MULTILEVEL WATER GOVERNANCE FOR TRANSFORMING WATER SERVICES PROVISION IN KENYAN COUNTIES: A CASE STUDY OF OBUNGA INFORMAL SETTLEMENTS IN KISUMU COUNTY

BY

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SPRING, 2019
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other learning institution other than the United States International University- Africa Nairobi for academic credit.

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This thesis has been presented for examination with my approval as the appointed supervisor

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## List of Acronyms and Abbreviations

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<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AHADI</td>
<td>Agile and Harmonized Assistance for Devolved Institutions</td>
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<tr>
<td>CBO</td>
<td>Community Based Organization</td>
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<tr>
<td>CEC</td>
<td>County Executive Committee Member</td>
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<td>CMA</td>
<td>Catchment Management Agency</td>
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<td>CMC</td>
<td>Catchment Management Committee</td>
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<td>CWSSF</td>
<td>County Water Sector Stakeholder Forum</td>
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<tr>
<td>DWIA</td>
<td>Department of Water, Irrigation and Agriculture</td>
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<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<tr>
<td>EAC</td>
<td>East African Community</td>
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<td>EU</td>
<td>European Union</td>
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<td>GWP</td>
<td>Global Water Partnership</td>
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<td>GoK</td>
<td>Government of Kenya</td>
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<td>IWRM</td>
<td>Integrated Water Resource Management</td>
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<td>LVFO</td>
<td>Lake Victoria Fisheries Organization</td>
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<td>LVWB</td>
<td>Lake Victoria Water Basin</td>
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<td>MLG</td>
<td>Multi-Level Governance</td>
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<td>MoWI</td>
<td>Ministry of Water and Irrigation of Kenya</td>
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<td>NBI</td>
<td>Nile Basin Initiative</td>
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<td>NEMA</td>
<td>National Environment Management Authority</td>
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<td>NWMP</td>
<td>National Water Master Plan</td>
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<td>NGO</td>
<td>Non-Governmental Organization</td>
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<td>Acronym</td>
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<tr>
<td>RBA</td>
<td>Rights Based Approach</td>
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<td>SDGs</td>
<td>Sustainable Development Goals</td>
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<td>SIA</td>
<td>Social Impact Assessment</td>
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<td>SIWI</td>
<td>Stockholm International Water Institute</td>
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<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
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<tr>
<td>UNESCR</td>
<td>Committee on Economic Social and Cultural Rights of the United Nations</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>WASREB</td>
<td>Water Service Regulatory Board</td>
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<td>WASH</td>
<td>Water Sanitation Health</td>
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<tr>
<td>WESCOORD</td>
<td>Water and Environmental Sanitation Coordination</td>
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<td>WSSP</td>
<td>Water Sector Strategic Plan</td>
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<tr>
<td>WRMA</td>
<td>Water Resource Management Authority</td>
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<td>WWAP</td>
<td>World Water Assessment Programme</td>
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<td>WWS</td>
<td>Water and Sanitation Sector</td>
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Efficiency and Effectiveness in governance is fundamental for management of water resources. Several countries across the world are racing to institute sound reforms to ensure people have access to clean, safe water in enough quantities. Kenya is among the countries that have strived to come up with a raft of reforms to ensure effective management and access to water resources for sustainable development. Whereas significant steps have been made to ensure there is reliable access to this precious commodity by most Kenyans, the challenge persists. It is estimated that over 17 million Kenyans still lack access to safe water sources. This has largely been attributed to lack of proper water governance, poor management practices by the informal and formal actors involved in water sector leading to dysfunctional water schemes. Urban slum residents are often impacted the worst with limited access to water and sanitation services leading to poor health conditions and in adverse cases deaths.

The purpose of this study is to assess water governance in the context of water service provision in Kenya, taking a case study of Obunga informal settlement in Kisumu County. The study sought to examine the interactions between institutional actors in water governance, to examine the extent to which decentralization of governance affected multi-level partnerships in water service delivery and to examine the models through which multi-level partnerships can improve ownership inclusivity and accountability in water governance. The research used simple random sampling technique for the residents and purposive sampling for the water officials, the private sector as well as Non-Governmental Organizations involved in water governance in the study area. Primary data was collected and analyzed using SPSS and Excel and qualitative data was coded and categorized into themes using content analysis. Results were presented in charts and tables and using themes. The results revealed that the relations between institutional actors in the water sector directly affect access of the resource by residents, often leading to interruptions or even inaccessibility. This study also found out that water services provision is highly operated by middlemen at various stages of service provision including installation, management, access and payment collection. The decentralization of water governance somewhat increased access to water, however limited capacity at local level, unclear allocation of roles and responsibilities of actors and questionable resource allocation, lack of long-term strategic planning, poor legislation and poor economic regulation, insufficient means of measuring performance, weak accountability and transparency are just come of the challenges encountered. This study also found out that type two multi-stakeholder partnerships, modelled to be participatory and takes on a multi-stakeholder governance approach has great potentials translatable into tangible outcomes for majority of those in need of water.

This study recommends that the water service providers together with other stakeholders in the water sector need to address reported water leakages to prevent further losses, it also recommends acknowledging the value of non-governmental stake-holders engagement in water service sector. A balancing act between the leadership of the government, political goodwill and genuine participation of non-governmental stakeholders in water service sector lies at the heart of the realization of SDG 6 and the human right to water as enshrined in the constitution of the Republic of Kenya.

Key Words: Water Governance, Crisis, Kenya
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To the entire USIU fraternity, thank you for allowing me to use your resources and for the serene environment that enabled me to carry out my postgraduate study and lastly, I thank my friends and colleagues who made this journey interesting and insightful.
DEDICATION

I dedicate this project to my mom, you are irreplaceable and to my friend Andrew, you are God sent.
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CHAPTER ONE

1.0 Introduction

This chapter provides a description of the background of the study, which briefly describes water governance and the contextual setting of the study; statement of the problem; purpose and objectives of the study as well as research questions; significance of the study; theoretical framework; scope and limitations of the study and the structure of the research.

1.1 Background of the study

The UN’s 2030 Development Agenda and the 17 Sustainable Development Goals (SDGs) recognize that water is essential for the realization of all forms of development (UN, 2012). Indeed SDG 6 ‘Ensure availability and sustainable management of water and sanitation’ also known as the ‘water goal’ reflects that future development and economic prosperity depends on the sustainable management of water resources (UN, 2012). As opposed to existing assumption, water crisis is a crisis of water governance and not one of scarcity, in deed, at a global scale, there is enough water to provide ‘water security for all’ but only if it is managed well (Grey, 2009). Managing water to ensure sustainable Development goes beyond its socio-economic and environmental dimensions and addresses several developmental challenges such as accelerated urbanization, food and energy security, industrial growth and climate change. Access to water also contributes enhancing livelihoods, reducing health risks and promoting economic growth for poverty alleviation (UNESCO, 2016).

In many parts of the world, water resources are under pressure due to the unprecedented human needs and environmental concerns. The United Nations estimates
that a majority of one billion people have no access to safe water supply live in Africa (UNDP, 2006). Furthermore, 1.8 million children die every year in deaths related to unclean water and poor sanitation (UNDP, 2006). Essentially, the water in the world has reduced over time while the world’s population increases. (Knighton, 2003) argues that there is no more water in the world than there was two thousand years ago when the world’s population was less than three percent of what it is now. (Research shows that the world’s largest rivers are shared waters and that shared waters have potential of causing conflicts within and beyond national boarders (IFRA, 2010) “conflict” in this case is used to designate any relationship between opposing forcing whether violent or not. Conflicts arising out of water related issues is caused by many factors including but not limited to, the inability of the government to manage water resources to meet the needs of its citizens, hostility may also occur between two or more communities, countries, regions leading to one party disrupting the water supply of another.

In the Middle East, control over access to scarce water resources is a major issue between Israeli- Palestinian conflict as well as their neighbors, in the Nile Basin Region, sharing of River Nile waters and its water sources, particularly Lake Victoria has been a source of conflicts in the region (Kenya-Uganda conflict over the Migingo Island) The treaty managing the distribution of River Nile waters was signed in 1929, when Kenya, Uganda, Tanzania, the Sudan and South Sudan were still under colonial administration, as per the treaty, no country is allowed to engage in hydroelectric works in any of its tributaries without consent of the Egyptian Government, if such works can cause a drop the water level which may be harmful to Egypt. Successive Nile Basin Treaties have failed to alter the treaty to address the current socio-cultural, moral, political as well as
environmental concerns and the perceptions of the people in the Nile Basin. Nationally, water conflicts are common among Kenyans, particularly in pastoralist communities. In January 2005, more that fifteen people were killed, dozens injured and hundreds displaced as a result of water conflicts between kikuyu farmers and Maasai pastoralists involving access to and distribution of water from Ewaso Kedong River in the Rift Valley Province of Kenya. The bottom line is that an effective management of water can be critical to establishing peace and stability in many parts of the world, nationally and beyond national borders.

In many developing countries, the water sector is in a state of confusion and dysfunction with flawed management policies and little accountability to citizens (Troop, 2005). Recent studies show direct correlation between the countries most lacking in water services and those with poor governance (UNDP, 2004, UN, 2005). As a result of governance challenges, access to water supply in many developing countries is stark and according to United Nations Environment Program (UNEP), roughly one third of the world’s population live in countries where there is moderate to high water scarcity, in Africa alone, thirteen countries are already suffering from water stress, including Kenya (UNEP, 2008). According to the 2015 World Health Organization report, 8 out of 10 people without improved drinking water sources live in the rural areas and about 2.4 billion people do not have access to improved water and sanitation, a majority of whom live in Africa (WHO, 2015). Crop failure related to draught is common in Eastern and Southern Africa and is threatening millions of lives of people in several countries whose livelihoods is highly dependent on agriculture and particularly small holder farmers in arid and semi-arid regions.
The Kenya Water Report, 2005 showed that less than 50% of the Kenyan rural population had access to water despite the government's aggressive and ambitious Water reforms, which purported to ensure availability of water to all households. In the recent past, Kenya has faced severe water scarcity, particularly in 2009, leading to water and electricity rationing, a rise in food prices, droughts leading to loss of human and animal lives and proliferation of water related conflicts and diseases, in 2010, the country experienced floods that led to deaths and destruction of property, homes, roads were swept away, making it clear that both the scarcity of water and the abundance of it can be disastrous if not managed properly. Building resilient water service sector in Kenya and in Africa in general is one way of curbing the negative effects of climate change and rapid population growth. It is against this background that this research seeks to find out the best way to manage water in order to ensure adequate, safe, affordable water supply to all in a way that is efficient, effective, equitable, resilient and sustainable.

The OECD report titled “Managing water for all” explains that the key challenges involving water governance are institutional and territorial fragmentation and badly managed multi-level water governance, accompanied by limited capacity at local level, unclear division of roles and responsibilities and questionable resource allocation, lack of long term planning, poor legislation, poor economic regulation, poor means of measuring performance and the lack of transparency and accountability (OECD, 2009). Market failure, state failure and governance failure affects the provision of water supply and may lead to exclusion of the poor from accessing public resources (Barker, 2010). With a fast growing population, one of the major challenges facing the water sector in Kenya is declining quantity and quality of water, Kenya depends highly on the presence of water
for agricultural production and sustainable economic growth and therefore there is an ultimate need to bridge the supply to the areas with scarcity for any meaningful development to be achieved (Nyanchaga, 2016).

The findings of this research paper opens a critical discussion on water issues in Kenya and in the East African region at large and is a major step towards joining the global debate on water.

1.2 Statement of the research problem

Water scarcity is set to become an ever deepening issue across the developing world and beyond and while there are methods to cope with future threats individually, water management is becoming more difficult under highly volatile conditions, with numerous interconnected local, regional and global actors and factors affecting its quality, availability and access (Zimmerman, 2008). Despite water being integral to human well-being, water resources are not sufficiently developed and conserved and water sector management is deficient, services are deteriorating and deficits growing and there are no signs of meeting future service standards in the face of existing threats to water resources including climate change, rapid urbanization, rapid population increase and limited resources (Winpenny, 2003).

Article 43 of the Constitution of Kenya, 2010 provides that every person has a right to reasonable standards of sanitation and access to clean and safe water in adequate quantities (Constitution of Kenya, 2010). Article 56 also provides that the state is to put in place affirmative action programmes designed to ensure that minorities and marginalized groups have reasonable access to water. This provides a strong legal foundation and demonstrates a clear commitment to ensure that every single Kenyan
citizen realizes their human right to water. Despite the government of Kenya’s gestures to achieve universal access to water by 2030 and the human right to water, the Kenya census of 2010 reported that approximately 26 million Kenyans rely on unsafe and unreliable sources of water such as streams, lakes, ponds, springs, wells and boreholes as their primary water source and only 16% of rural populations have access to piped water (KNBS, 2010). Although the total approved budget for the water sector has grown more than six fold over the last decade, there has been a slow growth in the improved access to adequate water supply with improved access slowly increasing from 52% in 2000 to 63% in 2015 (WHO/UNICEF, 2015). The situation is even worse in the rural areas where only 13% are approximated to have access to piped water services (KNBS, 2010).

Devolution of water services provision by the Constitution of Kenya, 2010 was aimed at bringing water services closer to the citizens in every part of the country, rural and urban areas alike (Constitution of Kenya, 2010). However, annual water loses are valued at about Kenya Shillings 11.4 billion due to leakages, bursts and commercial/efficiency challenges (WASREB, 2014). Although the sector reforms illustrate tremendous opportunities for better services provision, the performance of many water service providers and the implementation of water policies are still below par. Research show that at any given time, almost a third of rural water systems in Kenya are dysfunctional and almost two thirds start malfunctioning within 3-5 years of construction (SNV, 2015).

The ongoing challenges in the Kenya water sector limit the expected impact and implementation of water reforms. Improvement in water governance could promote the realization of the human right to water. Good governance principles such as transparency,
accountability, non-discrimination and people’s participation in sector operations are crucial if the human right to water is to be achieved. While technology and the availability of funding is important, democratic governance issues are increasingly taking center stage in reform processes at all levels. (Kaufmann, 1999) approves that there is a causal relationship between better governance and better development outcomes. Poor governance is a barrier to development and especially hurts the poor through both economic and non-economic channels making them even more vulnerable.

