

**WOMEN'S ROLE AND PARTICIPATION IN WATER MANAGEMENT:
A CASE OF KAITI WATERSHED IN MAKUENI COUNTY, KENYA.**

**BY
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DECLARATION

I, Catherine Wanja Njiriri, declare that this project is my original work and has not been submitted before for any other degree at the University of Nairobi.

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This project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

This project is dedicated to all the women that offer immeasurable support to their families and society at large and the men who support gender development and space.

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ABSTRACT

Women play an important role in the provision, management and safeguarding of water resources. Despite their essential role, they are still being excluded from important public decision making process in water projects often leading to their failure. The main objective of this study is to examine women's role and participation in water management in Kaiti Watershed in Machakos County, Kenya. The study examines the various obstacles that hinder women's participation in water management in the region. Furthermore, the study examines the efficiency and adequacy of the local projects in the context of the national water policies of Kenya.

For data collection, a descriptive cross-sectional study was adopted. Primary data was collected through focus group discussions and key informant interviews. The data was then analyzed using thematic analysis.

The study found that women in Kaiti experience many obstacles in their roles and participation in watershed management. These obstacles include: social-cultural challenges, economic challenges, and water policy constraints, amongst others. The study recommends a number of inter-related actions that need to be taken to enable the women in Kaiti to make their maximum contributions to the watershed management programme.

ABBREVIATIONS AND ACRONYMS

AMCOW	African Ministers Council of Water
ASALs	Arid and Semi-Arid Lands
CBWRM	Community-Based Water Resource Management
FGD	Focus Group Discussion
GWA	Gender and Water Alliance
GWP	Global Water Partnership
IDWSSD	International drinking water supply and sanitation decade
IWRM	Integrated Water Resource Management
NEMA	National Environmental Management Authority
NEPAD	New Partnership for African Development
NGO	Non Government Organization
NWP	National Water Policy
PANAFCON	Pan-African Implementation and Partnership Conference
SIDA	Swedish International Development Agency
UNESCO	United Nations Economic and Social Council Organization
WRMA	Water Resources Management Authority
WRUAs	Water Resources User Associations

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.0 Introduction

Water is an indispensable resource not only for the sustenance of all life but also to human development; we rely on it to grow food, produce goods and generate energy. Furthermore, water is a vital element for healthy ecosystems affecting biodiversity, livelihoods, health and education (Acreman, 1993). There is simply no substitute for water as every living thing depends on it. Given its importance, the management of water resources becomes of central importance to all its users. However, non-participatory development and management of water resources remains a hindrance to sustainable human development, growth and poverty reduction. Cleaver (1998) boldly suggests that the current water crisis in many countries has neither resulted from natural limitations of water supply nor is it from the lack of financing and appropriate technologies but rather from profound failures in water management.

There is a general consensus that water resources should be managed at the lowest most appropriate decision making level. This idea has led to the formation of community-based water resource management (CBWRM) bodies in many countries which work collectively to manage common pool resources (Swallow *et al* 2005). CBWRM supports demand-driven projects that implement innovative, low-cost water technologies for poor communities in rural areas.

One significant drawback of community-based water resource management is that every community is heterogeneous and hierarchical. As Rao (2006) and Agarwal (2001) point out, people have different needs, interests and access to and control over water resources based on a variety of factors including gender. An integrated approach to water resource management recognizes these differences and the disparate priorities they create for women and men. Thus, successful integrated water resource management calls for a cross sectional approach to the planning, development, use and protection of water resources. This integrated approach combines institutional, managerial, social, gender and economic aspects with technical analysis and problem solving methods presenting an opportunity for people-centered programmes that respond to various needs of all on an equitable basis.

Over the past decades, there has been an overwhelming emphasis on enhancing women's involvement in the water sector development from water users and beneficiaries to capable actors and water managers with increased choice and voice in the water resources management processes. Globally, the first systematic concern with women and water development projects began at the United Nations water conference at Mar del Plata, Argentina in 1997. It was at this conference that women's role as providers and managers of water at household level was recognized (UN, 1977). This promoted the United Nations to declare the decade 1980-1990) as the International Drinking Water Supply and Sanitation Decade which provided a framework for a massive effort to bring safe water to half of the world's population as well as assist women in their domestic tasks. This was captured in UN Resolution 35/18.

Further emphasis on the women's role was highlighted during the UN General Assembly Resolution 25 which advocates for the full involvement of women in water supply, planning, implementation, and technology applications. It also offered an opportunity for planners and policy makers to involve women in setting their own agenda in the water projects. In addition, the current international water for life decade (2005-2015) stresses the importance of increasing women's participation in all water related development activities drawing upon women's knowledge and capacity as water managers and decision makers (GWA, 2010)

At regional level, the African Water Vision (2025) calls for an "equitable and sustainable use and management of water resources for poverty alleviation, socio-economic development, regional cooperation, and the environment" (UN Water, 2010). The vision further recommends gender mainstreaming in water resources management with a special call on women to occupy key positions and functions in decision-making processes on water issues. The vision also emphasizes the need for stakeholder involvement in water resources management, in particular, by women and the youth. 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), 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.

In acknowledgement of the importance of women's role and participation in water management, this study examines the extent of women's participation in water management at the community level. It specifically looks into women's involvement in terms of decision making and their actual roles and responsibilities in water management activities. This study seeks to make a contribution to the research projects structured within CBWRM framework by drawing attention to a watershed basin development programme in Kenya. The study is based on the idea that all women in rural communities need to be given the maximum opportunities to participate in public development programmes.

1.1 Statement of the Problem

The problem underpinning this study is about the relations between the success and failure factors associated with a watershed programmes in Kenya. The topic is conceptualized in terms of power struggle between success and failure forces and the role of women in the scenario. The study indicates that the successes and failures of such public development projects depend, to a very large extent, on the opportunities given to the women in the localities to make their maximum contributions.

Women in Kaiti have the potential powers to play an important role in the provision, management and safeguarding of the water resources.. In most rural areas, women are the main providers and users of water at the household and community levels.

They are responsible for collecting, transporting, storing and managing water to meet their basic needs such as cooking, cleaning, washing, and personal hygiene (Aureli and Brelet, 2004). On the other hand, men make the decisions about water resources management and development at both local and national levels (Davila, 2004). This situation is attributed to the nature of the power relations in the rural communities which promotes male dominance consequently vesting power to the men who formulate the policies and plans which women then have to adhere to. The function allocated to men is additionally centered upon agricultural production of cash crops, irrigation and livestock rearing (Aureli and Brelet, 2004).

Women's involvement and participation in water implementation programmes at the community level is largely viewed as an extension of their domestic roles. For instance, women are primarily responsible for the construction of water sand dams. Usually, this type of community work is based on voluntary services which are based on the women's 'free time'. Generally, the women's work and contributions still lack the recognition they deserve. Whenever water management enters the public domain, the men take up the leadership positions and take the lead in decision making processes in the water committees. As a result, the women are excluded from management activities (Bennett, 2008). Women's exclusion from decision making often leads to the development of water projects and/or water programmes that are nonresponsive to women's practical and strategic needs hence reinforcing gender inequalities in the rural communities. Women are not given an equal voice in decision making on key issues which directly affect their lives, especially those related to water resource management. The solution to the problem therefore lies in breaking the cultural barriers so as to ensure that women are equally involved not only in the project identification processes, but also in the actual planning, design, construction of water supply structures and in the overall water resource management activities.

Currently, there is a clear existing gap between men's and women's access, use and participation in the management of water resources in the rural communities of Kenya

with major social and development implications. Thus, this study will strive to answer the following research questions;

- i. To what extent are the women involved in water management in Kaiti watershed?
- ii. What challenges do the women face in water management at Kaiti watershed?

