water resources.

An inclusive and participatory approach need to be emphasized where both men and women have equal chance and participation in the management of water sources and accruing benefits. It is imperative that the role of women be strengthened and the gendered sociocultural and economic barriers be addressed to facilitate this involvement of women. The existing legal frameworks for water resource management only provides a foundation for involving both men and women but there is need to reinforce the provisions. Due to the unequal inclusion and participation of men and women in most aspects of management of water resources, it is important to have and enforce new frameworks for promoting the gender agenda,

5.3 Recommendations

1. The study identified barrier in the cultural and social norms that inhibit women participation in water resources management. It therefore recommends awareness and education to anchor changes to overcome disabling sociocultural norms that harbor gender inequalities.
2. It is also imperative to capacity build men and women through training programmes to enhance their ability and participation in water resources management. This would equip them with ability to make informed and right decisions in the management. Training programs targeting women are essential so that the women are equipped with skills to manage water programs and projects.

5.4 Areas of Further Research

The main purpose of the study was to undertake a gender assessment of water resource management in Kisamis Kajiado County. To this end, the study explored the different water needs and roles of men and women in Kisamis. Since the study was restricted to Kisamis, Kajiado County, there is need to carry out a gender assessment of other regions in Kenya, which are male dominated. Moreover, there is need for more studies as on how societies can realize gender mainstreaming in resource management.

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APPENDICES

Appendix 1: Focus Group Discussion Guide

Introduction

My name is.....from the University of Nairobi. I am conducting research on: **Gender Assessment of Water Resource Management in Kisamis, Kajiado County**.I would like to ask you a few questions that will take approximately 20 minutes. Your participation and responses will be highly appreciated. Please let me know whether you have any questions. Do you allow me to continue?

Yes No

Demographic Characteristics

	Gender	Age	Level of Education	Religion	Marital Status	Occupation
1.						
2.						
3.						

4.						
5.						
6.						
7.						
8.						
9.						

1. What are the main sources of water in this area and what are the major uses of water?
2. What other water need do people have here
3. What do you think is the importance of water resource managements?
4. Who do you think is responsible for water resource management (Probe for gender relations and power)
5. Do you think it is important to involve men and men in water resource management?
6. Are there challenges that people experience in access water here? What are they?
7. What do you think can be the solution to these challenges?

Appendix 2: Key Informant Interview Guide

Age:

Sex:

Occupation:

Introduction

My name is.....from the University of Nairobi. I am conducting research on: **Gender Assessment Of Water Resource Management In Kisamis, Kajiado County**. You have been chosen for this interview because of you knowledge and expertise in the area of water resource management.I would like to ask you a few questions that will take approximately 20 minutes. Your participation and responses will be highly appreciated. Please let me know whether you have any questions.

1. What is the water situation at the moment in the area (Probe for availability and access)
2. On your opinion, what is the link between water management and access?
3. What social and cultural factors govern access to water and water management here?

4. In your view, what is the importance of involving men and women in water resource management?
5. What would you say are the water needs for men and women here and how does that influence water management or gender relations
6. Are there challenges that men and women experience in accessing water? What are they?
7. In your view, what can be done to improve access to water?