While there is no quick fix, conventional planning and development relies on being able to project future change in face of multiple threats and uncertainty and coming up with solutions to well-defined problems (Gleick, 2000). A comprehensive governance approach in the water sector will lead to a more effective water sector and also increase accountability in the sector and ultimately pave way to the realization of the human right to water enshrined in the Constitution of Kenya.

Kisumu County is Kenya’s third largest city with a population of about one million residents (KNBS), Kisumu County is also the closest Kenyan County to Lake Victoria, the second largest fresh water lake in the world. Despite its proximity to the lake, and several water reforms by the government, only 54% of the population has access to improved water sources such as protected springs and piped water. The rest of the residents, particularly, slum dwellers rely on untreated water from depend on raw water from the lake, unprotected wells and ponds. Fishing is a vital source of food and income among the residents. In earlier years, Kisumu was a major source of fish supply in the local and international markets, however in recent years, the region has experienced challenges as a result of climate change and varying rainfall patterns leading
to reduction in available water and threatening aquatic lives. This has negatively affected the communities around and overall food security in the area. It is difficult to get exact estimates of the actual loss of income resulting from cyclic changes in weather patterns (Kenya Information Guide, 2017).

Currently Kisumu County is served by three main water service providers that support the County Government and county managed water service providers namely, Kisumu Water and Sewerage Company (KIWASCO), Lake Victoria South Water Services Board, Kenya Integrated Water Sanitation and Hygiene (KIWASH), these companies only cover 37% of the total population and are facing many challenges including poor stakeholder engagement, service delivery deficiencies, reduction in water quality and quantity and high non-revenue water. Non-revenue water is the difference between the volume of water supplied to the water service providers and what is sold to customers. These include unaccounted for water, unbilled water, unmetered water, illegal connections, metering inaccuracies, leakages in water distribution pipes and or poor storage facilities. Currently, there are a number of studies on water management, few studies have been done to evaluate whether decentralization of water governance has contributed towards improved water access in the County, and there are also fewer research that evaluate multi-level approaches to water service delivery. Therefore there is a gap that this study sought to address by exploring the models through which multi-level partnerships can improve water service provision in Kenyan Counties.
1.3 Objectives of the study

The general objective of this study is to examine the extent to which institutional actors are able to play an effective role in water service delivery in Kisumu County in Kenya and the specific objectives are:

1.4.1 To examine how actors involved in the water service delivery in Kisumu County interacts across policy levels.

1.4.2 To assess how decentralization of governance is affecting multi-level partnerships in water service delivery.

1.4.3 To review the models through which multi-level partnerships can improve ownership, inclusivity and accountability among water service providers in Kisumu County.
1.4 Research Questions

This study seeks to answer the following questions:

1.4.1 How do actors involved in water service delivery in Kisumu County interact across policy levels?

1.4.2 How has decentralization of governance affected multi-level partnerships in water service delivery?

1.4.3 What are the models through which multi-level partnerships can improve ownership inclusivity and accountability among actors in the water sector in Kisumu County?

1.5 Significance of the Study

Despite many water reforms, Kenya water sector still faces enormous challenges limiting the expected impact and implementation of the water reforms. Improvement in water governance would promote the realization of the human right to water which is a constitutional right of all Kenyan Citizens. Good governance principles such as transparency, accountability, non-discrimination and people’s participation in sector operations are crucial if the human right to water is to be achieved. While technology and the availability of funding is important, democratic governance issues are increasingly taking center stage in reform processes at all levels. (Kaufmann, 1999) approves that there is a causal relationship between better governance and better development outcomes. Poor governance is a barrier to development and especially hurts the poor through both economic and non-economic channels making them even more vulnerable.

Investment in the best practices of water governance will increasingly address the current challenges facing the water sector in Kenya. It will also promote the advancement
of learning across counties, contribute to enhance community livelihood, food security, minimize health risks and vulnerability and promote poverty alleviation and better management of environmental concerns. Modifying of water management approaches is needed to build resilient societies and decrease the economic, social and environmental effects of climatic variability (UNESCO, 2016).

Through this study, stakeholders at local, national and regional levels concerned with the management will be able to effectively administer water governance and multilevel accountability and systematically plan approaches for ensuring effective water governance for sustainable development. This study is a contribution to the existing body of knowledge on Water Governance. The research is intended for policymakers and technical staff of organizations’ responsible for water management at different levels including the Ministry for Water and Sanitation, directors, managers, and senior officers from Water Resources Authority (WRA), County Chief Officers in charge of Water and Departmental Directors and Engineers of Water & Natural Resources in the Counties, Public Water Service Boards, CBOs, NGO Program Officers working in Water, Sanitation & Hygiene (WASH) and Private Sector Actors in the Water Sector as well as water users.

1.6 Scope of the Study

Water governance is a broad topic that involves complex systems and the coordination of different stakeholders at different levels of management, however, this study is based on the conceptual scope of water service delivery in Kisumu County in Kenya in order to present a synthesis of the current situation of water governance in Kenya and the opportunities for better water governance approach that would improve
the provision of water services to all as enriched in the Constitution of Kenya. It focuses on the water management strategy, planning and policymaking, engagement with stakeholder and water resource development and management at the Obunga informal settlements in Kisumu County.

Obunga Slums is located in Obunga sub-location in Kisumu County and is predominantly occupied by low income households, with more than 50% of the population categorized as poor and despite its close proximity to Lake Victoria, the world’s second largest fresh water lake, accessibility to water by residents of Kisumu County and particularly the residents of Obunga slums is below national average (Onyango, 2010).

1.7 Limitations and delimitations

Although Water governance crisis affects many countries around the world and several counties within Kenya, the scope of the study is limited to Kisumu County in Kenya. This is to ensure an in depth case study analysis is done which will be used to answer the research questions. There was also financial constraints given that the available budget was not able to cover the entire cost of the research and the researcher had to use alternative source of financing from family and friends in order to carry out data collection, data entry and synthesis of the findings.

Further limitation of the study includes potential bias of the respondents that may result in error since some of them maybe directly in the governance process, objectivity of information may not be guaranteed. This study aims to reduce bias by triangulating primary data with secondary data.
The study also anticipated that due to time and resource constraints, it may be impossible to reach all the sub-counties in Kisumu and the researcher decided to focus on only one sub-county in Kisumu, taking an in depth analysis of the water service sector in the area. Despite these limitations the researcher remained objective throughout the study to ensure that the objective of the research was achieved within the outlined timeframe.

1.8 Definition of key terms

**Governance**- spheres of authority at all levels of human activity that amounts to systems of rule in which goals are pursued through the exercise of control.

**Regional governance** involves state, interstate and non- state actors which is applicable to a specific region (Armstrong and Gilson 2011:2-3)

**Multilevel Governance**- an alternative, more flexible form of governance where power is shared between different tears of the government with non-state actors, including international bodies, NGOs and community groups and private corporations.

**Water Resource**

The physical, chemical, biological, economic, cultural, and many other useful —assetsl of the nation’s wetlands, streams, rivers, lakes, and coastal oceans (Cardwell, Cole, Cartwright, & Martin, 2006).

**Water Governance**- the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society (Rogers & Hall 2003).

**Multilevel water governance** - the dispersion of water governance across multiple jurisdictions (local, county level, national, regional e.t.c) and stakeholders (state and none- actors) involved in provision of water and management of water services. It
involves a joint or coordinated use and management of water in connected or unconnected resources to enable optimal water use and to prevent adverse impacts of surface water and groundwater use on other water users, third parties and the environment (Blomquist et al. 2004; Ross and Martinez-Santos 2010).

**Watercourse** - a system of surface waters and ground waters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus, international watercourse as a watercourse, parts of which are situated in another state.

**Water management** – They are the activities that are geared towards getting the most from the water that is produced, that is, the strategies that aimed at improving the efficiency, distributional equity and sustainable use of water (Deveril, 2001).

**Water production** – describes all the activities that are involved in making water available for human use or consumption.

**Urban informal settlement** – According to the United Nations (2007) informal settlements describes the settlements with the following characteristics; lack of structured planning, informal and insecure property tenure, limited participation in governance activities resulting in inadequate service provision and increased vulnerability and discrimination of the residents that are often found in such environments.

**1.9 Chapter Summary**

This first Chapter establishes the area of the research by presenting the background of the topic, highlights the research problem and objectives, the importance of the study, the scope of the study, limitations and delimitations of the study. The
Chapter establishes that Water is embedded in all forms of development and if managed well, it determines the achievement of all the other development goals.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This Chapter reviews existing literature in water governance and water resources management and presents current knowledge in the field as well as knowledge gaps by reviewing literature available in books, journals, reports, legal, political and institutional frameworks. It also discloses the conceptual and the theoretical frameworks to be used in this study. The section explains the relevance of the identified theories to this study and how they can be applied in the study of the subject matter. The purpose of this section is to develop a conceptual framework and come up with assumptions that can be followed through based on insights from authoritative sources and review of previous studies on the research topic while at the same time identifying the research gaps in past literature.

2.2 The Concept governance

Governance refers to a combination of structures and processes which regulate public and private life (Weiss, 2000). Previously governance was used as a synonym for government and its authoritative role in directing and controlling the society, however; governance is not limited to government but also includes none-state actors, including NGOs, the private sector and the civil society (Troop, 2007). It concerns itself with the way governments and other societal organizations interact, relate and how decisions are made in an increasingly complex world (Rogers & Hall, 2003).

UNDP emphasizes that governance is the process through which citizens and various groups can ‘articulate their interests, exercise their rights, meet their obligations and mediate their differences’ (UNDP, 2004). The success of any governance scheme,
whether international, regional, national or local depends on its effectiveness in terms of its ability to achieve set objectives as well as democratic credentials such as legitimacy and acceptability which may be determined by transparency and accountability of leaders and institutional actions (Armstrong & Gilson 2011:5).

Over the years, different types of governance have developed including global environmental governance; a set of regulatory processes, mechanisms and organizations though which political actors influence environmental actions and outcomes (Agrawal 2006). As a result of globalization, there is increased interconnections between states on all policy levels – international, national and sub-national and additionally, an increase of powerful non state actors such as private companies, International Organizations, Multinational Corporations which are equally if not more important than the previous international relations theories that focused on state centric perspective of governance (Biermann, 2009). According to state centric theories rules were made by the state through a clear hierarchical structure within a state with orders coming from the top to the bottom. Multi-level governance approach is a recently famous approach to governance and it underlines interlinkages between the state and non-state actors in governance (Russenau, 1995). This does not mean that that the state is less powerful or that there will not be power struggles among the actors involved in the governance structure.

2.3 Water Governance

Water governance is defined as the political, social, economic and administrative systems that are in place and directly or indirectly affect the use, development and management of water resources and the delivery of water services at different levels of
the society (GWP, 2002). The Dublin Principle of 1992, established water as an economic good to be provided not only by the state but also other non-state actors, this was a major change aimed at ensuring efficiency in the water sector all around the world. At the 2000 World Water Forum in the Hague, it was identified that effective water governance can translate to tangible developmental outcomes and good governance for water was made as one of the priority areas for action so that all stakeholders are included in management of water resources (GWP, 2000). The MDGs emphasized the importance of conservation and protecting the environment by developing water management strategies both at the regional, national, and sub national and international levels in order to promote equitable access to water and adequate supply for all.

At the Bonn Freshwater Conference, 2001, world leaders proposed that each country should be having arrangements for water affairs governance that applies to them at all levels where appropriate so as to accelerate reforms in the water sector to curb the existing global water crisis. The heads of states committed to specific targets to pursue Integrated Water Resources Management (IWRM) and ‘good’ water governance in order to deal with the world water crisis (UN World Summit on Sustainable Development, 2002). ‘Good governance’ a concept pioneered by international developmentalists such as the UNDP and the World Bank advocates for policy reforms including introducing democratic values such as transparency and accountability, the rule of law and respect to human rights and free market (World Bank, 1997). On the other hand good governance has been criticized as an agenda to spread Western concepts to the rest of the world and an agenda for a few powerful states dominating the weaker ones (Biermann, 2006).
2.4 Dimensions of water governance

Water governance is divided into four broad dimensions that is, social, economic, political and environmental dimensions (Water Facility, 2002). The social dimension addresses the equitable use of water resources by all (apart from being unevenly distributed within time and space, water is also unevenly distributed among the various socio-economic classes in the society both rural and urban areas, informal urban settlements and the formal ones, the rich and the poor, where those with the lowest access are those in poor socio-economic class).

Economic dimension draws attention to the efficient use of water and the overall role of water in economic growth and poverty reduction (Troop, 2005) argues that better water governance can have positive effects on economic growth of many developing countries, political dimension of water looks into issues of equity and the overall political context in which water resources are being allocated, this is to say that water stakeholders and water users should have equal democratic opportunities to have a say on how water is being managed both at local, county level, national, regional and international levels, however, marginalized citizens such as women, slum dwellers and indigenous communities typically lack the capacity to influence water governance (WGD, 2002).

The environmental dimension of water governance focuses on the environmental aspect of water as the allocation, use and distribution of water have direct impact on the environment and vice versa. Environmental sustainability can be achieved through effective governance that will allow for sustainable use of water resources and ecosystem conservation. In order to assess water governance challenges, these dimensions are
important factors that influence how water resources are managed and subsequently water service provision.
Fig. 2. 1: Dimensions of Water Governance

Source: Adopted from the Water Governance Facility, 2000

2.5 Water Crisis as a crisis of governance

Despite technological innovations and large infrastructure investments in the water sector, a large number of people living in Sub-Saharan Africa still lack access to safe water supply. Key factors include mismanagement of the distribution of water resources, corruption, lack of appropriate institutions, and bureaucratic inertia. The politicization of the essential resource does not make things any easier as technical and managerial decisions are subject to vested interests and undue interferences and can trigger informal displays of power local stakeholders.