1.2 Research Objectives

1.2.1 General Objectives

The overall goal of this research is to examine the nature of women's participation in Kaiti Watershed in Makueni County, Kenya.

1.2.2 Specific Objectives

The specific objectives are as follows:

- i. To examine the level of women's participation in water management in Kaiti.
- ii. To explore the challenges facing women in water management in Kaiti.

1.3 Justification of the Study

The research aims to deepen our understanding of the subject matter by finding out the challenges faced by the women as they try to participate in water management programmes in their localities. By finding out the challenges, it will be possible firstly, to identify strategies which can be used to empower the women through capacity building and other training programs to enable them to participate fully in the water projects to reflect their needs. Secondly, such an intensive study will be able to unearth information which the policy makers of Kenya could fall upon to take important decisions about the women's role in water management in the country. This implies that this study has practical policy making implications. Thirdly, this research will also contribute to knowledge in the existing literature on gender and water management relations in Kenya. Such information could constitute an important asset or resource in the efforts at rural development in Kenya. Lastly, there have been previous studies on women's role in water management in the country. The major studies focused on the Nile Basin and the other focused on Lake Victoria. Therefore,

this study will draw comparisons or differences in the findings as the study region is located in an Arid and Semi-Arid Lands.

1.4 Scope and Limitation of the Study

The scope of this study is on water management at the rural community level. It specifically examines women's role and participation in water management activities in Kaiti watershed. The research was conducted in Kaiti constituency, Machakos District of Kenya. The study area is categorized as arid semi-arid land (ASALs) where water is an emotive issue due to its scarcity and other additional developmental challenges. One of the main limitations of the study is that the findings cannot be generalized to other regions of Kenya.

1.5 Structure of the Report

In terms of the structure, this report is organized as follows: Chapter 1 is a brief background to the current debate on women's role in water management and critically reviews women's participation within community water projects. Chapter 2 provides the literature review with a brief introduction of watershed management. It also examines water management in Kenya and the relevant water policies and how they incorporate gender perspective. Chapter 3, covers the methodology, it presents a detailed description of the selected research design. That is, what is to be done and how it will be done. Chapter 4 presents the results and discussion. Chapter 5 offers recommendation to increase women's participation in water management. Chapter 6 marks the conclusion of the report.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter discloses the theoretical framework underpinning this study. It begins with a review of the literature relevant to the topic and ends with the theoretical position or assumption taken by the author on the topic. In keeping with the objectives of the study, the literature reviewed covers the following topics: watershed management, gender relations or division of labour and participatory democracy.

2.2 Watershed Management

A watershed is also known as a drainage basin or catchment area. Das and Saika (2012) define a watershed as a natural topographical and hydrological entity where surface water from the rain converges to a single point which is usually an outlet of the drainage. This outlet may be another water body such as river, lake, estuary, wetland or the ocean. In a closed watershed, the water converges to a single point within the basin e.g. a permanent river or a point where surface water is lost as underground water. From a hydrological point of view, watershed acts as a funnel by collecting all the water within the basin and channeling to a single point. Das and Saika (2012) point out that each drainage basin is topographically separated from adjacent basins by a geographic barrier such as a ridge, hills or mountains. Ecologically, watersheds provide critical habitat for many plant and animal species, as well as transport paths for sediment, nutrients and minerals (Das and Saika 2012).

A watershed is not only a hydrological unit but also socio-political entity which plays crucial role in determining food, social, and economical security and provides life support services to the local people. Tennyson (2005) adds that water, soil and vegetation are the most important elements of a watershed. If these resources are not conserved, controlled or used judiciously, the surrounding community is bound to be negatively affected. Therefore, it is important to manage a watershed properly using a participatory approach to achieve sustainable development.

Watershed management can be defined as an adaptive, comprehensive, integrated multi-resource management planning process that seeks to balance healthy ecological, economic, and socio-cultural conditions within a watershed (Tennyson, 2005). The watershed management is a holistic approach that involves the process of guiding and organizing land and other resource use on a watershed to provide the needed goods and services without adversely affecting the soil, water and other natural resources. This approach recognizes explicitly the interrelationships among land use, soil and water and the linkages between upstream and downstream areas. Due to the complexity of issues involved in this approach to watershed management, it requires a multi-disciplinary integral approach.

In addition, watershed management is based on the principle of sustainable livelihoods development which promotes people-centered development. However, a people centered approach does not ensure that a gender perspective is taken into account. The secret to its success lies in the fact that it focuses on what matters to people, understands the differences between groups of people and works with them in a way that is congruent with their livelihood strategies and social environments. It requires decisions on the appropriate management of common pool resources, upon which poor and marginal groups in the community often depend for their economic survival. Ashley and Carney (1999), point out that this model is participatory because the local people are acknowledged as key actors capable of identifying and addressing their own water management requirements. The aim has been to ensure the availability of drinking water, fuel wood and fodder and raise income and employment for farmers and landless laborers through improvement in agricultural production and productivity (Rao, 2000).

2.3 Gender Division of Labour

Alston (2006) defines gender as the social and cultural construct of roles, responsibilities, attributes, opportunities, privileges, status, access to and control over resources and benefits between women and men, boys and girls in a given society. Gender divisions are learned behavior and change over time as circumstances force communities to adapt to situations by changing gender roles. It is important to look at gender relations in any development project. In this context, gender relations take into

account the different roles that men and women assume within a household and community. These roles determine men's and women's own specific perspectives, knowledge and needs which in turn are linked to their assigned tasks within the household and the community Alston (2006). Both women and men have valuable knowledge, which should be incorporated in to watershed management programs in order to ensure their sustainability. However, men's perspective, knowledge and needs tend to be considered in watershed management programs whereas the women are overlooked.

2.4 Women's Participation in Watershed Management

Moser (1989) identifies women's participation in community work as a triple role along with the productive and reproductive roles. Women participation in the watershed management is usually on voluntary basis and it is unpaid work undertaken in their free time. Watershed management programs cannot be successful if gender relations are not considered therefore women should be equal and active partners in watershed management.

Women play a central role in the provision, management and safeguarding of water resources. Naturally, women fulfill important roles as managers of water resources. They have the knowledge, experience and skills of fetching, handling and use of water and sanitation resources (Rathgeber, 1996). However, no matter the level of responsibility, they have no opportunity to participate fully in the development process of this important resource for a variety of reasons. Thus it becomes quite a necessity to reverse this situation and bring women on the foreground and involve them in the consultation process and facilitate their full participation in water resources management.

Women and men have different roles and responsibilities in managing water resources and this result in different needs, priorities, and concerns (Ray, 2007). For instance, women are universally responsible for managing domestic water supplies with extensive health and social benefits accruing to the whole household. In addition, women manage water resources for productive uses alongside men (Ray, 2007). These productive uses vary from community to community. For example, women

may be responsible for subsistence agricultural production while men may be primarily engaged in commercial agricultural production creating difference in their respective needs for water resource management programmes (Mohan, 2001). This division of labour is overly simplistic as it obscures the many interconnections between the varied uses and users of water and leads to distortions in planning. Furthermore, the division of water use into household use and productive has brought about the assumption that women's strategic interest in water is concentrated primarily in having access to convenient, reliable and safe sources close to the homestead for their domestic responsibilities. In the majority of cases, this assumption is certainly invalid because women take part in various activities such as agricultural production which has direct economic benefits for themselves, their families and their respective communities as well (Rathgeber, 1996). Therefore, gender differences and inequalities and inequalities should be taken into account if water project interventions are to be effective in serving the needs of women as well as men and to lend weight to the long term goal of promoting gender equality.