There is a broad consensus that the crisis in the water sector is essentially a crisis of governance and efforts to promote good governance in the sector can effectively translate into developmental outcomes (UNDP, 2006). As earlier explained, water governance encompasses the political, social, economic and administrative systems that are in place to develop and manage water resources and delivery of water services at different levels of the society (Hall, 2003).
The causes of poor governance are complex and do not come from just one actor. They reflect the country’s overall standards and performance of governance and are influenced by the patterns of behavior and the formal and informal rules and values in a society (e.g. nepotism and patronage patterns) which influence all sectors including the water sector. The water sector is vulnerable particularly to corruption and poor governance with procurement processes involving large amounts of public fund characterized by lack of transparency and accountability. The monopolistic nature of service delivery prevents competition and when coupled with failures to recover costs and the need for subsidies, may lead to inefficient and clientelist resource allocation.

Since water is a basic resource many consumers can easily be lured or coerced into paying bribes for its access. The lack of information by the public about their respective rights and responsibilities may also prevent citizens from obtaining services that they are constitutionally entitled to. Lines of accountability are not often clear and informal service providers are frequently not subject to public regulation (WIN, 2011).

The European Commission defines three dimensions of governance; governance issues that is the formal and informal rules, power and resources, structures and processes, governance principles such as transparency, accountability, participation and inclusion, governance sub-clusters such as human rights, decentralization and deregulation (EC, 2008:11). These dimensions should guide policies, legal and institutional structures, as well as the behavior of individuals and stakeholders responsible for managing water resources or the delivery of water services.
Table 2.1: Principles of good water governance

<table>
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<tr>
<th>Principle</th>
<th>Description</th>
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<tr>
<td>Transparency</td>
<td>Processes, institutions and information on water resources and services are directly accessible and can be monitored.</td>
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<td>Accountability</td>
<td>Decision makers in water sector institutions and companies are accountable and responsive to the public and stakeholders</td>
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<tr>
<td>Participation</td>
<td>Citizens (i.e. consumers and water users) have an opportunity to influence processes and decisions in a meaningful way.</td>
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<td>Non-discrimination</td>
<td>All citizens have opportunities to improve their wellbeing through equitable access.</td>
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<tr>
<td>Rule of Law</td>
<td>Legal frameworks and regulations are fair and enforced impartially.</td>
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<tr>
<td>Performance/efficiency</td>
<td>Institutions and processes serve all stakeholders and produce results that meet needs while making the best use of the available water resources</td>
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Source: (UNESCAP, 2009)
Empirical Literature

Governance in the water sector is particularly of importance because the access to good quality water is essential in helping people rise out of poverty. Corruption and poor governance denies millions quality and quantity of services delivered by increasing the cost of operational cost of WSPs while decreasing government revenues. Poor water governance endangers the ecosystem sustainability, public health; triggers water related conflicts and leads to overexploitation of the water resources entrenching poverty particularly in vulnerable groups such as women and children. On the other hand, corruption in the water sector compromises efficient use of sector finance. The World Bank estimates that 20% to 40% of water sector funds is lost to corruption (Stalgren, 2006) The Water Integrity Network (WIN, 2011) estimates that up to 70% of water sector resources could be saved if there was transparency and integrity in the water sector. Transparency International estimates that corruptions can add up to 45% to the cost of household water expenses. We can then say conclusively that poor water governance results in decline in social and economic well-being of the people, affecting both the present and future generations. The efficiency of water utilities in Sub-Saharan Africa could be significantly increased with better governance (Blanc, 2009). Existing and emerging threats including climate change, rapid urbanization and population growth and depletion of resources cannot be dealt with by one single actor or institution, the study by Butler (2017) addresses the need for policy makers to come up with reliable water management systems that is sustainable. Whittington (2009) researched on the performance of community managed rural water supply systems in developing countries. Collecting data from community members using household surveys, community water
committees, focus group discussions with residents, key informants and water officials in 400 rural communities in Ghana, Peru and Bolivia and the findings suggested that demand-driven, community management model, coupled with technical expertise, are one of the best to design and implement rural water supply programs in developing countries.

2.6 Water sector reforms in Kenya: Policy, institutional and regulatory framework

Like many other countries in the Sub-Saharan Africa, Kenya’s socio-economic development goals are dependent on the availability of water both in good quality and quantity. The government has come a long way in ensuring all Kenyans have access to clean water as well as addressing the policy, regulation and the shortcomings of the water sector reforms. In 1972, water development division was upgraded to a department under the Ministry of agriculture with the overall mandate of water development in the country.

In 1974, Ministry of water and Development affairs was created which came up with the first national water master plan in 1974, with the aim of ensuring that portable water was made available at a reasonable distance, to all households by the year 2000 through establishment of the water supply schemes, construction of dams and boreholes and other infrastructure. The district water officers, local authorities in the municipals councils and the national water conservation and pipeline Corporation directly managed the schemes in their areas of jurisdiction. The 1980s through the present times has witnessed an increase in water schemes being funded by NGOs, churches and self-help-groups to fill the gap created by insufficient government funds in the water sector (Mumma, 2010).
It is estimated that 45% of the Kenyan population do not accessibility to safe and clean drinking water and one of the main problems in this particular regard is the inadequate funding for the water sector. The Kenya National Water Master Plan has an estimation of KES 1.7 trillion being required to meet the goal of achieving the universal accessibility to water that is clean and safe for all by the year 2030 (Kenya Markets Trust, 2017). Yet the Kenyan Government has not done enough with KES 592 billion being provided and this still leaves a deficit of 1.2 trillion implying that the realization of the universal goal of clean and safe drinking water for all still being a great challenge.

The 1990s focused on attention to water scarcity problems, mainly caused by climate change and resources depletion that lead to an emerging global water crisis (Mumma, 2010). In the late 1990s the Kenyan government started a reform process spearheaded by the National Policy on Water Resources Management and Development Sessional Paper No. 1 of 1991, the policy recognized the shortcomings in water management institutional framework and budgetary constraints incurred by the district water officers directly managing the water schemes compounded by poor tariff regimes that could not cover the cost of service delivery (Mumma, 2010). This necessitated an alternative approach to management whose main objective was preservation, conservation and protection of water resources and allocation in a sustainable, rational and economical way. It aimed to promote supply of good quality water in sufficient quantities to meet the needs of the Kenyan citizens and alleviate water poverty while ensuring safe disposal of waste water and ecosystem protection through establishment of institutional frameworks that will improve effectiveness and efficiency in the management of water resources. The policy advocated for decentralization of operational
activities from the national government to other actors, including local authorities, the private sector and others in order to improve service delivery by devolving government function into smaller local units. This was evident in the water sector when a new water policy got implemented in 2002, the Government had committed itself to adopting a human rights approach in the water sector with an objective of reversing the declining access to and efficient use of the country’s water resources in the face of existing global threats such as climate change, rapid urbanization and depletion of resources.

The National Water Master Plan Study (1992) identified the major constraint to the development of Kenyan water resources – inadequate financial funds – as the result of the lack of a comprehensive institutional framework (Nyaoro, 2008). Additionally, the National Water Master Plan developed in 1992 was done when the country’s population was about 20 million people and the water demand was around 1 billion cubic meters per year. Currently, the population has doubled to over 40 billion with water demand of over 3 billion cubic meters per year. It is estimated that by 2030, the population will have risen to 68 billion and total water demand will be 13 billion cubic meters per year hence the formation of the Kenya National Water Master Plan 2030 that is in line with the Kenyan Vision 2030, to transform Kenya into an industrialized middle income country by the year 2030, the Master Plan by the Ministry of Environment, Water and Natural resources aims among other things to improve water and sanitation accessibility to all by 2030 and to deal with the projected effects of climate change (Kenya National Water Master Plan, 2030).

Previous to the new Water Act the national government, represented through the Ministry of Water, was responsible for developing water policies, implementing and
monitoring water regulations, and providing funds for the water sector and water services to water users (Sattler, 2010). On the basis of the Water Act, 2002 avenues were opened for the participation of other actors in the management of water resources (GOK, 2002). This included the separation of policy formulation, regulation and service provision. New parastatal agencies were created and the Ministry of Water and Irrigation’s responsibilities reallocated with an aim to establish efficient and effective institutional framework to guide development and management of water resources effectively. The new agencies included the Water Resources Management Agency (WARMA), which is responsible for managing and protecting water resources through issuing permits to water users, and the Water Services Regulatory Board (WSRB), which separated WRM from water service delivery and sanitation.

The water sector derives its financial support from the Water Services Trust Fund (WSTF), another new body within the institutional setup of the Kenyan water sector. In addition to the separation of functions, the decentralization approach included the subsidiary principle, namely the transfer of the authority for managing water services to the lowest appropriate level (Nyaoro, 2008). For example, this led to the establishment of water resources users’ associations (WRUA) and catchments area advisory committees (CAAC) to manage water resources at the local level. The role of the Ministry of Water and Irrigation (MoWI) was reduced to formulating policy and the general coordination and oversight of the water sector while the private sector engaged in water service delivery as part of the process of decentralization to ensure efficient and adequate provision of water services.
The Water Act of 2002 resolved several challenges that the country had faced in water services provision including lack of a clear institutional framework in water management and governance. It resulted in increased sector coordination and better performance monitoring and increased investment in the water service sector (Otieno, 2017). The Act preceded the National Water Resources Management Strategy which aimed at eradicating poverty through the provision of potable water for human consumption and production use. In other words, the government of Kenya recognizes water as both a social and economic good that should be made available by the government to all citizens in affordable rates and stresses the involvement of all stakeholders- including women in water management (Mumma, 2010).

2.7 Decentralization of water governance in Kenya and how it has affected multi-level partnerships in the water service sector

According to Oxford English Dictionary, a partnership is an arrangement where parties, known as partners, agree to cooperate to advance their mutual interests. The partners in a partnership may be individuals, businesses, NGOs, schools, governments or combination of actors who have come together to increase their likelihood of each achieving their goals.

Partnerships as opposed to other forms of collaboration relies on the notion of mutuality, characterized by horizontal coordination and accountability as opposed to hierarchical, top down or bottom up approach (Grey, 2009). Mutual partnerships are established when one actor realizes that the set objectives cannot be met by a single actor working alone. This is termed as ‘collaborative advantage’ (Huxham, 1996).
Collaborative advantage depends on a degree of synergy, which ensures that the sum is greater than all its parts (Balloch & Tylor, 2001, Grey, 2009).

Mutuality lies at the heart of partnership, with all its seven principles that characterize partnerships as follows: mutual benefit; all partners are expected to gain from the engagement, actors are bound together by the mutually supportive pursuit of individual and collective benefit, so partnerships are also selfless entities (Witte, 2004). Partnerships are about enlightened self-interest, not about charity. Along with the shared benefits of partnerships comes the responsibilities that partners are expected to share. As Runciman (2003) puts it, partners sink or swim together. Partnerships also require mutual respect, and that one partner values the other, even when there is differences in power among the partners, all partners must be involved and feel valued (Mitchell, 2005:127). All the partners have to recognize and respect the different skills, resources, outlooks and expertise that fellow partners have brought to the collaborative enterprise. Furthermore, partnership entails trust, and trust depends on transparency and accountability, this means that without mutual trust, a partnering arrangement may not succeed.

Partnerships also demand mutual commitment in order for individual and collective objectives to be attained (Bovaird, 2004). An ongoing commitment to be involved in the working or often changing relationship. Without a sustained commitment by the actors involved in water governance, there will be strained relationships that will soon break up.

Partnerships also demands mutual objectives or aim to bind the partners together. Although each actor may have their own interests in the partnership, reflecting their individual interests, they have to agree on some aim that guides the partnership as a
collective whole. However, partnership identity should not weaken individual identity as the different skills and resources of all the parties are needed for it to be successful. Many partnerships have failed for lack of a clear goal. Mutual participation is another characteristic of partnerships, this should reflect the ideals of participatory democracy and equality between partners. Multi-level partnerships occur when different levels of government that is, the local, sub-national or County government, national, regional and even international are involved in implementing policy.

While the National Water Policy of 1999 and the Water Act of 2002 triggered extensive reforms to Kenya’s water sector and incorporated internationally recognized ingredients for modern water sector reform process. The Constitution of Kenya, 2010 brought in a new dynamic in the water sector. Water is treated as an economic good and managed in an integrated manner, Schedule four part 2(11) of the Constitution of Kenya (2010) devolved water and sanitation services provision to the newly established county governments through the transfer of authority from the central to local government. This landmark has brought with it far reaching implications on institutional and regulatory changes from the 2002, Water Act. Human rights approach has become the center of the sector and the Constitution of Kenya (2010) establishes water as a human right. Poverty alleviation, sustainability and cost recovery have become core principles of the water sector. The water reforms embedded the principles of accountability, transparency and participation in water governance. The improvements achieved in the sector since the late 1990s are undisputed (Infotrak Harris Research and Consulting, 2012). However, the number of underperforming, government-subsidized Water Service Providers remains high, which puts in doubt the notion that policy implementation, really leads to the
optimal use of funds and efficient management. The expenditure by WSP boards frequently surpasses acceptable limits, reaching over 10% of overall income in some cases. Nepotism and tribalism hinder progress in developing staff and company performance, and impair the quality of services. Flawed tendering and procurement processes lead to unjustified increases in water prices, and they compromise equal access to services. This clearly shows that it is not just financial resources or capacity building programs that matter in a sector’s performance, but also the way in which governance is practiced both formally and informally in the sector. This study seeks to highlight the need for a comprehensive approach to water governance and reviews the current water governance framework in Kenya as well as the impact of the ongoing reforms in the water sector.
Fig. 2.2: Decentralization in Kenya’s Institutional Framework for water governance

Source: Adopted from Public Expenditure Review - Water Sector Analysis, 2011, KNBS

The figure above shows the current institutional framework in water governance with key players and their functions.
Table 2.2: Water Sector Players and their Functions

<table>
<thead>
<tr>
<th>Water Sector Player</th>
<th>Responsibility</th>
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<tbody>
<tr>
<td>Ministry of Water and Irrigation (MoWI)</td>
<td>Development of legislation, policy and strategy formulation, sector coordination and guidance and Monitoring and Evaluation (M&amp;E). Overall sector investments planning and resource mobilization.</td>
</tr>
<tr>
<td>Water Appeals Board (WAB)</td>
<td>Deals with conflict resolution within the sector management under the Water Act 2002.</td>
</tr>
<tr>
<td>Water Services Regulatory Board (WASREB)</td>
<td>Regulates water and sewerage services provision including: Issuance of license, Setting service standard and guidelines for tariffs and prices</td>
</tr>
<tr>
<td>Water Resources Management Authority (WRMA)</td>
<td>Regulates water resources issues including: Water allocation, Source protection and conservation, Water quality management, Pollution, control and international waters</td>
</tr>
<tr>
<td>Water Services Trust Fund (WSTF)</td>
<td>Mobilization of financial resources for development and rehabilitation of water and sewerage services infrastructure, especially to poor and under-served areas.</td>
</tr>
<tr>
<td>8 Regional Water Services Boards (WSBs)</td>
<td>Manages water and sewerage service provision in the respective areas by: Contracting WSPs, Developing water and sewerage facilities, Regulating water services and tariffs, Procuring and leasing water and sewerage facilities.</td>
</tr>
<tr>
<td>National Water Conservation &amp; Pipeline Corporation (NWCPC)</td>
<td>Contracts the construction of dams &amp; pans, bore holes and rehabilitation of flood canals on behalf of MoWI</td>
</tr>
<tr>
<td>Kenya Water Institute (KEWI)</td>
<td>Provides training, research and consultancy services in the water sector</td>
</tr>
<tr>
<td>National Irrigation Board (NIB)</td>
<td>Develops, promotes and improves integrated agriculture through sustainable exploitation of irrigation and drainage potential.</td>
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Source: Developed based on Water Act, 2005.
2.7 Kisumu Water service System

The water and sewerage facilities in Kisumu used to be managed by the Municipal Council of Kisumu until the promulgation of the 2010 constitution which transfers the management under the County Government of Kisumu. The responsibility of efficient and economical provisions of water and sewerage services was devolved to be managed the Water Services Board. From the year 2003 to date the responsibility of executing and implementing all the water projects plus the task of providing license to the water providers in the county was given to the Lake Victoria South Water Service Board (LVWSWB).