Another facet of women's participation in watershed management is associated with the operation and maintenance of water sources. Women have shown initiative in taking charge of maintaining communal water facilities such as boreholes. For instance, women who were interviewed mentioned that they impose restrictions that ensure water is safe for consumption (Shah *et al*, 2009)

Women have also acquired invaluable knowledge, experience and skills of fetching, handling and use of water resources through their daily roles and responsibilities within the household. Meinzen and Zwarteveen (1998) acknowledged that women are knowledgeable on the availability, quality, reliability, and purity of water sources across the contexts of household and community. This, therefore, depicts the need for women's involvement in water management for an improved water supply. Furthermore, Madulu (1998) suggests that it is important to involve the women in assessing and solving their water problems since they are the ones who interact with their own environments and carry out activities that have an impact to the environment. In this context, women know what is in their best interest and therefore for any water project to be accepted and successful it has to welcome women aboard

Lastly, women are known for organizing, lobbying and protesting in order to effect change in water management so as to improve water management and development for their benefit and that of their families. This motivation and self-organization is a vital as women are increasingly becoming active agents of change and the dynamic promoters of social transformations that can alter the life of all members in society (Sen, 1999). However, the manner in which decisions and choices on water resources are handled can have great implications on women who use the technologies to get water and are the end users of water resources in the households (Rydhagen, 2002).

2.6 Access To and Control Over Water Resources

Water is a vital element for human development and healthy ecosystems. According to the UNDP Human Development Report 2006 gender relations play a key role in the access to and control over natural resources including water as well as the goods and services they provide. Although water is often a public good, women have much less access to water resources than men in most rural communities. This is because land and water rights are closely related and therefore its use is associated with permits, concessions, and other tenure systems (Sorenson *et al*, 2011). The distribution of this water and land is a major determinant of poverty.

The UNDP Report 2006 also emphasized that water collection is part of a gender division of labor that reinforces inequality within households and contributes to time-poverty. It is also pointed out that inadequate access to water has tremendous impacts on the human development prospects for a large section of the world's poor especially women. This is because women and girls in rural areas are traditionally tasked with the responsibility of collecting water, spending several hours a day on this chore. Their journey to find water is often through difficult terrain and unsafe environments exposing them to threats of violence, sexual abuse and other health hazards. Furthermore, the long hours spent collecting water reduces the amount of time spent on income generation and other productive endeavours.

Access to water resources is essential for domestic and productive purposes. The collection of water is one of the most times consuming of women's domestic tasks in rural areas and urban slums in many countries. Where access to water is limited, it is

invariably the women who have to use up their precious time and energy to fetch water from traditional sources and this increased their workload. Women's time burdens also increases if drought, floods, erratic rainfall and deforestation undermine the supply and quality of water resources. Quisumbing and Pandolfelli (2008) posits that improved access to water which ensures adequate quantities of water of good quality within reasonable distances can ease women's workloads in both their productive and domestic activities giving them more time to spend on income generating activities, political participation or leisure.

According to Meinzen and Zwartveen (1998) women face greater obstacles than men in accessing water in large scale for irrigation purposes or for livestock breeding. This is because access to irrigation systems is often contingent on land tenure consequently there is a general assumption that women's water needs are subsumed under those of men or equate them with domestic purposes. In addition, women are often excluded from user associations, or participate only marginally. Men, in particular those from more affluent households, tend to have more external ties, including political connections to irrigation officials, and to be more active at water user association meetings giving them greater influence over water management.

2.7 Gender Mainstreaming in Water Resource Management

The United Nations Economic and Social Council defines gender mainstreaming as the process of assessing the implications for women and men of any planned action, including legislation, policies and programmes in all areas and at all levels. Therefore, gender mainstreaming can be used as a strategy to ensure that women and men have equal representation in decision-making with regards to the use of water resources at all levels (GWA, 2006). This will increase access to and control over water resources through improved legislation and making programmes more efficient, effective and sustainable. Additionally, gender mainstreaming ensures that women and men have equal representation in decision making with regards to policy and policy instruments aiming at improving water management at all levels (SIDA, 1997b).

2.8 Water Management policies and programmes in Kenya

Kenya has an area of 583, 646 km² of which 80% of the country's landmass is categorized as arid and semi arid lands (ASALs). It is estimated that water resources occupy an area of 11,227 km² (GoK, 2010). These water resources include coastal and marine waters, groundwater and surface water resources such as lakes, rivers, wetlands etc. It is also worth pointing out that the country's surface water resources originate from localized catchment areas, namely: the Mau Complex, the Aberdares ranges, Cherengani hills, Mt Elgon and Mt Kenya. Collectively, they are referred to as "the water towers". Moreover, Kenya experiences seasonal rainfall with "long rains" starting in March through May whereas "short rains" are recorded between October and December (NEMA, 2003). According to World Bank, 2010, Kenya receives a renewable freshwater supply of an average 647cm³ per capita per year which is below the recommended threshold of 1000cm³. This implies that the country is water scarce and consequently water shortages are common occurrences'. Additionally, the country is plagued with chronic cycles of flooding and prolonged droughts that are continuously increasing in frequency and severity exacerbated, in part, by climate change.

The Kenyan economy is heavily dependent on natural resources especially water as it supports key sectors such as agriculture, industries, energy production, tourism and recreation. As a result, water demand escalates across the sectors generating competition for water resources (World Bank, 2004b). This has led to conflicts over water use. Additionally, Kenya's high population and increased urbanization has also contributed to increased water demand in terms of domestic supply (World Bank, 2004a). This presents a challenge as opposing interests, that is, productive use vs. domestic use of water, poses considerable negative social impacts to the poor and other marginalized communities without adequate representation in the allocation and decision making process. Water is a multi-dimensional resource that is critical to the achievement of both social and economic development and without the protection and conservation of water resources, ecosystem services and water security in the country is likely to worsen having a negative effect on the economic development of Kenya and the living conditions of its population

According to Katui (2002), there are a number of factors impeding the sustainable development of the water resources in Kenya. These include the ever increasing water demand which has intensified with the increase in population and concurrent growth of economic activities requiring water as an input such as in hydropower generation, irrigated agriculture, industries, tourism, and mining. Water scarcity is further compounded by the degradation of water sources and their catchments as well as the depletion of the existing natural storage capacity. It is worth pointing out that the degradation of water resources can alter gender responsibilities and relations in households and communities for example, water degradation increases women's time for labor-intensive household tasks, such as having to walk longer distances for the collection of water (Bennett, 2008). Finally, inadequate water infrastructure, such as dams and reservoirs, aggravates water insecurity even further.

Kenya shares over half its water resources such as rivers, lakes and aquifers with neighboring nations. This presents a challenge in managing the multiple trans-boundary water resources. It has implications for regional security and development, particularly as the nation faces increasing pressure to develop and manage its water resource. At the same time, it offers an opportunity for joint action and cooperation by strengthening regional water resources management policy and legal and institutional frameworks. When water resources become insufficient to support the livelihoods of the population, drastic measures result, such as men's or women's immigration. Men's immigration leaves women to assume men's traditional roles and responsibilities thus increasing their workload and at the same time, leaving the women without equal or direct access to financial, social, and technological resources (Lambrou and Laub, 2004). During severe drought, women migrate from rural areas to urban centers to secure extra income for their families (Alston, 2006). The intra-household reallocation of labor can lead to a decline in agricultural production and in turn result in food insecurity and an overall decrease in financial assets (Anderson, 1995).

Lastly, the National Water Development Report of 2006 points out that the country's water resources have been mismanaged through inappropriate and unsustainable water and land use policies, inequitable water allocation practices, and poor policy implementation. The report further states that poor governance has adverse impacts on the rural poor such as the farmers, pastoralists and fishermen. This requires urgent fair and transparent allocation of the water resources, community involvement in water resources decisions at local and catchment levels, adequate funding for enforcement of allocation decisions and the control of pollution, the storage of sufficient water to tide people over during droughts, the improvement of water catchments to control floods, and control of discharges to control pollution.