LVWSB is one of the eight water services boards established under the Water Act of 2002 as a state corporation reporting to the Ministry of Water and Irrigation. Its mandate is to ensure sufficient and economical provision of water and sanitation services in its area of jurisdiction which covers an estimated area of 21,720 sqkm. It does this through panning and developing water infrastructure, they own and manage water and sewerage assets in Kisumu County which falls under its area of jurisdiction, develop, and licenses water service providers as its agents, build capacity of community based organizations to access funding from Water Services Trust Fund and other sources among other functions. The piped water and sewerage services provider in Kisumu County is mostly done by Kisumu Water and Sewerage Company (KIWASCO) licensed by the LVWSWB.

A bigger percentage of water consumed in Kisumu County comes from Lake Victoria with a smaller percentage coming from the rivers around the County for instance
Rivers Kibos, Nyamasaria, Kisian Kajulu and Mamboleo. Most of the water that is consumed in the city is surface water but apart from that Kisumu County also depends on underground water. According to geographical scholars’ reports, it has been proven that the ground water levels around Kisumu ranges from 2-3 meter from the surfaces of the soil. There has been a long time plan to increase the water supply in Kisumu but this depends on the surface water. The reason as to why the residents would prefer to consume the surface water is due to the level of contamination of the underground water by the overflowing pit latrines plus the poor drainage system.

Lake Victoria being the major supplier of water in the county has two major raw intake points at the same time there is also an intake at Kajulu. The water supply system in Kisumu enjoys two systems which are the electrical pump system which supplies the largest percentage of water to the city while plus the gravity system which only supplies around fifteen percent of the water supplied in Kisumu. Therefore the water coming from Lake Victoria is first treated at Dunga Water Treatment Plant which was built almost a half a kilometer from the intake. After the treatment of the water from Lake Victoria at Dunga, it is then pumped to Kibuye which has a storage tank that helps in the distribution and the storage of the treated water. The water from the Kibos River is treated and then flows by gravity to a reservoir. A according to some reports presented in the past decade it shows that Kisumu’s water supply facilities had a design capacity of 22,700 m\(^3\) daily, but were operating at a capacity of only 18,700 m\(^3\) per day, with Kajulu supplying 1,700 m\(^3\)/day and the Dunga treatment plant producing 17,000 m\(^3\)/day (LVSWSB, 2008). The study estimated that water demand in 2007 was 47,700
m³/day, leaving Kisumu with a supply deficit for that year of over 29,000 m³/day (LVSWSB, 2008).

There are various studies that have been conducted in Kisumu to determine water crisis in the County that is the closest to the World’s second largest fresh water lake and how to solve the issue, the water production in the county does not keep up with the rapid population growth experienced there, the problem if not solved will continue to cause a lot of trouble following the fact that the existing infrastructure is operating 85% and 94% of the maximum set capacity. In 2017, KIWASCO met about 40% and 42% of the water demand; but 12% of this was lost between the intakes and the treatment works, and significantly more went unaccounted for between the treatment works and the consumption point.

Kisumu is the third largest city in Kenya with an estimated population of over 1 million. There is a significant number of the population that lives in informal settlements in the city and they have numerous challenges in accessing clean and safe water. One of the main informal settlements in the city is Obunga where there are thousands of residents that are housed in this particular region and they have challenges in accessing clean and safe water. The challenges are serious and the majority of the residents of Obunga often have to walk for long distances to get water and at times the water that they use cannot be said to be safe and clean. More than half of the population of Obunga have serious challenges in obtaining water and the inadequate supply of water to the region can be attributed to the national government and the county government that have failed in their role of water provision over the years.
2.8 The competing Models of water resource management

This section provides three approaches to water management that are grounded to development ideologies that are, classic, and neoliberal and neo-populist models. They focus on three scales of operations and different actors and used as the basis for discussing water policy and water management reforms. These models are, state management, the market based model and the Community based model (IFRA, 2010).

2.8.1 State Based Model

A key element of the state based management is that the management of water resources should be subject to public planning and management, preferably within the framework of river basin planning inspired by Tannessee Valley Authority model (IFRA, 2010). This technocratic management model is based on the notion that water belongs to the state and should be allocated by the state though administrative water rights or licenses. Water fees therefore are charged so as to cover for administrative costs incurred and the costs of providing water such as infrastructure. Planning management and conflict resolution should be carried out by water management authorities who have a clear understanding of the available water resources and the optimal ways of allocating them (or water experts). Nevertheless this model has been criticized for being classical, statist top-down approach that does not take into consideration the actual needs of the people at the grassroot level (IFRA, 2010). The application of this model in Africa has not been successful.
2.8.2 Market Based model

This model came about to address the shortfalls of the state based management. An emerging water crisis in the 1990s led to emergence of an international consensus over key principles of sound water management, based on the 1992, Dublin Principles, where it stated that water has an economic value in all its uses and therefore should be termed as an economic good, water is charged therefore to recover cost of providing the service, to provide incentives for efficient use of the resource and as a benefit tax to those receiving the services to provide potential resources for further investment (Perry, 2001). This approach is based on neoliberal argument that the market is not perfect but certainly better that bureaucrats and politicians in allocating the scarce resource for economically efficient outcomes. Water is a commodity that can and should be traded in various ways in a functioning water market. The river basin authorities can only oversee how the market works. In other words, water should be managed at the lowest appropriate level which is a very decentralized market system.

This approach has been criticized, particularly because water is multifaceted and has cultural and symbolic elements. Water many would argue, is a public good that should not be privatized. However; investors with the ability to trade water has denied access to water as a human right, the impact of water charges on efficiency has, in contrast remained elusive.
2.8.3 The Community based model

Neo-populist development approaches gained fame in 1980s emphasizing the need for community participation in water management. The basic idea was that water management should be organized at a community level for instance, villages, and water user associations should control water and decide its allocation. The members have the right to use the resource but there is no individual ownership of the resource and the rights to water are embedded in reciprocal rights and obligations. (In order to get the water, one has to fulfill certain obligations, e.g. contribute to maintenance of infrastructure and once these obligations are met, a person has a claim to water, along with the other members of the community).

Community leaders decide the allocation and water related conflict cases. Payment for water is usually through labour and sometimes other contributions by the users to run the system. In the water sector, this idea is commonly applied in the form of Water User Associations (WUAs) and has been in many instances successful in providing rural water supply and handling conflicts. However, challenging in dealing with water issues beyond the local scale. Including water use for industry and hydro-power estates.

2.8.4 Multi-stakeholder partnerships Model

Global initiatives have taken place in trying to find out the best possible way to govern water, including the 2000 Hague Ministerial Declaration and 2001 Bonn Freshwater Conference which called for good governance of water as a pre - condition for development (Rogers and Hall, 2003). Additionally, one of the key outcomes of the
UN World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002 is the promotion of voluntary multi stakeholder partnerships which would include state and non-state actors and private sector in order to compliment governments’ efforts to achieve the sustainable development goals. An inclusive and participatory multi stakeholder governance approach has been echoed to bring about potential tangible developmental outcomes and better management of water resource (Grey, 2009).

2.8.5 Type Two Multi-stakeholder Partnerships

While several studies have investigated multi-stakeholder partnerships, very little research has been done about Type Two Partnerships. Among the research there is, it has been expressed that TTP model would among other things, improve the implementation strategies for sustainable development as it brings a wider range of capabilities and knowledge together and therefore deliver better decisions and developmental outcomes (Ivanova, 2003, Ayre & Callway, 2005, Eweje, 2007, Stewart & Grey, 2009). The proponents of this model also argue that development issues could not be tackled by a single actor acting alone and required a sense of shared responsibility.

The TTP framework would therefore empower non state stakeholders to take an active role in the implementation of policies which affect them and would ultimately help in dealing with inequalities (Whitfield, 2003). Critics, however, argue that a TTP framework would be exploited by governments in order to reduce pressure on them to agree binding commitments and to relinquish their responsibilities to other actors, particularly the private sector and NGOs, they also argue that the TTP framework would only be successful if governments were willing to set binding and ambitious targets and
the framework lacks sufficient mechanisms to guarantee transparency and accountability (Callway, 2005, Friends of the Earth, 2002).

2.8.5 Public private partnerships

When designing water policies, governments would usually rely on technocrats and water experts in design and decision making, these technocrats usually design the policies in their own terms paying little attention to what the people in the ground, especially rural populations needs and wants from improved water supply and their willingness to bear the cost of improved services (Pritchett & Woolcock, 2004). The abuse of power by government agents without much accountability to the beneficiary or beneficiary considerations is not new. This has often led to public money being used inappropriately leading to a collapse in water service delivery. Woolcock, 2004, recommend Community driven development as one of the alternative solutions for changing how resources, information, decision-making, delivery mechanism and accountability can be changed to improve policy outcomes.

Community based organizations have been actively involved in provision of water services for several decades since independence in Kenya. Typically it has been the practice in donor funded and NGO managed projects that the benefiting community contributes a part of the total costs needed to realize the project; either in material and labour form or direct financial contribution. The community was then later expected to elect a representative management committee, often called Water Users Association (WUA) or Water Management Committee (WMC), to directly operate and maintain the water scheme with technical support from the district water engineers and the NGO technical staff.
The Water Act 2002 provided for water services providers described as a company, a NGO or other person or body providing water services under and in accordance with an agreement with a water services board. The WUAs have been considered to fall under the “other person” or “body” definition. The policy challenge and failure of the WUA community driven model has been that most of these WUA are registered with the ministry of social services as self-help groups consequently, according Prof. Albert Muma, these WUA lack legal personality as stipulated in the law (Mumma, 2003). This particular challenge has made it difficult to enforce the regulatory requirements provided by WASREB and inability to be directly engaged in a Service Provision Agreement with the regional WSBs. The Water Act provides that water services must be operated on a commercial basis and in accordance with sound business principles. The ability of the community driven management approaches clearly lack the capacity to manage capacity to manage these rural water schemes on the basis of business principles. Community Driven Development has been prone to elite capture problems where these supposed representatives end up being puppets and stooges of a few powerful individuals in the community and politicians who only seek to maximize economic rents from the management of the water systems. In effect, a combination of these factors with other factors such as cultural beliefs has rendered community driven approaches in management of water services non-sustainable without proper institutional close monitoring.

The history of commercialization and private sector participation in water services has been a thorny policy issue. Two key policy issues that have underpinned these debates have been the question of morality of commercializing or privatizing water
services and the commercial viability of rural water services to attract private sector actors. Privatization policy to be along water service provision companies formed by local authorities to provide the services. This debate resulted in the then local authorities forming water service providers operated as commercial companies but wholly owned by the government providing the services. This so far is the furthest the country has gone in regard to water services commercialization and privatization (Akumu, 2006).

Okeyo (2011) highlights the emergence of private sector alternative/independent water suppliers to supplement the supplies of water to urban dwellers that get unsatisfactory or no service from the conventional piped water network. He identifies two types of alternative private sector participation in the water sector that have emerged in the form of water kiosks and private water vendors. Water kiosks are a form of public-private partnership whereby the government WSP provides water to the kiosk owner who then resells it to the local customers. Kisumu Water and Sewerage Company innovated a Delegated management Model where they zoned the service area into different sectors each with a Master meter. They then delegated these zones to local enterprises who manage the services within a particular sector. The model involved the utility selling bulk water to the private companies at an agreed tariff then the private actor would manage its distribution to clients including meter installation, billing and revenue collection.
2.9 Theoretical framework for the study

In undertaking this study, the author defined theory as an explanation of phenomena or an abstract generalization that systematically explains the relationship among given phenomena, for purposes of explaining, predicting and controlling such phenomena (Abdellah, 1986). This is important in developing the conceptual framework for the study. The researcher proposes that there are factors which have a direct or indirect impact on water governance and the access to water in the study area and the assessment of water governance is the underlying pillar which makes the research findings meaningful and generalizable. The theoretical framework will help to stimulate research as well as extend knowledge by providing direction. The study relied on the following key theories in the assessment of water governance in Kisumu County.

2.9.1 The New Institutional Economic Approach

New Institutional Economics (NIE) approach builds on two schools of thoughts namely; the neo-classical economics and the institutional analysis. New Institutional Economics assumes that institutions exist to improve on economic performance. The theory emanates from neo classical economics ideas of perfect information, zero transaction costs and full rationality and the assumption of self-seeking individuals attempting to maximize objective function subject to constraints. However, the majority of the assumptions of neoclassical economists exist in the ideal world and not in the real world. Institutional analysis refers to a set of formal laws, contracts, political systems, organizations and informal rules of conduct that facilitate coordination or govern relationships between individuals (Kherallah and Kirsten, 2001). Therefore NIE suggests that economic activities are embedded in a framework of informal and formal
institutions, and its purpose is to explain the determinants of institutions and their evolution over time and to evaluate their impact on economic performance efficiency and distributions (Nabli and Nugent, 1989).