2.9 Key Legislation and Policies

The government of Kenya has committed itself towards sound management and sustainable utilization of water and environment resources for the present and future generation. This has called for reforms in the water sector. The government has revised its laws and developed policies that are consistent with regional and international arrangements related to water resources management. For this study, two key documents are chosen for analysis, that is, the National Water Policy (2012) and the Water Act (2002)

2.9.1 The Water Act (2002)

The Water Act was enacted in 2002 as the legal framework under which water management was separated from water supply delivery services. The Act has introduced comprehensive and radical changes to the legal framework for the management of the water sector in Kenya. The overall goal of the Act is to contribute to poverty reduction in the country particularly in the rural areas and urban poor areas through the establishment and development of a well managed and sustainable water sector. The Act is structured around the following four themes: the separation of the management of water resources from the provision of water services; the separation of policy making from day to day administration and regulation; decentralization of functions to lower level state organs; and the involvement of non-government entities in the management of water resources and in the provision of water services (Rampa, 2011)

The Act also delegated responsibilities for water resources management and water services provision to local level functions. This has, notably, been the principal mechanism for improving accountability and transparency in the water and sanitation sector. Another key element is that the Act addressed financial aspects of the water sector and established the Water Services Trust Fund (WSTF) to channel government resources and donor funds for water supply to disadvantaged communities.

The Act introduced new government water institutions with clearly defined roles and responsibilities. It stipulated that overall responsibility for water management, including policy formulation, coordination and resource mobilization, lies with the Ministry of Water and Irrigation (MWI). The Water Services Regulatory Board (WASREB) was also set up to regulate water and sewerage services, including licensing, quality assurance, and issuance of guidelines for rates, fees and handling service complaints. The Act also provided for establishment of a further eight Water Service Boards (WSB) to be responsible for the efficient and economical provision of water and sewerage services within their area of jurisdiction. However, the direct provision of water services is undertaken by Water Service Providers (WSPs) to whom the responsibility is delegated by the WSBs. The WSPs can be community groups, non-governmental organizations, or autonomous entities established by local authorities.

The Water Resources Management Authority (WRMA) was created as a semi autonomous institution responsible for managing, protecting and conserving water resources. The Authority is also in charge of developing principles, guidelines and procedures for the allocation of water resources. In order for WRMA to undertake its stipulated responsibilities, the Act recognizes the importance of public participation and provides for decentralized and stakeholder involvement by creating the Catchment Area Advisory Committees (CAAC) to support the WRMAs at the regional level. At the grassroots level, stakeholder engagement will be through Water Resource User Associations (WRUAs).

2.9.2 The National Water Policy (2012)

The main objective of the National Water Policy (NWP, 2012) is to develop a comprehensive framework for sustainable development and management of the country's water resources. The policy aims at ensuring that beneficiaries participate fully in planning, construction, operation, maintenance and management of community based domestic water supply schemes. Additionally, this policy seeks to address cross-sectoral interests in water, watershed management and integrated and participatory approaches for water resources planning, development and management. Also, the policy lays a foundation for sustainable development and management of water resources in the changing roles of the central government from service provider to that of coordination, policy and guidelines formulation, and regulation.

2.10 Gender and Water Policies in Kenya

Gender can influence water policies in two fundamental ways: First, there are policies relate to the sustainable management of water resources and commonly rely on a broad base of stakeholder participation and consultation (IEA, 2007). Therefore, the diverse roles of men and women in the control and management of water resources should be viewed as separate entities consequently match various policy goals and objectives accordingly. Second, the development of water resource management policies can have differentiated impacts on women and men (IEA, 2007). As such, gender sensitive water policies should be clear on ways to protect the rights of both men and women in respect to the manner water resources are used and allocated. Thus, the incorporation of a gender perspective will aid in addressing issues of water accessibility as well as protecting the livelihoods of the men and women who depend on water resources.

The Water Act (2002) and the National Water Policy (2009) have two common principles of interest to this study. That is, a strong emphasis on public participation as well as the recognition of gender issues in water management. However, these policies are presented as gender- neutral. The policies fail to specifically mention the special attention that needs to be paid to gender and its relations with the water policies. The water policies ought to define women's roles, needs, demands and emphasize women's invaluable knowledge in order to improve female participation in

the water management programmes. This implies developing explicit gender-based objectives, targets and measures within the general policies. Local gender contexts ought to be considered when developing the water development policies since each situation is unique. Currently, this is not the case. Thus, this study seeks to indicate how gender issues could be incorporated into the current water development policies in Kenya to promote democracy and integrated development (Gender and Water Alliance, 2003; Ray, I. 2007). In view of the above, the theoretical framework for this study will be as follows:

2.11 Theoretical Framework- Participation

From the above, it is clear that a model based on participatory democracy is necessary for making decisions on water resource management projects. This study is therefore guided by the framework developed by Sherry Arnstein in 1969 which is commonly referred to ‘‘A ladder of Citizen Participation’’. The rationale behind this participatory approach to development projects implementation is to encourage the involvement of all stakeholders so as to ensure that all the various perspectives and priorities of local people are coordinated in the implementation and monitoring processes (Arnstein, 1969).

Arnstein (1969) represents this participatory process in the form of a ladder made up of eight rungs with each of them corresponding to the extent of power that the citizens have to influence social, political and economical outcomes. These steps are about manipulation, therapy, informing, consultation, placation, partnership, delegated power, and citizen control in projects management. Each rung corresponds to the extent of citizen’s power in determining the end product.

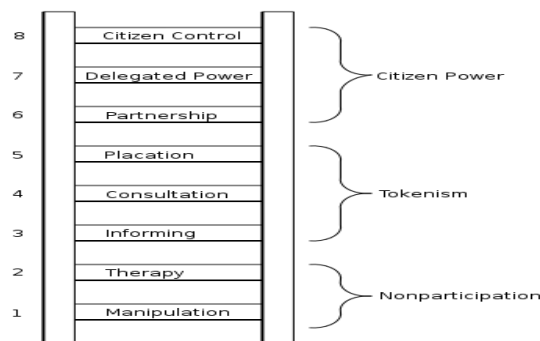


Figure 1: Diagram of Arnstein ladder of participation (Source: Arnstein, 1969)

The top of the ladder or model symbolizes ‘genuine’ or optimal form of participation in which people have control over their resources and the power to substantially influence or initiate societal processes reflecting their own interests. Arnstein argues that ‘genuine’ participation only starts taking place at the level of ‘partnership’ which is an outcome of a negotiation process between “powerless” and “power holders” that entails the re-distribution of power and an agreement among the partners to share planning and decision-making responsibilities. The next two rungs, “delegated power” and “citizen control,” describe the move from having genuine part in the decision-making process in a form of partnership to dominating that process, and eventually holding full-managerial power.

“Tokenism” describes a process of information sharing, in which the powerful inform the powerless and the latter are able to inform the powerful through consultation. However, the lack of power redistribution leaves the powerless without any ability to ensure that their views and aspirations have any influence on the process and its outcome.

The bottom of the ladder represents the lowest rank of power. It can be interpreted as “non-participation.” At this stage, the model indicates that the “power holders” remain in total control and determine the outcomes of a given process, while at the same time maintaining an appearance of legitimacy and moral authority by referring to the participation of the people in the process. This is achieved through ‘manipulation’ which makes use of committees, advisory groups, and councils which have no legitimate function or power to pursue predetermined decisions. Indeed, manipulation attempts to give the so-called “participants” the illusion that they have a say in the decision-making process by making reference to attendance in committees or collecting signature lists.