NIE focuses on three primary aspects that include transaction economics, property rights and collective action. The transaction costs include all the costs that are associated with the acquisition of a particular commodity and service and are often incurred during the process of exchange between the buyer and the seller (Coase, 1973). When the transaction costs are not properly accounted for there are chances that the economic efficiency will not be realized as required. Therefore, it is vital that the institution that undertakes on a particular role in providing a specific commodity or service minimizes the transaction cost. Therefore, in the analysis of the provision of water in Kisumu County specifically in the informal settlement in Obunga it will be critical that the bodies that are responsible for the provision and distribution of water minimize the transaction costs and this will see the increase in the number of population that is assured of clean water being provided.

The other aspect that is critical is the property rights. The existence of clearly defined property rights gives incentives to the people to undertake on various economic activities without the fear of losing out. Property rights are categorized into five, the right of access; to enter a defined property, the right of withdrawal; to obtain the resource, the right of management, to regulate how to use or develop the resource, the right of exclusion; to determine who enters the resource and the rights of transfer; determines how to sell, transfer, lease or leave the resource (Schlager, 2005). Therefore, in the case that the Kisumu County Government and the National Government want to enter into
various agreements with independent stakeholders in the distribution of water, there is the need for clearly defined property rights to ensure that people are able to undertake on this particular investment. When the property rights are not clearly defined, the transaction costs will likely go up. The importance of property rights in relation to water management was brought to the fore by (Bruns, 2005). After reviewing the water property rights reforms in six countries, concluded that the use of property rights as tools for more equitable, sustainable and efficient water management requires better sequencing of reforms, redesigning institutions for participatory water governance, resolving tenure rights and developing equitable arrangements for regulating transfers.

The NIE approach takes into account the theory of collective action mainly driven by Ostrom’s work (1990) where institutions and institutional structures developed by individuals, groups and governments to organize human activities influence the outcome of managing “common pool resources” (Biswas and Venkatachalam, 2010). Water is an example of common pool resource. The collective action of the residents of Obunga and the stakeholders that are responsible for the provision and distribution of clean and safe water will ensure that the water resource is efficiently managed in the county and as such more people are able to access the water in the process.

By relaxing some of the assumptions such as unbounded rationality and information availability and maintaining efficiency through minimization of transaction costs, this approach is best suitable to deal with the economic, political and social considerations of water management (Sharma, 2012).
2.9.2 Levels of institutions (Williamson)

The NIE distinguishes between informal and formal institutional environment and between institutional environment and institutions of governance (Williamson, 2000).
Fig. 2.4: The Four Levels of institutions


The solid arrow that connects higher and lower level indicates that the higher level imposes constraints on the lower level that is immediately below it. The top level is the formal institutional environment which includes the customs, traditions and norms, which change at a very slow pace/ Level 2 is the formal institutional environment, which includes the constitution, the legal systems, judiciary, polity and property rights and
contract rights. Level 2 introduces “formal rules” of the game and opens up the opportunity for first-order economizing: getting the formal rules of the game right (Williamson, 2000). The play of the game (Level 3) is the economic organization of contracts and governance structures; market, quasi-market and hierarchical models of contracting, generally for managing transactions and economic activity through completion (Patibandla, 2012). Level 3 opens the opportunity for second order economizing; get the governance structures right (Williamson, 2000). Level 4 brings about neo-classical ideas e.g. evolution of resource allocation and employment and changes continuously. Level four by Williamson can be used as a framework to evaluate the performance of institutions for water reform related aspects and allow for the establishment of new and better ways to reform of water resource management policies in the face of looming water problems (Sharma, 2012).

2.9.3 Robust design for self-organized common-property institutions (Ostrom, 1990)

Ostrom (1990) in “Governing the Commons” illustrated eight key design principles related to long-term robustness of institutions created to govern common-pool resources. He defines common pool resource to include both natural and human-made systems, including, water basins, water irrigation systems, forests, grazing lands (Ostrom, 2001). Examples of resource units derived from common pool resources include water and timber (Ostrom, 2001). The analytical framework to long term robust institutions for sustainably governing common-pool resources such as water is as follows;

**Clearly Defined Boundaries**: The boundaries of the resource system (e.g., irrigation system or fishery) and the individuals or households with rights to harvest resource units
must be clearly defined. This principles ensures that participants know who is in or out of a defined set of relationships and therefore with whom to co-operate (Ostrom, 2009).

**Proportional Equivalence between Benefits and Costs:** Rules specifying the amount of resource products that a user is allocated are related to local conditions and to rules requiring labour, material, and/or money inputs. This principle indicates that rules need to be well specified so that benefits and costs are allocated proportionally to the participants. If some users pay low costs but obtain high benefits over time, then the willingness by others to participate and follow the rules.

**Collective-Choice Arrangements:** Most individuals affected by harvesting and protection rules are included in the group who modify the rules.

**Monitoring:** Monitors, who actively audit biophysical conditions and user behaviour, are at least partially accountable to the users.

**Graduated Sanctions:** Users who violate rules-in-use are likely to receive graduated sanctions (depending on the seriousness and context of the offense) from other users, from officials accountable to these users, or from both. Ostrom (2009) illustrates that the first five principles work together. For example; participants of a resource system make their own rules through collective action agreements, these rules and imposed and monitored by local users who may employ punishment for those who violate them, it is clear who has the rights to the resource and that effectively assign cost proportionate benefits (Proportional equivalence between benefits and costs), then collective action and monitoring problems can be solved in a reinforcing manner (Ostrom, 2009).

**Conflict-Resolution Mechanisms:** Users and their officials have rapid access to low-cost, local arenas to resolve conflict among users or between users and officials. This
principles suggest that systems with low cost conflict resolution systems are more likely to survive.

**Minimal Recognition of Rights to Organize:** The rights of users to devise their own institutions are not challenged by external governmental authorities, and users have long-term tenure rights to the resource.

The eight general principles for robust systems were reviewed and updated by (Cox, 2010) based on the results from an analysis of almost 100 studies which applied Ostrom’s principles for managing common-pool resources. The improvements are related to the principles 1, 2 and 4. The design principle 1 is separated into two parts. The first one is on *user boundaries* where clear and locally understood boundaries between legitimate users and nonusers are present, and the second part is on *resource boundaries* where clear boundaries that separate a specific common-pool resource from a larger social-ecological system are present.

The design principle 2 is also split into two parts, *congruence with local conditions* and *appropriation and provision*. The former states that appropriation and provision rules are congruent with local and social environmental conditions, whereas the latter suggests that appropriation rules are congruent with provision rules, i.e. the distribution of costs is proportional to the distribution of benefits. Finally, the design principle 4 distinguishes between *monitoring users* and *the resource*. The former refers to individuals who monitor the appropriation and provision levels of users, whereas the latter refers to individuals who monitor the condition of the resource.

Ostrom (2010) suggested that the improvements in the design principles 1, 2 and 4, together with the other principles, are robust and can ensure the probability of long
term survival of an institution developed by the users of a resource. Moreover, Ostrom’s further work focused on designing principles to deal with economic and environmental challenges that could result in the sustainability of common pool resources. She acknowledges that the resource is finite in the short term and only infinite in the long term if measures are taken to ensure that the resource can renew itself (Sharma, 2012). The lack of incentives can lead to over-use and eventually deterioration of the quantity and quality of the common resource. Therefore, Ostrom (1997 and 2001) provided an analytical framework that describes the conditions under which self-governing/localized government institution can form and manage successfully a common pool resource which include; the attributes of the resource and the attributes of the appropriators as indicated below;

2.9.4 Attributes of the Resource:

**R1. Feasible improvement:** Resource conditions are not at a point of deterioration such that it is useless to organize or so underutilized that little advantage results from organizing.

**R2. Indicators:** Reliable and valid indicators of the condition of the resource system are frequently available at a relatively low cost.

**R3. Predictability:** The flow of resource units is relatively predictable.

**R4. Spatial extern:** The resource system is sufficiently small, given the transportation and communication technology in use that appropriators can develop accurate knowledge of external boundaries and internal microenvironments.

2.9.5 Attributes of the Appropriators:
A1. **Salience**: Appropriators are dependent on the resource system for a major portion of their livelihood.

A2. **Common understanding**: Appropriators have a shared image of how the resource system operates (attributes RI, 2, 3, and 4 above) and how their actions affect each other and the resource system.

A3. **Low Discount rate**: Appropriators use a sufficiently low discount rate in relation to future benefits to be achieved from the resource.

A4. **Trust and Reciprocity**: Appropriators trust one another to keep promises and relate to one another with reciprocity.

A5. **Autonomy**: Appropriators are able to determine access and harvesting rules without external authorities countermanding them.

A6. **Prior organizational experience and local leadership**: Appropriators have learned at least minimal skills of organization and leadership through participation in other local associations or learning about ways that neighbouring groups have organized.

2.9.6 **Attributes of the resource and appropriators for self-governing of common pool resources. Source: Ostrom (1997 and 2001).**

In conclusion, sustainable self-governing systems could work if the resource system is sufficiently small and appropriators can develop precise knowledge of external boundaries and internal microenvironments and the flow of the resource is relatively predictable. A common understanding among the appropriators including knowledge about the allocation of the resource and the effect on each individual’s actions and trust and reciprocity among appropriators is key.
2.10 Chapter Summary

This Chapter reviewed existing literature, journals, documents, reports and agreements on main concepts of water governance, it looked into the governance of the water services sector in Kenya and identifies main gaps there are, the chapter also looks into the theoretical framework to be adopted by this study. The next section will look at methodology of the study.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This Chapter presents a detailed description of strategies and procedures that were utilized in the study to address the research objectives. It particularly focusses on the research design, target population, sampling procedures, data collection procedures and data analysis techniques as well as ethical considerations.

3.2 Research Design

A research design refers to the overall strategy that a researcher chooses to integrate the different components of the study in a coherent and logical way, thereby, ensuring he/she will effectively address the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data. The researcher therefore needs to pay attention to designing and adhering to the appropriate methodology throughout for improving the quality of research (Bryman, 2012).

This study employed a descriptive survey research design. Descriptive survey research design was used in preliminary and explanatory part of the study to allow the researcher to gather information, summarize, present and interpret data for the purpose of clarification (Orodho, 2003). To answer the research questions, an embedded case study of Kisumu County Water Service Sector was used to enable an in-depth examination of water governance in Kenya. A case study is defined as an empirical inquiry that investigates a phenomenon within its real life context (Yin, 2019).

While a holistic case study has only one unit of analysis, an embedded case study will allow for many units of analysis (Yin, 2003). In this case, the research aims to shed
light on water governance processes in Kisumu County, the ‘real life context’ as stated by Yin, 2019. The research questions aim to explain rather than explore phenomenon. For instance, the study seeks to examine how institutional actors involved in Water Governance in Kenya interact across policy levels in the water sector using the case study of Kisumu County.

3.3 Considerations for the case study selection

Politicization of water resources and supply management- Water resource and supply management are of high political importance and are not usually consensual. Despite its close proximity to the world’s largest fresh water Lake, Lake Victoria, Kisumu County residents face water challenges. The quality, quantity and distribution of water are just some of the contested issues in the water region.

Multi-level water resource management, given its interest in multilevel governance, the case selection only included examples where multiple policy levels were relevant to water governance. Kisumu County was selected as it falls has three levels of management- international, national and county level, the county also shares Lake Victoria Basin with Uganda, Tanzania, Rwanda and Burundi and several other counties in Kenya.

Embedded case study- Embedded case study design was picked in order to enable in depth analysis of water governance in Kenya taking into account multiple factors, actors and process on various policy levels. Kenya was picked as a case study country as it has been labelled a water scarce country, with several water reforms taken up by the government, from governance by national government to decentralization and devolution,
major challenges that still face the water service provision which is now a mandate of the County Governments, this study selected Kisumu County as its embedded case study.

To realize the objectives of this study, the research involved gathering of secondary sources of data in respect to the Water reforms, policies, journals, books, newspapers and organizational and institutional reports discussing multi-level water governance. Apart from secondary sources of data, the study engaged in a mixed method of research engaging both primary qualitative and quantitative data.

3.4 Target Population

Mugenda and Mugenda (2003), explain that the target population should have some observable characteristics, to which the researcher intends to generalize the results of the study. The population investigated was institutions and stakeholders responsible for water supply management in Kisumu County at different levels, national, county level to local level. This include officers from the Ministry of water in Kenya, officers working in the water sector at Kisumu County Government, officers from Kisumu Water and Sewerage Company limited (KIWASCO), Officers from Lake Victoria South Water Services Board, Lake Victoria Basin Commission, directors, officers from Water Resources Authority (WRA), local officers in charge of water management in the County, NGO Programme Officers working in Water, Sanitation & Hygiene and Private Sector actors in the water Sector.

3.5 Sample size and sampling procedure

The research study group from on which information to answer the research question was obtained was a representative of the institutions and individuals involved in water services provision at Kisumu County. A sample of 115 participants was selected.
Purposive sampling technique was used to identify key stakeholders involved in water governance, using snowball sampling technique, other actors were identified, among them representatives of key actors such as the national government of Kenya and the county government of Kisumu, INGOs, bilateral donor agencies and water vendors involved in water services provision at Kisumu County. The aim was to include representatives of a diverse range of actors that play an important role in water governance in Kisumu County. In order to select residents of Obunga slums to be interviewed, the Kenyan Ministry of Housing and Urban development estimate that the slum has approximately 3500 inhabitants with a population density of 97 people per hectares, and the national household average is determined to be at 4 people per household, therefore, makes the total of household number at 875. Simple random sampling technique was used to sample 100 households.

The formula that was used in arriving at the sample was:

\[
n = \frac{[z]^2 \times p \times (1 - p)}{e^2}
\]

Where
\(z\)=standard normal deviate the required confidence interval
\(p\)= probability of having the population with the desired characteristics
\(q\)= probability of having the population that does not possess the desired characteristics
\(e\)= desired level of precision

The target population across Obunga was that 9/10 of the respondents being individuals that had some access to water and were aware of the water distribution services with 1/10 of the respondents being water officials at different levels and capacities in Kisumu.
County who the researcher expected would provide first hand data that would be useful to answer the research questions.

The significance level that was adopted in this study was at 5% implying that the confidence interval stood at 95%. Consequently, the sample size was evaluated as follows:

\[ n = \frac{(1.96^2 \times 0.9) \times (1-0.9)}{0.05^2} \]

n=138 persons

Out of the 138 population that was identified to take part in the study, 23 individuals dropped out of the study eventually leaving a total of 115 respondents to take part in the study. The respondents that opted out of the study did so out of various reasons.

**Sample used:**

**Table 3.1: Sample Used**

<table>
<thead>
<tr>
<th>Ministry of Water and Irrigation</th>
<th>2 interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Government of Kisumu</td>
<td>2 interviews</td>
</tr>
<tr>
<td>Lake Victoria South Water Services Board</td>
<td>2 interviews</td>
</tr>
<tr>
<td>Kisumu Water and Sewerage Company</td>
<td>2 interviews</td>
</tr>
<tr>
<td>Water vendors</td>
<td>2 interviews</td>
</tr>
<tr>
<td>NGOs/INGOs</td>
<td>2 interviews</td>
</tr>
<tr>
<td>CBOs and SHG</td>
<td>2 interviews</td>
</tr>
<tr>
<td>Area Chief</td>
<td>1 Interview</td>
</tr>
<tr>
<td>Households (residents)</td>
<td>100 questionnaires</td>
</tr>
<tr>
<td>Community members</td>
<td>3 FGDs of 8 participants each</td>
</tr>
</tbody>
</table>
3.6 Data Collection methods and tools

This study applied a mixed methods approach combining qualitative and quantitative methods of data collection. Data collection methods were selected according to the type of research question and the data each required, in order to examine how actors are involved at multi-level water governance semi-structured interviews with key actors was be used to gather data. 3 Focus Group Discussions (FGDs) with Water User Associations were carried out. Questionnaires used to carry out household surveys.

3.6.1 Interviews

Semi-structured interviews was carried out with actors/representative from different institutions involved in the governance in Kisumu County and Kenya in general, the interview questions focused on multilevel water governance processes and identifies which actors interact on what policy level and how, what decisions are made, what are the priority areas? The purpose for semi-structured interviews was to gain a deeper insight into policy processes relating to water management, water security and governance framework including the state and non-state actors and their interactions as well as their opinions regarding water use and development. Interviews were recorded through an audio device and the researcher took notes which she later transcribed to help answer the research questions appropriately.

The interviews were carried out using semi structured questionnaires divided into three sub sections; the first section comprised of demographic data such as age, sex, years of experience and adequate training and institutional support, the second part looked into the institutional framework of water service delivery in Kisumu County in correlation to their level of delivering water services in the region, the third section explored alternative
models of water governance that would ensure accountability and transparency in the water sector.

3.6.2 Questionnaires

A questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents. As a data collecting instrument, it can be structured, semi-structured or unstructured. Semi-structured questionnaire contains both open-ended and closed ended questions and is able to gather both qualitative and quantitative data. Descriptive data is best collected using questionnaires (Gay 1996).

This study adopted semi-structured questionnaires to collect data on the current governance framework of the water sector in Kenya, the questionnaires were administered physically by the researcher, they were also be sent electronically to be filled by the respondents and sent back to the researcher.

3.6.3 Focus Group Discussions

Focus group interviews are a useful method of collecting data on the attitudes and opinions of research participants in a supportive environment (Gomm 2009). Focus Group discussions were carried out with representatives of water user associations in Kisumu County to collect in-depth data about the governance of water at local level and to understand policy implications at local level as well as the challenges that water users and water providers face. The interaction between focus group provides constructive feedback as participants are allowed to challenge each other’s views, thus revealing a more detailed perspective of a situation than can be gained from individual interviews (Bryman, 2012).
Participants in the focus group were sampled randomly to get 8 participants from residents of Obunga slums. A recommended size for a focus group is six to eight participants (Bryman 2012). This study targeted three focus group discussions of 8 participants each.

3.6.4 Observation

Observation is a method of data collection which involves listening, reading, smelling and touching. When used in scientific research, observation includes the full range of monitoring behavioral and non-behavioral activities and conditions (Bryman, 2012). The researcher used direct observation in the study to capture pertinent information regarding the current situation of the Lake Victoria Water Basin. The information was guided by an observation checklist which contained a list of things that could be observed to ensure detailed and relevant information was captured. Some of the things the researcher was looking for include water leakages, burst pipes, state of water kiosks, colour of the water and distance covered to access the water source.

3.6.5 Validity and reliability of research instruments

The conclusion made the researcher was based on the instruments. It was very pivotal to ensure that the instruments are of high quality. The instruments were tasted for reliability and validity.

3.6.6 Validity of research instruments

Validity refers to whether the research truly measures that which was intended to measure or truthful the research results are (Joppe, 2000). Validity is the extent to which the instruments will capture which they were supposed to measure (Dooley, 2003). It means scientific usefulness of findings arising thereof (Serakan, 2003). It is validity that
ensures accuracy of information gathered. Validity of instruments is critical in all forms of researchers and acceptable level is largely dependent on logical reasoning, experience and professionalism of the researcher. The researcher conducted a pilot study with each of the research instruments to measure the validity of the instruments.

3.6.7 Reliability of research instrument

Reliability is the degree to which an assessment tool produces stable and consistent results. It is a measure of the degree to which a research instrument yields consistent results after repeated trials. The tendency towards consistency found in repeated measurement is referred to as reliability (carmines & Zeller, 1979). Accuracy in measurement is of great importance.

Reliability is about stability and equivalence of results, they are consistent after repeated tests of the same object with the same instrument. The researcher improved reliability by standardizing the conditions under which the measurement takes place and using the service of trained and motivated research assistant. The research used Test-Retest method where she gave two different but equivalent instruments to the respondents.

3.7 Data analysis procedure

The researcher analyzed data using descriptive analysis. Descriptive analysis is the study of distribution of one variable and it provides the researcher with profiles of the study population such as their size, composition, efficiency, preferences and so on (Kothari, 2004). First the completely filled questionnaires were checked for completeness. Data analysis started once all the data had been captured. Closed-ended questions were analyzed using nominal scales into mutually exclusive categories and
frequencies by employing descriptive statistics using the statistical package for the social science (SPSS).

Open ended questionnaires were transcribed and interpreted using conceptual content analysis. In order to analyses qualitative data, the researcher coded the text for themes to be used in the research report. The data contents were summarized and the information used as a starting point in analysis. Similarities and differences in secondary and primary data were examined in order to draw conclusions as argued by Kothari (2014) content analysis can be qualitative or quantitative and may involve the contents in secondary material and those of other verbal material either spoken or printed or recorded. Leedy and Ormorod (2015, p.385) consider content analysis the best way to analyses qualitative data as the body of material or human communication is systematically examined in order to detect general patterns, themes or biases that are of importance in drawing conclusions. The content was analyzed and presented according to themes derived from the research objectives in order to respond to the purpose of the study.

3.8 Ethical Considerations

Ethics has been defined as a branch of philosophy which deals with one’s conduct and serves as guide of behavior (Mugenda & Mugenda, 1999). According to Websters New dictionary, ethics is defined to as conforming to the standards of conduct of a given group or profession. In this study the researcher followed ethical guidelines to ensure there is no physical or emotional harm to the participants. The researcher got approval from the relevant authority to collect data, she explained to the participants that the study is made for academic purposes only and adhered to voluntary participation by the
respondents, confidentiality of data, objectivity and integrity in carrying out her research, respect to property and tried as much as possible to be accurate and avoid falsification of data.

3.9 Chapter Summary

This chapter comprises of the research methodology that was used for the study of which includes research design, target population, sample size, sampling procedures, research instruments, validity and reliability of research instruments, data collection procedures, data analysis techniques, ethical issues and operational definition of variables.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

The purpose of this Chapter is to present results and findings of the study as per the research objectives of the study in Chapter one. The first section presents the general information about participants in the study such as age, gender and level of education while the second part presents the finding based on the objectives of the study. The research findings were based on responses obtained from 15 key policy makers who occupy administrative and management positions in water service sector in Kisumu County and from the Ministry of Water and Irrigation and 100 households in the informal settlements of Obunga Slums in Kisumu. Thus, over 80% of the questionnaires were returned and as stated by Mugenda (2003), above 50% return of questionnaires is acceptable. The age of the respondents ranged from 18 years to over 55 years with a mean of 36 years and a standard deviation of 10 years.

4.2 Demographics

Figure 4.1 below, shows the gender distribution of the respondents. The study comprised of male and female participants taking part in the study. The findings show a fairly middle aged population where the female respondents dominated most of the age groups. The age of participants ranged from 18 years to over 55 years. The majority of the respondents in the study were in the 35-44 age groups with the rest of the respondents being distributed in the other age groups.
Fig. 4.1: Distribution of the respondents by gender

As indicated, 70% of the participants were female and 30% were male suggesting that a higher number of female respondents than the male from the study area. This also is because more women were willing to take part in the study as opposed to men hence the results. There was a total of 90 respondents that took part in the study that came from Obunga. There was an additional 25 respondents that took part in the study and the 15 respondents were water officials in charge of different bodies in Kisumu County.
Fig. 4.2: A section of Obunga Informal Settlement

Source (Author)
Table 4.1: Distribution of respondents by age groups

The table above shows the distribution of respondents by category. As shown in the results, 90 were residents of Obunga slums, 6 were water vendor and the remaining 19 of the 115 total were water and sanitation officials in the study area.

Table 4.2: Respondents by number

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Water and Irrigation Officials</td>
<td>3</td>
</tr>
<tr>
<td>County Government of Kisumu Officials</td>
<td>4</td>
</tr>
<tr>
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<tr>
<td>Area Chief</td>
<td>1</td>
</tr>
<tr>
<td>Community Members (Obunga residents)</td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>
4.3 Findings

This section presents the findings of the research as per the three research questions and is therefore organized into three parts, the first part focuses on the actors involved in water governance in Kisumu County, particularly Obunga Slums and how they interact across policy levels. The second part looks at how decentralization of governance is affecting multi-level partnerships in water service delivery and the third section focuses on the models through which multi-level partnerships can improve ownership, inclusivity and accountability in water service delivery in Obunga slums in Kisumu County.

The respondents were asked to state the extent to which they agreed that institutional actors involved in water services provision addressed their water needs. 45% of the respondents agreed that they do so. However 50% of the respondents said that the institutional actors involved in water services provision have not really addressed the water needs of the slum. 5% of the respondents were not aware of the institutional actors in water provision hence they could not provide conclusive response on whether the institutions had addressed the water problem. This warrants further investigation to ascertain why the institutional actors have not addressed their said mandates despite constitutional changes that were enacted specifically to improve access to public services by the citizens.

4.3.1 Severity of water problems in Obunga Slums

The results on the severity of water problems in Obunga slums in Kisumu county show that residents face a water scarcity problem as agreed to a large extent by 80% of the respondents. According to 20% of the respondents, they argued that the water
problem was not serious since they were able to access constant flow of water. The respondents were asked to rate the importance of water resource projects and as shown 67% agreed that they were important, many respondents went ahead to mention that their small businesses depended highly on water from water projects such as water tanks set up by Community Based Organizations and water kiosks set up by Kisumu Water and Sanitation Company (KIWASCO). It is evident that water is critical to the livelihood of the people of Obunga both at personal level and also for business needs hence the need for improved accessibility to water.

**Fig. 4. 3: One of the water kiosks in Obunga Slum**

*Source: (Author)*
4.3.2 Institutional actors involved in the water service delivery in Kisumu County and how they interact across policy levels.

Table 4.3 below shows the results on the institutional actors involved in water service delivery in Obunga Slums in Kisumu County. This was a multiple answer question where the respondents were asked to state the actors involved in water services provision in the study area. They were further asked how these actors were involved in ensuring water services are delivered to residents in an efficient and equitable manner.

Research findings further revealed that there was several water actors involved in water services provision in Kisumu County including both formal and informal actors. Formal actors were those licensed and therefore legally recognized to operate in the area. Informal actors involved those who were not licensed but carried out the business of selling water to households. Table 4 shows the various actors involved in the provision of water in Kisumu County and their main characteristics and interactions as identified in the study.

**Table 4.3: Water actors involved in the provision of water in Obunga Slums, Kisumu County**

<table>
<thead>
<tr>
<th>Actor</th>
<th>Formal or informal</th>
<th>Number sampled</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIWASCO</td>
<td>Formal</td>
<td>Single actor</td>
<td>Water is provided through piped network, has minimal spatial coverage, experience frequent interruptions of water supply, quality is acceptable but</td>
</tr>
</tbody>
</table>
Further treatment is required due to contamination from illegal connections.

<table>
<thead>
<tr>
<th>Water Kiosks</th>
<th>Informal</th>
<th>5</th>
<th>Water is provided through KIWASCO piped network to a common point and resold to households and vendors at relatively affordable prices, has water meters and pays to KIWASCO, water is mostly treated before consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartels</td>
<td>Informal</td>
<td>3</td>
<td>Masquerade as water kiosks but are unlicensed, obtain their water from illegal connections from main water supply network, have no standard water charges usually fluctuate with demand and supply of water.</td>
</tr>
<tr>
<td>Vendors</td>
<td>Informal</td>
<td>10</td>
<td>Obtain water from kiosks and cartels, use hand carts and wheelbarrows to deliver water to households, water quality is not assured since the containers used for delivery are not always clean.</td>
</tr>
<tr>
<td>CBOs and NGOs</td>
<td>Formal</td>
<td>3</td>
<td>Provide water to households, have huge capacities for water storage, incorporate other activities alongside water provision e.g. youth projects, sanitation blocks etc</td>
</tr>
<tr>
<td>Self Help Groups</td>
<td>Formal</td>
<td>3</td>
<td>Provide water to members of households, have a limited storage capacity, incorporate other income generating activities for the youth women and special groups.</td>
</tr>
</tbody>
</table>

The management of water sources is critical as this reveals the inherent challenges of governance such as the level of service provision, nature and level of participation in decision making, and other factors like marginalization of specific gender especially women who suffer the most. For women, water crisis is personal as they are responsible for finding the resource and providing the same for their families- for drinking, cooking, sanitation and hygiene. In most of the water kiosks observed, women formed a majority of those waiting in line to collect water spending over an hour collecting water. They are left with little time for other major developmental activities such as work, school.