2.12 Relevance of the Framework to the Study

Arnstein’s (1969) model is central as a conceptual framework for this study. Participation has become popular in development discourse and practice, particularly in the management of water resources. Greater involvement of people in decision making, implementation and evaluation of water management practices is expected to

increase efficiency and equity in water projects. However, Cleaver and Elson (1995) have pointed out that community water management schemes may not be equitable and lead to further marginalization of the poor, especially women. This is because water management projects generally view communities as homogeneous entities and overlook complex realities that influence access to and control over water resources. (Adams *et al* 1997) and Agarwal (1997) propose that women's and men's involvement in community projects have to be assessed in terms of their decision making powers and the benefits accrued to them in various forms.

This framework of Arnstein (1969) is used in this project to assess how participation in the watershed management projects of Kaiti is conceptualized through a gendered lens. This model of Arnstein is conceptualized in this study to place women as the key stakeholders among the list of actors. The model examines the activities around the water management projects in order to establish: how the women participate in what capacity, to what effect and with what means. It equally finds out how the local women use the water resources and for what purposes. The model is thus used to analyze how the contributions to the development and management of the water resources are divided between the local women and men. It further assists in identifying the beneficiaries of the water resources development as to who carries the costs of the failures of the projects or programmes.

Finally, the framework is used to assess the water resources in terms of control and ownership, that is, who owns what? And who has the power to decide whether and how the water resource is used? These questions help to enhance our understanding as to how and why the local women and men participate in the water management projects. The questions are thus about power relations. That is, how the women in the Kaiti have access to power to enable them to fully utilize the water resources for their own needs.

The three objectives of this study are thus captured in the above model illustrating how water management issues relating to manipulation, consultation, partnerships and project control could be addressed in favour of the women households in the villages of Kaiti region. The model is also implicated in the methods that were used to collect

and analyze information to relate to the objectives of this study. It is to this that attention is now turned.

2.13 Operational Definition of Key Terms

Common Pool Resources

A common pool resource is a resource that benefits a group of people but which provides diminished benefits to everyone if each individual pursues his or her own self interest. The value of a common-pool resource can be reduced through overuse because the supply of the resource is not unlimited, and using more than can be replenished can result in scarcity.

Community-Based Water Resource Management

A strategy that enables local water users to be involved in and responsible for the management of their water resources

Participation

Participation is a rich concept that varies with its application and definition. In the development context, participation is a process through which all members of a community or organization are involved in and have influence on decisions related to development activities that will affect them (Pretty, 1995). This implies that development projects will address those community or group needs on which members have chosen to focus, and that all phases of the development process will be characterized by active involvement of community or organization members.

Water User

This refers to any individual or group of people or sector that requires an allocation of water for a specified purpose, whether consumptive or non-consumptive, for domestic or productive needs.

Water Resources User Associations (WRUAs)

A WRUA can be defined as an association of water users, riparian land owners, or other stakeholders who have formally and voluntarily associated for the purposes of cooperatively sharing, managing and conserving a common water resource.

Watershed

A watershed is also known as a drainage basin or catchment area. It can be defined as an area in which all flowing water drains into a common outlet. People and livestock are the integral part of watershed and their activities affect the productive status of watersheds and vice versa. From the hydrological point of view, the different phases of hydrological cycle in a watershed are dependent on the various natural features and human activities. Therefore, a watershed is not simply a hydrological unit but also socio-political entity which plays crucial role in determining food, social, and economical security and provides life support services to the local people. Ecologically, watersheds provide critical habitat for many plant and animal species, as well as transport paths for sediment, nutrients and minerals (Tennyson, 2005).

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter describes the methods used to conduct this research. A descriptive cross-sectional design was chosen. The sampling procedure is described fully. Finally, this section indicates how information was collected and analyzed to relate to the objectives of the study.

3.1 Research Site

This study was undertaken early this year in Kaiti watershed basin which is a sub-catchment of Athi River. It is located between 10° 38' South and 10° 51' South; and 37° 14' East and 37° 41' East (Muriuki et al., 2005). The watershed covers an area of 660km² and spans from Kilungu, Kee and Wote; it has an estimated population of 120,116 that is unevenly distributed whereas the population density is reported to be 110 persons/ km². Furthermore, Kaiti is inhabited by the Akamba who are considered as a marginalized community in Kenya that has relatively strong norms regarding the distinct roles and responsibilities of women and men. In Akamba culture, the family plays a central role in the community. The man, who is the head of the family, is usually engaged in an economic activity popular among the community like trading, hunting, cattle-herding or farming (Kariuki, 2013). The woman works on the land that she is given when she joins her husband's household. The piece of land allocated to the woman is either acquired by inheritance or owned jointly by multiple families (Kariuki, 2013). A young wife usually shares the plot of the senior wife and is not allotted her own until she has borne children. Only then will she be shown her first plot and the direction in which she is to work, for each new garden must be above the site of the last in a line parallel with those of her co-wives (Kariuki, 2013).

The watershed topography is characterized by mountainous terrain composed of *Mbooni hills* and *Kilungi hills* reaching an altitude of 1900 meters above sea level (Muriuki *et al.*, 2005). There are also hilltop forests that descend into lower elevation and stream valleys. The watershed is also bordered by agricultural land on the low lying area. In addition, Athi River serves as the sole perennial river in the watershed but there are several other tributaries that drain the entire water catchment. Athi River

measures 591 km in length, 44.76m in width and 0.29m in depth with an average flow rate of $6.76\text{m}^2/\text{sec}$ (Muriuki *et al.*, 2005). In addition, there are several other tributaries that drain the entire water catchment namely *Kaiti*, *Kalawa*, *Kiangini*, *Mbanya*, *Thange* and *Uani* rivers among others. The general water flow is from West to East and has sources from Mbooni Hills in the North while other tributaries originate from Kikima and Kiu hills to the East. The rivers and their tributaries do not only influence surface water sources in the area but also groundwater recharge capacity.

Kaiti watershed is characterized by extreme rainfall variability. Typically, the wet seasons are interspersed with dry seasons with variation in the onset of rainy season, that is, the long rains (March to May) and short rains (October to December). The hilly parts of Kaiti receive 800mm-1200mm of rainfall per annum whereas the low lying area receives less than 500mm of rainfall per annum. In addition, the mean temperature ranges from 20°C - 24°C but the ongoing drought has recorded high temperature of 32°C (Gichuki, 2000).

This harsh climatic conditions support scattered bushy vegetation which limits livelihoods activities to rain-fed agriculture and livestock rearing for subsistence. The major crop grown is maize, which is the staple food in the county. Other crops grown in order of importance are cow peas, beans, pigeon peas and green grams. In addition, the degradation of the quality of soil has tremendous impact on the food security for the region's population who rely heavily on rain-fed agriculture and pastoral activities.

Water scarcity is major concern because of unpredicted rainfall, prolonged drought and poor water quality. In addition, the effects of climate change have increasingly exacerbated water stress in the region since it is classified as ASALs and this further straining their natural adaptive capacities and constraining human development. Communities and ecosystems base their existence on their capacity to adapt to climatic effects. Therefore, CBWM projects aim to help communities cope and adapt to the changing environment. In terms of availability and access to water, the most

common sources of water during dry seasons are seasonal rivers, wells, boreholes and sand dams whereas rain harvesting is quite common during the wet season.

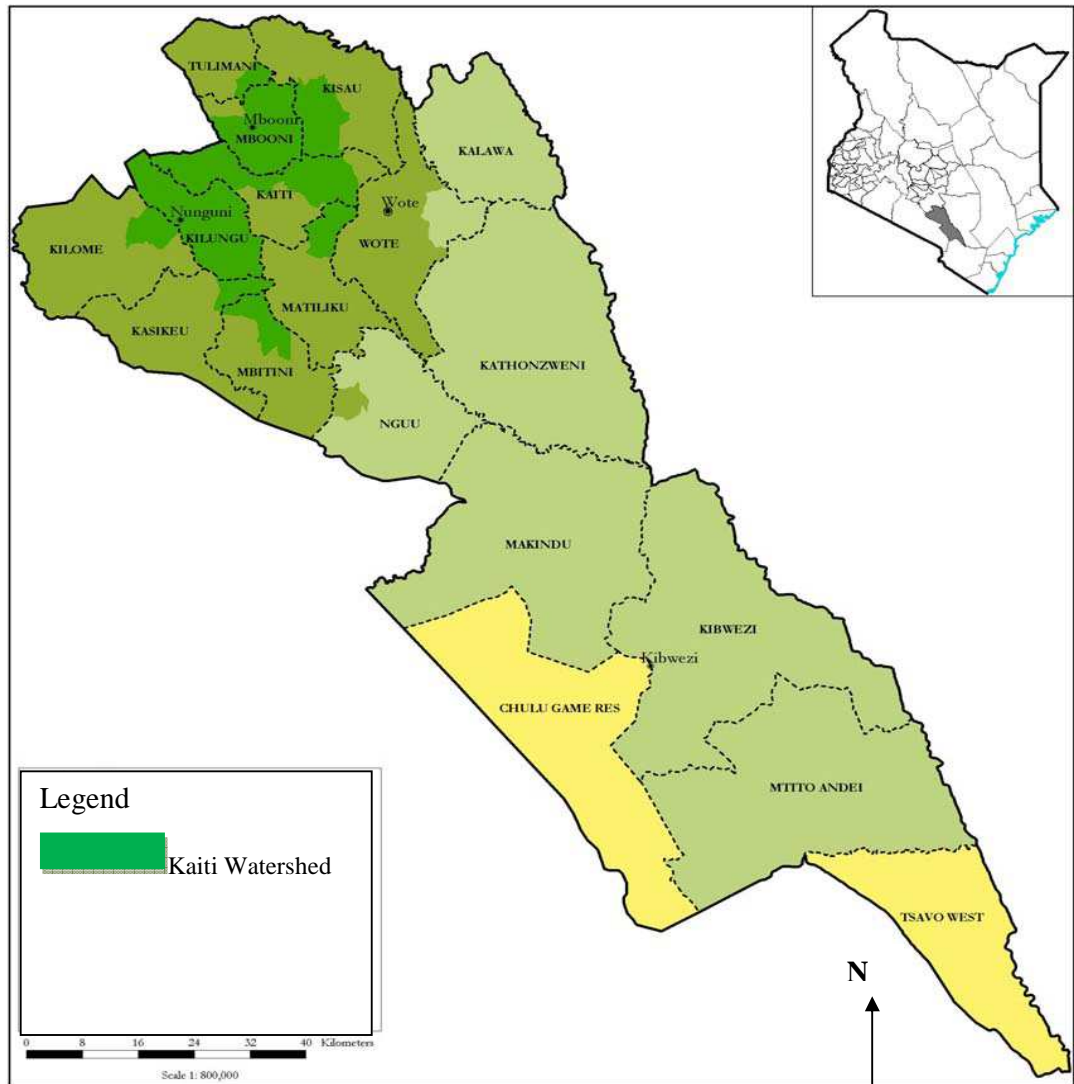


Figure 2: A map showing the location of Kaiti watershed in Makueni County

(Source :www.fao.org)

3.2 Research Design

This study employed a descriptive cross-sectional design. A cross-sectional study is important for this study because the information gathered in this type of research is often a reflection of what is going on at a particular time. This type of study thus provides up-to-date information which can be compared with future similar snapshot studies to monitor the changes taking place in the water management sector of the area (Jick, 1983).

3.3 Study Population

The study population constitutes all the women who are registered members of the local Water Resources Users Association (WRUA) in Kaiti.

3.4 Sample Population

The sample population was drawn from the study population whereby ten women were selected for this study through purposive sampling which is a non-probability method.

3.5 Sampling Procedure

The sampling procedure used for purposes of primary data in this study was purposive sampling which is a type of non-probability sampling technique. The researcher used her judgment to select the participants to be included in the study on the basis of the willingness of the women to participate in the research. The people of Kaiti indicated their willingness to participate in the research was a very important factor consequently selecting the respondents on the basis of the random sampling method would not necessarily have helped. Thus, those registered members of the WRUA in Kaiti, who had time and were ready to provide all the necessary information to the researcher, were those who were approached to provide information for this study. Those women, who proved to be rather too busy with their daily chores during the period the researcher wanted to collect information, were therefore not included in this study.

3.6 Data Collection Methods

Given the nature and extent of the study, fieldwork methods were used to collect primary data that was relevant to the study objectives. The interview method was used to collect the primary data from the respondents. They are described in this study as the key informants.

3.6.1 Primary Data

Key Informant Interviews

Key informant interviews are qualitative in-depth interviews with people who are knowledgeable about what is going on in the community (Leedy and Orsmond, 2005). The purpose of key informant interviews is to collect information from local knowledgeable people in Kaiti such as community leaders, professionals, and local residents who have firsthand knowledge about the topic under discussion. These stakeholders, with their particular knowledge and understanding, provided useful insights on the nature of problems and also gave recommendations for the problems in the local water management projects.

In this study, the following key informants were identified: the chairman of Water Resources Users Association (WRUA), two field officers, one male and one female, from the Water Resources Management Authority (WRMA) and the chief who is an ex-officio member of the WRUA. The Key Informant Interviews were conducted after a WRUA meeting which was held at the local community hall. The researcher acted as the sole interviewer and made use of the interview guide provided in the appendix. The entire interview was recorded on a tape recorder and reviewed thereafter to fill in any missing details.

Focus Group Discussion

FGD is an instrument used in in-depth qualitative research to provide a platform for stakeholders to discuss and comment on, from their personal experiences, the topic that is the subject of the research (Babbie, 1993; Bryman, 2001; Creswell, 2003). The purpose of the interviews was to offer the stakeholders, in particular, the women household heads, the opportunity to express their opinions on the water management projects with the aim of incorporating their recommendations in the future decision making processes as stakeholders. This participatory method of data collection promoted an understanding of the differences in the perspectives as well as the strategies the women as household heads.

In this study, only one FGD was carried out. It consisted of ten women that were selected to participate in the 45 minute interview. Once again, the researcher served

as the sole moderator. The moderator commenced the FGD by introducing the research study and its purpose. The FGD was recorded and thereafter transcribed.

3.6.2 Secondary Data

Secondary data collection is a crucial component of any research study. Secondary data sources are usually used to enhance the accuracy, validity, and reliability of research findings. In this study, the secondary data collection exercise was a lengthy process that started with an extensive literature review of published books, journals, and other reports. The criteria for selecting the documents was, (a) peer reviewed papers published in international journals with priority given to recent papers from the year 2000 and (b) book publications on women's involvement or participation in water management projects.

3.7 Data Processing and Analysis

This study adopted a thematic analysis technique which is a set of procedures for identifying, analysing, and reporting patterns (themes) within data. A theme represents a category of patterned response or meaning from the data that is related to the research objectives.

3.8 Ethical Considerations

The first step involved obtaining a research permit from National Commission for Science, Technology and Innovation. Thereafter, the researcher approached the target population and explained the purpose of the study emphasizing that the women respondents had a right to refuse to participate in the study. It was made clear that their participation was voluntary and those that chose to take part would influence the nature of the study findings through their answers. It was also made clear to the women that the information they were providing would be handled with privacy and confidentiality. The researcher also had an ethical duty to ensure that the study would not cause any harm to the participants. Therefore, the researcher maintained utmost respect for the women's cultural beliefs and practices and also showed sensitivity when probing questions that could easily offend them. In addition, this study did not exploit the situation of the women for monetary gains or otherwise.

3.9 Conclusion

The purpose of this chapter was to describe the research methodology of this study, explain the sample selection, describe the procedure used in collecting the data, and provide an explanation of the procedures used to analyze the data.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the results derived from the key informant interviews, and the document analysis. The results were analyzed and discussed in relation to the three study objectives.