### 4.3.3 The role of the community in water Management

The importance of strengthening the involvement of all stakeholders to improve water management in different levels, including the sustainable, efficient water use, access to clean water that is safe and affordable cannot be underestimated. When how various actors including the community asked were involved in water management in the area. The results showed that 70% of the respondents believed that the Kisumu County administration played the bigger role while 15% believed that local officials such as the chief and sub-chiefs played a bigger role in the management, the donors or NGOs were at 10% and only 5% of the respondents agreed that the community was involved in water
management through community actions such as environmental awareness, community water projects such as boreholes.

Few agreed to have attended water and sanitation meetings although those who attended more than three meetings claimed to have learnt better water use, water recycling, separation of waste products and water purification, only 2% of the community respondents said they would intervene against illegal water connections to the relevant water authorities, However, the community involvement was majorly through the management of water kiosks, identification of the locations for water kiosks, providing security to the water kiosks, paying water bills in time.

**Fig. 4.4: Community participation in water management**

![Community Participation Pie Chart]

The figure above shows participation of various actors in water management in Obunga informal settlement.
Fig. 4.5: Focus Group Discussion with Community members

Source: Author
4.4.1 How decentralization of governance is affecting multi-level partnerships in water development and water service delivery

The respondents were asked whether the shift of governance from the central government to decentralized level of government had affected partnerships in water development and water service delivery. The results revealed the following themes:

**Ambiguity in the sharing of policy capacities**

60% of the respondents pointed out that there still exists major challenges ranging from incomplete transfer of staff and assets ownership from the local authorities to the Water Services Board created by the water reforms and now from the Water Services Board to the County Government as per the 2016 Water Act. Conflicting roles of institutions were also pointed out as the county government dismisses the Water Service Board as irrelevant and the Board on the other hand claiming that the County has no capacity to deliver the Boards mandates.

**Efficiency in water resource delivery**

80% of the respondents commented that decentralization of governance was embedded in equity in sector legislation and created the basic principles for more efficient and needs oriented management. The Water Services Trust Fund established by the water act 2002 as a dedicated pro-poor financing instrument, now plays a crucial role in up-scaling water and sanitation to the poor. This is mainly facilitated by the human rights approach to water governance rather than viewing water as an economic good that should be traded.
Conflicting roles

According to the County Policy makers, bodies such as the Water Services Boards undermine the constitutional role of the County whereby water and sanitation services are devolved functions to be undertaken by County governments. This regulatory regime and institutional structure has been named as a source of conflicts between the County governments and the national government. Although by the Country’s law the function is devolved, water and services functions is still under a tight control of the national governments which does not show interest in completely transferring the function to the County Governments. They now wonder what exact role are they to play as far as water services provision is concerned.

Three dimensions of these conflicting roles were elaborated as follows;

The devolution of water services provision to the County Governments has brought about water resources conflicts between neighboring counties. Some counties within where key water towers/sources such as major springs, forests, dams have demanded that other counties who do not have the water sources but the water is channeled to should pay the counties directly for the water abstracted. This was the case between Nairobi and Kiambu Counties whereby the county Government of the latter expected Nairobi County to pay for water directly to the Kiambu County Government since some of their sources of their waters was channeled to serve Nairobi County residents.

County government Officials claimed that the Water Works Development Authorities are unconstitutional since the work they are assigned is constitutionally County Government functions and as such they should be completely scrapped off.
Setting of policy, standards, licensing, and regulation of water service providers including county-owned utilities has been left to the national governments. The county officials claim that such regulatory regimes puts them on the margins of water services delivery despite the fact that they are mandated to be custodians of water services to their county citizens. This has negative consequences on enforcing regularly compliance at the local levels.

In as far as multi-stakeholder partnerships is concerned, the national government has boycotted the system. First, by using it as a framework to transfer essentially government responsibility to other actors; and second, dominating all platforms and only engaging the other actors superficially to avert criticism, claim legitimacy and to reinforce their position.

The Area Chief for Obunga Sub-Location said that there are grassroots objectives by the local leaders which is to do something to deliver water and sanitation to the local people in whichever way it works. All NGO representatives interviewed said that essentially the aim is to work together with other stakeholders to increase access to water and sanitation services by the slum dwellers, but alongside this increase learning, capacity building and pass on knowledge to the grassroots.

When asked of what could be done better to improve water services provision in the County the emphasis on capacity building with people in the county, (and not going in to dig up a borehole or donate a tank and go out) because all over the region there are good projects which break and fail soon after donors or technicians have left because nobody else knows how to fix them. Other reasons for failures include lack of a sense of ownership by the community and the local government, failure to meet the community’s
needs and inappropriate technology use. Emphasis on capacity building to improve community involvement is more likely to ensure sustainability of NGO funded water projects. Capacity building could be in terms of corporate, institutional or technical support through networking, benchmarking, and seminars among others.

**Fig. 4.6: Education of community members on water management**

![Education of community members on water management](image)

Source: Author

More challenges facing the water service sector is the lack of reliable investment data for water service sector implies an information and accountability gap, there is also resistance to institutional change, since not all stakeholders are completely convinced of the need for reforms and institutional performance, in contrast, new institutions, WASREB & WSTF, pre-reform institutions have not improved their performance to any significant degree. The chief executive officers of sector institutions are, in practice, not
being appointed and dismissed by their respective boards of directors (BoD), rather they are being selected and nominated by the MWI. The autonomy of sector institutions is restricted and current selection procedures for board members do not prevent conflicts of interest.

The performance of institutions crucially depends on appropriate conduct, accountability and information disclosure by their respective boards of directors. As such, board expenditures can serve as an indicator for the governance of sector institutions, like the WSBs. Closer inspection of WSB board expenditure shows significant discrepancies, pointing to questionable practices by directors.

One thing that emerged during the study was that water needs to be categorized under public goods. In economics, a public good is a commodity or service that is provided for the benefit or well-being of the public. If water is to be made an economic good, the cost may go up and the majority of the individuals in an informal settlement such as Obunga will lack the financial resources that are needed to acquire such an economic good. Therefore, the government must categorize and provide water as a public good to ensure that the majority of the population will be in a position to access the good and as such the provision of water to the residents of Obunga will significantly improve in the process. Water is one of the basic human needs and the monetization of water implies that in a place such as Obunga where the residents live on less than a dollar a day, water must be provided as a public good and the government can deal with the expenses through taxation and other revenues that are collected. When it is left in the hands of the private sector as the government has done, the law of demand and supply will be invoked
and in the process, the people that do not have the resources will not be in a position to access clean and safe water.

4.4.2 Models through which multi-level partnerships can improve ownership, inclusivity and accountability among actors in the water sector

Water and sanitation problems are not new and neither are the attempts to tackle them, Global initiatives have taken place in this regard, including the 2000 Hague Ministerial Declaration and 2001 Bonn Freshwater Conference both of which world leaders agreed on good governance as a pre-condition for sustainable development (Hall, 2003).

One of the key outcomes of the UN World summit on Sustainable Development (WSSD) held in Johannesburg in 2002 is the promotion of multi-stakeholder type two partnerships in order to include state and non-state actors in working together towards the achievements of the sustainable development goals. An inclusive and participatory approach has been echoed to bring about potential developmental outcomes and better management of resources (Grey, 2009). This research found out the following models through which multi-stakeholder partnerships can improve ownership, inclusivity and accountability among actors in the water sector:

4.4.2.1 Type Two Partnerships (TTP) Framework

Alongside the government, intergovernmental formal or ‘Type One Agreements’, the Johannesburg UN World Summit on Sustainable Development echoed ‘Type Two Partnerships’ in that it could contribute to reinforce government efforts in achieving the SDGs (UNDESA, 2002, Norris, 2005, Grey, 2009). Norris (2005) explained that Type Two Partnerships were informal, voluntary commitments, generally between a
combination of governments, businesses and NGOs and INGOs. This is not to say that voluntarism replaces regulation and laws rather complement it.

Type One Partnerships are particularly specific commitments between and among governments but type two partnerships opens up to other actors other than states. Among the research there is, TTP model among other things, improves the implementation of strategies for sustainable development as it brings a wider range of capabilities and knowledge together and therefore delivers better decisions and developmental outcomes (Gray, 2009). The proponents of this model such as Stewart and Grey (2009) argue that developmental issues could not be tackled by one state or one single actor acting alone and requires a shared responsibility. The TTP framework they argue empowers state and non-state stakeholders to take active role in the implementation of policies which will affect them and would ultimately help in dealing with inequalities, foster ownership, transparency and accountability (Whitfield, 2003).

Stewart and Grey (2009) argue that the TTP model has the potential to create a more holistic and innovative understandings of development problems and the solutions to these problems. The framework promises to avoid duplication of efforts; to fosters a sense of ownership over policies and their implementation, empowers beneficiaries, to mobilize new resources which are not just financial but also social capital knowledge and expertise beyond those of governments working alone and ultimately achieve more than that which could be done by one actor working alone.

The TTP model has been used as a governance mechanism in the water services provision sector in Sub-Saharan Africa: European Union Water Initiative (EUWI), Partners for Water and Sanitation (PAWS) and West Africa Water Initiative (WAWI).
The EU Water Initiative was established at the World Summit on Sustainable Development in Johannesburg in 2002 by the EU member countries (EUWI, 2005). The main objectives were to reinforce political will and commitment to action, to make water governance effective and build institutional capacity, to improve coordination and cooperation among stakeholders in the water sector and to identify alternative additional ways of financial resources and mechanisms to sustainable financing.

EUWI is a broad partnership with large make up including governments, civil society, water operators (EUWI, 2005). The governments commit to improve policy, governance and institutional capacity, public knowledge, awareness creation, and education as well as safeguard sustainable access to water and sanitation and mobilization of financial resources. TTP model involves multiple stakeholders in a partnership and is more likely to improve governance can improve ownership, inclusivity and accountability in the water sector.

Civil society promotes advocacy, capacity building, and mentoring and better community organization and promotes access to service delivery at the local level. They contribute feedback on better integration of community needs and perspectives and promotion of community empowerment options. Water Operators on the other hand, both public and private are partners in EU Water Initiative as they are the primary source of managerial, technical and practical knowledge on service provision standards and promotion of public awareness as well as effective planning, operation and maintenance of water infrastructure (EUWI, 2005).

In Chapter 2, this research outlined key characteristics of partnerships as follows;
1. Guarantees legitimacy: through agreeing the design of partnership in a
democratic, transparent and equitable manner, including identification of
stakeholders in the framing of the agenda and work plan (Hemmati 2002).

2. Involves all partners from the outset rather than traditional sub-contracting
approach (UNCSD Secretariat, 2005).

3. Be inclusive and not exclusive (Hemmati, 2002). If logistical and functional
constraints make selection criteria necessary then this criteria need to be made
public and open to debate.

4. Ensure there is a broad forum of stakeholders, involving the beneficiaries of the
policy implementation (Caplan, 2001).

5. Clearly define roles of all stakeholders which allow for flexibility, but clarity
about who is responsible for what.

6. Realize a common understanding of the intent and outcome of the process

7. Actors are willing to learn, evolve and adapt to changing circumstances

8. Hold regular meetings and build transparent and ‘solid decision making
structures’ which embrace horizontal as opposed to hierarchical coordination and
accountability (Caplan, 2001).

9. Ensure equitable participation of all partners, or at least an environment
conducive to equitable participation even if one party chooses not to engage as
fully as others

10. Involve intended beneficiaries, avoiding top-down prescriptions

11. Attain mutual understanding of individual partner organizations motivation and
constraints
12. Appropriate balance between mutuality and autonomy

13. Create and maintain good communication channels, both internally to build relationships between partners, and externally to attract new partners, demonstrate effectiveness, attract funding and improve legitimacy

4.4.3 Community Based Model

When designing water policies, governments would usually rely on technocrats and water experts in design and decision making, these technocrats usually design the policies in their own terms paying little attention to what the needs of the local people are, from what they need as far as water supply and sanitation is concerned to their willingness to pay the cost of improved services (Woolcock, 2004). The abuse of power by government agents without much accountability to the beneficiary or beneficiary consideration is not new. This has often led to public money being used inappropriately leading to a collapse in water service delivery. Woolcock (2004) recommended community driven development as one of the alternative solutions for changing how resources, information, decision-making, delivery mechanisms and accountability can be changed to improve policy outcomes.

Community Based Organizations have been actively involved in the provision of water services in Kenya. Typically, it has been the practice of donor funded and NGO managed projects that the befitting community contributes a part of the total costs needed to realize the project, either in material and labour form or direct financial contribution. The Community elected a representative to the Water Management Committee or the Water User Associations (WUAs), to directly operate and maintain the water scheme with technical support from the district water engineers and the NGO technical staff. The
Water Act, 2002, defines Water Services Providers as company, NGO or other person or body providing water services under and in accordance with an agreement with the water services board. The WUAs have been considered to fall under the ‘other person or body’ definition. The main challenge of this model according to one of the key informant persons faced has been that Water User Associations are registered as Self Help Groups and lack legal personality as stipulated by the law. Therefore they are not able to enforce regulatory requirements provided by WAREB and are unable to directly engage in a Service Provision Agreement with the regional Water Services Boards. The Water Act provides that water services must be operated on a commercial basis and in accordance with sound business principals. WUAs lack capacity to manage rural water schemes on the basis of business principles. Community driven approach also suffers elite capture projects whereby the supposed to be community representatives end up being puppets of a few powerful individuals in the community or politicians who seek to maximize their interests and their economic gains from water projects. Without proper and close institutional monitoring this approach is doomed to fail.

- **Public-Private partnerships**

The history of commercialization of water and private sector engagement in water services provision has been a thorny policy issue. Two key issues have underpinned the engagement of private sector in water services provision. First, the question of morality of commercialization or privatizing water services and secondly the commercial viability of rural water services to attract the private sector. This debate resulted in the local authorities forming water service providers operated as commercial companies but
wholly owned by the government providing the water services. This so far is the furthest Kenya has gone as far as water services commercialization is considered.