4.1 The Water Resources User Associations (WRUAs)

In Kenya, watersheds are managed through a public structure involving the Water Resources Management Authority (WRMA), which builds the capacity of land owners organized in Water Resources Users' Associations (WRUA) to develop and implement Catchment Management Plans (CMPs). This structure, mainly financed by the Water Services Trust Fund (WSTF), has achieved community organization and restoration of publically owned land but its potential to reverse land degradation trends on privately owned land is still very low.

One important finding of this study relates to the WRUAs. These were found to represent organizations that are self governed in the villages and in which membership is open to all individual water users who benefit from particular water resources. The WRUAs members democratically elect a management committee with the guidance of social officers in conjunction with WRMA officials. Additionally, it was found that a WRUA is organized into three sub-committees namely; finance, procurement and monitoring to promote good governance of the local association activities. In the villages, the management committees were found to serve as both finance and procurement committees. It was observed that all technical activities in Kaiti are coordinated by the chairman and the vice chairman who are both men. In addition, it was noted that the treasurer post is held by men with backgrounds in accounting. The treasurer is responsible for developing budgets and writing financial proposals. The women's contributions were largely confined to secretarial and administrative activities such as writing minutes at meetings and keeping asset registers. Women's participation in WRUAs is not only important for addressing women's water practical and strategic needs but also for ensuring their stake in water resource ownership.

4.2 Women's Role and Responsibilities in Water Management Projects

Rico (1998) and Agarwal (1997) propose that water management projects should address gender concerns right from the beginning of the project cycle: from planning, further on to design, implementation, and monitoring and evaluation. The participation of women in watershed activities in Kaiti is often guided by the operational guidelines of the project. Some of the details are reported below:

The first stage of any water project entails community consultation meetings. The purpose of the consultation meetings is to provide a platform to officially inform residents about the proposed intervention; solicit their views concerning proposed measures to ensure sustainability of the projects; and educate residents about the essence of community ownership and commitment. The objective of problem identification in water management issues is to identify the felt needs and priorities of the population and the extent to which they constitute problems for local communities. The women who were interviewed confirmed that they are rarely consulted in project identification and plan formulation which are seen as responsibilities of men. The women argued that the types of projects which need to be undertaken in a community need to be based on the recommendations of people who live most of their lives in the areas concerned. The permanent residents were observed to know what projects are essential, manageable and sustainable.

From the study, it emerged that the women of the area proved to be most qualified to point out or identify the important water projects needed in the various communities. The women displayed a high sense of knowledge in all aspects of the living conditions of the people including what is conventionally termed "water engineering" topics which are traditionally associated with formally trained engineers. Contrary to this western concept of engineering, the women interviewed were very knowledgeable in the local climatic, hydrological and drainage conditions.

From the study, it was noted in the study that the technicians carrying out the feasibility study and planning, designing, and implementing water projects were men. These technicians contacted men to participate in various project activities. As a

result, only the local men were involved in the important phases of the project. As is the case with project identification, the women mentioned that they are rarely informed about meetings in the area where decisions on water project planning and implementation are discussed. They pointed out that such meetings are announced in networks comprising only of men who draw up the plans with dates of implementation which are never discussed with the women. The reason is that such projects are considered as the territories of men only. Thus, any issues of tendering of contracts in the water projects only circulate among the male population of Kaiti.

It is generally acknowledged that women are particularly active in financial aspects of projects such as fundraising, fund keeping and supervision of local boards, because of their perceived willingness and dependability in these roles (Buor, 2004). However, it was found that women in Kaiti are rarely entrusted to exercise decision making when it comes to the expenditure of the funds collected for the water projects.

4.3 Women's Participation in Water Management

Women's participation in local water governance is guaranteed in the constitution of Kenya through affirmative action that ensures 1/3 representation of either gender in all administrative levels. This is aimed at increasing the number of women in leadership and decision making. The study, however, reveals that men handle most of the decision-making and managerial responsibilities in the water sector

Where women are involved in water committees or other management bodies, their representation was seen to be tokenistic with a passive role and few real responsibilities. It was found that women's participation in project water projects in Kaiti is largely centered on their provision of basic information for the men to take strategic decisions. Such strategic decisions were in terms of choosing new technologies and manpower where it was felt that the previous models were inappropriate. In terms of monitoring the impacts of the projects, it was noted that the women would report cases of broken down equipment, water spillage, poor workmanship and other problems to the men who as the project managers would then take the strategic decisions for addressing the problems.

4.4 Challenges to Women's Participation in Water Management

As was indicated in the objectives of this research, one major task was to disclose the challenges facing women's role and participation in the water management project of the Kaiti watershed area. This section of the study is devoted to a discussion of the challenges. They are summarized into three subheadings.

4.4.1 Socio-Cultural Challenges

The research results showed that the traditional norms and practices in the area also constitute a major obstacle for the local women to enter the public arena and specifically participate in the water management projects. These traditional norms and practices were found to originate in deeply rooted socially constructed roles that heavily favour men thus creating a strongly male-dominated society. The traditional notions of participation are worked out through patronage systems and kinship structures which put the women far down on the class hierarchy. It is within such unequal set-ups that the women were found to be socially and culturally constrained from participating in the water projects.

Up till today the power differentials within the community generally dictate who participates in various meetings. For instance, it was observed that men, who are commonly community leaders, are invited to participate in consultation meetings to discuss the design and formulation of new water projects. Therefore, men were found to have the exclusive power to make decisions on behalf of the entire community without any input from women or the youth both of whom however represent particular water interests. Furthermore, participation in public project meetings is a spatialised process taking place in specific places in the villages which are gendered. As a result, it becomes difficult for the women to attend meetings held in bazaars or market places since these are gendered spaces for the men in the area. For many women therefore, it is the case that the location and accessibility of meeting venues is a central issue determining whether or not it genuinely enables them to take part in public meetings.

In addition, it needs to be mentioned that it is deemed socially inappropriate for women to actively participate in public spaces in Kaiti. It also needs to be mentioned that it is also considered unfeminine behavior for women to challenge men's decisions at public forums. Consequently, women are discouraged from speaking in public forum.

In addition to this, there was the finding that the local women do carry heavy workloads. They are therefore unable to attend project meetings organized during the day when they are busy with household work, farming activities or childcare. Thus, the women explained that they tend to find participation in public meetings higher opportunity costs than it is beneficial to them. Another cultural impediment to the participation of the women in public meetings was that the local men tend to have some sort of entrenched territorial claims over the women consequently curtailing the women's freedom and mobility. As a result, the women rarely get the opportunity to attend project meetings and training beyond their own confined spaces, that is, the homesteads. Thus, due to inadequate transportation, in addition to their heavy work burden, the women were found to be limited in their ability to attend meetings where essential water activities are discussed.

4.4.2 Economic Challenges

It emerged from this study that the poverty of the women households also constitutes a constraint on their participation in community projects. Economic power, in terms of income levels, was observed to influence the weight the communities put on the suggestions coming from people regarding public projects. Since the bulk of the women were found to operate in the subsistence sector, they were generally low income earners. They were therefore not considered as the bread winners of their families. Because of this situation the women were found to display a dependency syndrome on their husbands for incomes and also continue to see themselves as passive recipients of development assistance from Community Based Organizations (CBOs), Faith Based Organizations (FBOs), Non-Governmental Organizations (NGOs) and Government grants. This low economic status accorded to the women of Kaiti was partly to blame for the inability to play a central role in the water projects.

4.4.3 Women's Confidence

It was evident from the research that there was a combination of factors influencing the extent to which women felt motivated to participate in water management. These factors were: limited skills and experience and lack of confidence. It was also found that general women's lack of education presents a formidable barrier to their participation in the water management projects. The research findings indicated a relatively higher women illiteracy levels which apparently prevented them from occupying important leadership positions in the communities in comparison to their male counterparts. The study also revealed that the illiterate women of the area generally lacked confidence in their own abilities because they are unable to read and write. In addition, the women's lack of confidence was observed during the WRUAs meeting where all the men sat at the front benches whereas the women were seated at the back of the hall

From the above, it became clear that a number of factors have intermingled over the decades to position the women of Kaiti in a relatively low status in the water projects. These factors are however human-made and can therefore be changed. If this study ends without making some important recommendations for transforming the current state of affairs, it would imply that the author is merely interested in reporting research findings without indicating ways of changing things for the better. One important objective of this study is to disclose the recommendations of the author. It is to these recommendations that attention is now turned.

4.5 Conclusion

This chapter has dealt with women's actual roles in water management projects and thereafter commented on their level of participation. The challenges facing women's participation in water management was also addressed.

CHAPTER FIVE: RECOMMENDATIONS

5.0 Introduction

This chapter is devoted to the third objective of this study. It discloses a number of recommendations based on the findings reported from the previous chapter. From the findings reported from chapter 4, there are a number of strategies that can be employed to enhance the women participation in the management of water resources in Kaiti. The following measures are recommended to enhance active participation of women in community meetings.

5.1 Time and Venue

The venue where the training is held is very important. Usually, the closer the training is to where the women live, the easier it is for them to participate. When the training has to be held outside the area, special arrangements will be needed to make it possible for women to attend, e.g. arrangements for transport and for women to travel and attend as a group in areas where their mobility is restricted, contact of male relatives for permission (e.g. by influential village leader) and arrangements for child care, either at the training venue or with the other women at home. In addition, duration and timing of the training are other important aspects. Women cannot easily stay away for longer periods, so a short training, allowing women to be home for chores in the early morning and at the end of the day, is often best. In agricultural societies, the off-season will be the best time for training.

5.2 Size and Setting

It is highly advisable to organize small village-based meetings and bring the trainer, materials and equipment to the village, or use the village equipment. This can be done either for a single village or for a group of neighbouring villages. Secondly, the seating arrangements should not be left to chance as the women tend to end up sitting at the back or even outside. Rather, the meeting should be arranged in such a way that men sit on one side and women on the other. Alternatively, the seating arrangement should be set in the form of a circle or square. In this way, women will be able to hear what is said which makes it somewhat easier to participate than when scattered over the audience.

5.3 Information Sharing

A major step towards getting the support of the women for their participation is to give them information about projects and discuss with them the reasons and means for women to take part in local decisions and management. Wijk (1985), points out that project often assume that information given to the men will reach the women. In practice, this is not necessarily the case, as men rarely mix public with private matters therefore will not discuss a water project at home. This reflects need for gender-appropriate channels of information so as to make information accessible to women. It is thus important to involve an intermediary who by virtue of their training and position is acceptable as intermediary to both sexes and has got sufficient respect, status, commitment and confidence to take on this role in the community. There should be an emphasis gender awareness programmes local levels with the aim of sensitizing both men and boys about discrimination against women so that they can understand the need to gender inequality and promote women empowerment not only in their families but also in their communities. This requires a consultative process whereby all stakeholders engage in a systematic dialogue with the women to better understand their needs and concerns.

The organizer should provide sufficient relevant information about the venue and purpose of the meeting to ensure it reaches women promptly and in good time. For instance, provide detailed information such as the benefits of the project, the costs of implementation, the potential for financing and implementation, and possible risk factors to emphasize the importance of the meeting and encourage women to attend in addition, The organizer should allow sufficient time for women to read and discuss the information provided and listen to the views held by individuals as well as to issues and problems. Lack of transparency often fosters mistrust and misunderstanding between project authorities and local communities.

5.4 Socio-Cultural Transformation

As discussed in chapter 4, traditional practices, cultural beliefs and religious attitudes of both men and women are key constraints to women's participation in the water management projects of the Kaiti watershed region. Therefore, there is need to

promote socio-cultural transformations in order to promote women's participation in water projects in the area. In this context, there is a need to sensitize men and traditional structures on the need for inclusion of all members of the community as well as changing their perceptions regarding women's capabilities. Secondly, there is a need to focus on gender awareness so as develop a gender consciousness in the everyday lives of the people and instill commitment towards increasing female participation in the water management programmes.

5.6 Conclusion

Ideally, the women of rural Kenya need support in many different areas to enable them to participate in water provision, including literacy, income generation and awareness and confidence building. The water projects thus need to stretch out to similar rural communities in Kenya. Among the initiatives, the education and training programmes need to enhance women's capacities, knowledge and skills in working with new technologies thereby increasing women's entry into traditionally male-dominated professional fields in Kenya.

CONCLUSION

This study has devoted attention to the important topic of the gender perspective of rural development in Kenya. It has specifically focused attention on watershed development projects and the role of women in the implementation of such projects. The study has shown that the Government of Kenya is committed towards sound management and sustainable utilization of water resources for the present and future generation. In order to accomplish this goal, this study has demonstrated that it is important to understand and address the unequal power relations between men and women in the communities concerned. In addition, the study has shown that it is equally as important to look into the different roles, responsibilities, capabilities and needs of women, men, girls, boys and other vulnerable groups in the development process so as to ensure equal representation.

In most rural communities, women and girls are the major water collectors, users and managers within the household. They are also the main advocates of community water management activities. Therefore, women bear the impact of inadequate, deficient or inappropriate water services. Men however still dominate the arena of planning and decision making regarding water development in rural Kenya. This study has provided evidence to indicate that women's views are often under-represented, implying that their practical and strategic needs are not addressed in Kaiti's water resource development programmes. The study has shown that inadequate involvement of the women has hindered the success of rural development programmes and projects otherwise aimed at addressing sustainability in water resource management. Community participation and management approaches have failed to address the issue of women's involvement largely because of the male dominated systems. This not only affects the women in the Kaiti locality, but also has an impact on the well being of the bigger population of Kenya as a whole.

The study has illustrated the importance of new and improved legislation in the country. It is my opinion that the introduction of incentives will go a long way in developing the women's willingness to participate in the water supply management and decision making. These incentives must strongly outweigh the additional work

burden that participation brings as many women find this unmanageable. Furthermore, incentives must clearly be established as a framework for continued women participation in the rural development projects. It is in this context that this study recommends more government intervention in all aspects of the gender and rural dimensions in the development of Kenya. Specific areas that require further attention include human resource and capacity building programmes for the women in water management projects.

This does not only imply capacity building regarding only skills, but also awareness creation about rural women's roles and rights within Kenyan society. To support women's participation in water management and the public sphere in the wider society, women's confidence and status must be strengthened. This implies encouraging women to step outside their traditional roles and overcoming their fears to make their voices heard in public. Since the traditional rules, norms and practices greatly limit rural women's participation in decision making processes, there is a need to increase a dialogue with all concerned stakeholders to raise awareness about women's situation and thus initiate platforms for change. Women constitute half the population of Kenya. This vital human resource needs to be empowered in all aspects of the development of the country. This study from the Kaiti area has provided a picture of the nature of the development challenge which exists in the water resource sector in a small part of the country.

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APPENDICES

Appendix 1: Interview Guide

1. How are men and women using the resource and for what purpose(s)?
2. How are contributions (labour, time, payments, and contributions in kind) to the development and management of water resources divided between men and women?
3. Who makes the decisions and controls their implementation, at the various levels?
4. Who gets the project or programme resources, such as jobs and training?
5. To whom do the benefits and the control over these benefits, such as status, water, produced with this water income resulting from products and functions and decisions on how this income is used?
6. How is the division of these attributes among women and among men of different wealth, age, and religious and ethnic divisions? In other words: do some women and men benefit more than others?