Okeyo (2011) highlights the emergence of private sector alternative water suppliers to supplement the supplies of water to urban dwellers that get unsatisfactory or no service from conventional piped network. He identifies two types of alternative private sector participation in the water sector that have emerged in the form of water kiosks and water vendors. Water kiosks are a form of public-private partnership whereby the government owned Water Service Providers provide water to the kiosk owner who then resells it to the local customers. Kisumu Water and Sewerage Company innovated a Delegated Management Model where they zoned out the service area into different sector each with a Master Meter. They then delegated the zones to local enterprises who manage the services within a particular area. The model involves the utility selling bulk water to the private companies at an agreed tariff then the private actor, normally a registered group from the community, manages its distribution to clients including installation, billing and revenue collection. They are responsible for collecting payment and paying the utility to the WSP (KIWASCO). The concept behind the delegated Management Model is one of partnerships and decentralization. The water reforms facilitated the management of water supply through devolution of responsibilities for water resources management and services provision from state to private institutions, the model also encourages Local governments to work together with NGOs and local community engagement in decision making about access to safe drinking water. The Master Operator delivers water to residents, receives money and pays billings to KIWASCO, reporting problems to KIWASCO and reading meters. This system has had positive impact.
generally on the quality of water service provision. In 2012 the project was serving an estimated 64,000 residents of Kisumu through 366 kiosks (serving about 18,300 households) and 590 individual household connections. Prices for water are lower (from 20KSh per 20L down to 3KSh) and more stable. Fewer water shortages are experienced. Women and children travelled shorter distances and used less time in collecting water. Residents also were empowered to influence decisions at the utility via their master operators. The quantity of non-revenue water has reduced to 6.5%. Inequalities remain in the distribution of risks and benefits, and potentially more empowered communities might begin to challenge this (World Urban Campaign Report, 2014).

Chapter Summary

The chapter has described the outcomes of the research. The findings have been discussed based on the research questions and they have been presented using graphs. The next chapter provides discussion of the results, conclusions and the recommendations of the study.
CHAPTER 5
Discussion, Conclusions, and Recommendations

5.1 Introduction

The chapter presents a summary of the research findings, discussion of the study and the findings, provides the conclusion of the study and also provides the recommendation for policy and practice that can be adopted to help with the issues that are related to water provision and distribution in Obunga, Kisumu County.

5.2 Summary of Findings

The focus of the research was the provision of multilevel water governance necessary for the transformation of water services provision in Obunga slums in Kisumu County. The provision of clean water is a critical aspect and one of the Sustainable Development Goals (SDGs) that have been outlined by the United Nations (UN). The provision of water is a critical factor especially in the slums and this is one of the main factors that informed the study. There were a total of three questions that were formulated to help with the research problem and the three questions informed the findings that were presented in the study.

The population that took part in the study comprised of residents from Obunga and water officials from Kisumu County that were provided with structured questionnaires asking various aspects relating to the distribution and provision of water in the area. There were a total of 70 females that took part in the study with 30% of the respondents that took part in the study being male. The variation in the gender that took part in the study can be attributed to the fact that the majority of the female residents of Obunga were tasked with looking for water for different uses with only a few men taking
part in fetching water hence they did not want to participate in the study since they would not provide adequate answers to the questions that were asked in the study. The participants that took part in the study ranged from 18 years to over 55 years and one inclusion criteria for the participants was that they had to be residents of Kisumu specifically Obunga Slums.

The first question focused on the interaction of the various institutions that are responsible for the delivery of water service in Kisumu County and the focus was on their interactivity at the policy level. The interaction of the different agencies was critical to the formulation of the policies that are responsible for ensuring that water is provided to the residents of Obunga. The main interaction was at the government level and at the community level.

The second question focused on the impact of decentralization of governance on the multilevel partnerships in water service delivery. The decentralization of governance has created a situation where there are different agencies at different levels and this result in a prolonged process especially in the creation of policies regarding the provision and distribution of water with the need for the approval of policies at each level of governance.

The third question involved the analysis of the models through which multi-level partnerships can improve ownership inclusivity and accountability among the actors in the water sector in Kisumu County. The models that were found included Type Two Partnerships (TTP) framework, community-based model and public-private partnerships.

The thesis highlights the need for community participation in the management of vital resources such as in urban informal settlements. It is vital that community
participation is incorporated as a strategy in establishing water schemes in urban informal settlements. Additionally, community participation may act as an antidote regarding water quality improvements in urban informal settlements. Currently, the level of community participation in water management is not adequate and this translates to the water problems and challenges that are often witnessed in the community. The community needs to take initiative in demanding for improved water services and at the same time they need to play a critical role in the design, implementation, development and sustainability issues related to water management and services. The community must report all the leakages and illegal connections and understand all their rights when it comes to the issue of water provision and management. The outcome will include better designed water schemes, cost-effective and timely delivery of water as well as equitable distribution of water to the residents. Furthermore, corruption will be significantly reduced and activities related to rent seeking such as illegal connections will be a thing of the past.

5.3 Discussion of the findings

Water scarcity is a serious problem in Obunga with an estimated 80% of the respondents agreeing that they had experienced some form of water scarcity while the remaining 20% of the respondents had constant flow of clean water and did not regard the issue of water scarcity as a serious problem. Due to the severity of the situation, it is vital that KIWASCO puts in place appropriate measures to ensure that the distribution of water improves and at the same time the policy needs to extend that the water flow is constant and all the households in the region are in a position to access clean water. Water is critical since the residents are using it for personal or business activities and its
provision is critical to ensuring that people do not have challenges at the personal level or at the business level.

With most of the respondents having great faith that the various bodies and stakeholders that are charged with the management of water resources in the county, it is vital that they are able to engage in their role in the best manner and ensure that the population access water. The management of water at the county level was considered to be the most appropriate and the best alternative that can be adopted and followed to ensure that the goal of water provision is realized in the county. Moreover, the different types of partnerships that have been identified can help in the improvement in the distribution of water in the county to ensure that the more people are able to access water. There is an urgent need for the water issue to be addressed not only in Kisumu County but rather the country at large to ensure that the universal goals of water distribution are achieved. The goal can be achieved through the increased funding for water services both by the National Government and the County Government and the other bodies must ensure that they are able to take on their responsibilities of distributing water to meet the demand.

The inception of the multi-stakeholder framework in water governance was an innovation made so as to improve governance of water for sustainable development in Kenya and beyond. The case study examined in this research have all made considerable contributions to improve water governance in different ways, although decentralization and devolution of water services provision to County Governments was made in order to improve efficiency and to bring services provision closer to the local people, even though they have been flawed and the governance methods deficient, falling short of multi-
stakeholder partnerships model. There is a very strong indication from the case studies that inclusive and participatory ways of governance do have significant benefits compared with governmental/top down prescription for the implementation of policies and that multi-stakeholder partnership working can achieve much more than individual actors working independently.

With regard to partnership processes, equitable relationship between all participants involved in the water services provision have not always been achieved. However, a trend is displayed that those actors who have brought the highest financial resources to a partnership usually possesses more influence than the other partners involved. More so, the national government have been criticized for over-emphasizing the role of the government, and for not sufficiently engaging non-governmental stakeholders in their activities, especially not assigning sufficient importance to them, the national government also fails to give importance to the devolved function of water services provision to the county government thereby creating an accountability gap between the citizens and their County elected representatives. While is clear that the role of the government in multi-stakeholder partnerships is important for multi-level partnership in the water sector, a careful balance needs to be struck and maintained between opening up governance of public affairs to non-governmental stakeholders, and the preservation of governmental responsibility and accountability. With regards to partnership outcomes, the case study observed demonstrated an aim to be demand driven. But concrete achievements have been patchy. It has so far proved unsuccessful at meeting any of its concrete goals. It is unclear how sustainable the outcomes will be. The evidence suggests therefore, that in terms of both processes and outputs the full potential
of a multilevel partnership approach is yet to be achieved in the water sector in Kenya. The value of a strategic approach and the need to create more synergy amongst partners is crucial for its success. Multi-level partnerships and multi-stakeholder partnerships involve learning and learning takes time. However, if the lessons already learned by existing frame works could be disseminated to all actors involved and the public the future initiatives would have more chances of yielding better results. Additionally, interviewee (8) added that a multi-level type two partnership approach involving the public, private sector and non-governmental organizations in water governance has the potential to bring about transparency and accountability into the water sector…that way stakeholders can make better decisions because more people’s views are taken into consideration.

Another issues raised by multi-level stakeholders partnership is the accountability. Indeed accountability is a generic problem for partnerships. Although decentralization of governance is expected to solve accountability problems and encourage transparency in the use of public resources. The multi-level frame work has been accused of proving weak accountability mechanisms and the problem is that the actors involved have no substantial monitoring, evaluation or regulation structures in place for their frame works. The databases provided by the water actors and information about them are based on voluntary self-report. This is not to deny the value of the data provided including summaries on annual reports on issues such as access, sectorial coverage, geographic coverage, implementation mechanism and progress, even though these reports have been brief and limited, a platform to help forester alliances, encourage sharing of best practices in the water sector as well follow ups on publications, conferences, and meetings, could
prove useful if the actors choose to utilize them. As one interviewee (7) maintained the complaint is not that the data provided are valueless, rather they do not go far enough to influence any kind of evaluative analysis.

Reputational accountability, which entails a process of naming and shaming may be a useful tool to encourage transparency and accountability principles, stakeholders participation and good quality principles of partnership but this has not really happened. Alongside providing information, it would also be valuable for the government to put in place more mechanisms to support existing partnerships and help them overcome existing challenges and to build effective governance structures.

5.4 Conclusions

The transformative power of multi-stakeholders partnership is not just a pipe dream, while there are flaws of living up to the ideal principles of partnerships in terms of meeting their objectives and institutionalization of the role of the non-governmental stakeholders in the for provision of water service provision is in itself a positive shift in the way of governance for sustainable development to be achieved. The old institutional structures, dominated by governments are being opened up to other actors, thereby acknowledging the value of no-governmental stake-holders engagement in water service sector and in sustainable development decision making and its implementation. But this change should not be accompanied by abandonment of government responsibility to ensure the realization of the human right to water to all her citizens: a balancing act between the leadership of the government, political goodwill and genuine participation of non-governmental stakeholders in water service sector lies at the heart of the realization
of SDG 6 and the human right to water as enshrined in the constitution of the Republic of Kenya.

While multi-stakeholders partnership provides great potential for the water sector governance, it is not a panacea; moreover, partnerships cannot be imposed. Nevertheless, Type Two Partnerships (TTPs) framework may be the first of many permanent and valuable shift towards a more inclusive and equitable way of managing not just water but economic social and environmental concerns in order to achieve Sustainable Development Goals.

5.4 Recommendations

County and National Government Agencies

States have the responsibility to deliver human right to water for all, with the help of other actors. The government should not entirely relinquish its responsibilities to other actors, nor should they manipulate these actors. A balancing act is therefore required between governmental leadership and sovereignty and take ultimate responsibility for service provision but engage other stakeholders for the management of water.

The essence of devolution which is considered the most significant step in Kenyan governance spectrum is to bring services closer to the people, in terms of service delivery, responsibility accountability.

The challenges of high population growth and increase urbanization demands for expansion of water infrastructure so as to meet the rising demand for water. Increased funding through concessional loans and grants is needed to meet the rising water demand.

Establishing a partnership with people affected by an initiative through socially acceptable solutions to water problems are more likely to encourage ownership of both
the problem and the solution and may lead to more effective and sustainable implementation of policies. Moreover, by engaging with stakeholders both the national and county governments will improve the legitimacy of their policies and effectiveness in ensuring that they are responsive to community needs. Sufficient consultations among stakeholders in the water sector are more likely to improve inclusivity and ownership in water governance.

The research showed that individual actors in water service sector only solved part of the problem; each actor had its own strength and weaknesses. This means that a cooperative approach is more likely to provide a holistic approach to governance which will help the actors achieve their individual objectives more effectively by learning the best practices from each other.

**Policy Framework**

A multi-stakeholder type two partnership is likely to empower the people who were traditionally excluded from developmental process, either in the governance or in the access to water services. Engaging the local communities could bring both knowledge and experience to the local people and develop their social networks and build their capacity. Strengthening the civil society organizations could act as a check and balance to the dominant government actors and challenge the prevailing top-down institutional structure. Greater emphasis should be put on partnerships at all levels so as to counter the tendency of policy terms being dictated to the local governments by the national governments who may have little idea of the problems/challenges faced by the local communities. It should not be ‘do as I said’ rather ‘do as we agreed’ this will not only increase the chances of success in the sector but also improve inclusivity and ownership.
of programs being implemented by all actors. This framework is also more likely to mobilize new resources, especially harnessing funds from the private sector, donor aid and grants as well as concessional loans from intergovernmental institutions. These resources also include expertise in the water governance sector, environmental sustainability sector and technocrats as well as utilizing civil society’s knowledge and skills to enhance water service delivery.

The importance of careful use of evidence and research in decision making when choosing policy options should not be overlooked. Without having proper data collected from well-structured studies such as commercial viability analyses, customer willingness to pay surveys, policymakers are at risk of making hasty and poorly informed policy decisions like which specific models for water services provision to adopt. The Kenya Key water sector institutions should establish an organizational unit specifically response for gathering and analysing evidence and information for policy recommendations within the sector.

When looking for policy options, policy makers should focus not so much on what makes a technically superior alternative, but what makes an institutionally sound approach. An institutionally sound approach should be locally driven by people who understand the problem, build in feedback from the people the policy is designed to help and take into consideration the incentives of the implementers/providers. This was evident in the failure of the weak unregulated community based WUAs to the success when the capacity of the community is built to engage in contractual arrangement with other parties with strong government oversight and institutional monitoring.
There is need for careful contextualization of solution to local contexts considering systemic, socio-cultural, political and geographical factors. It is evident that isomorphic mimicry as described by Andrews (2010) will most likely fail. Commercialization of water in rural pastoralists’ communities may not be as successful as in non-pastoralist communities due to the socio-cultural values attached to water and cattle. This is to say that approaches that work for one county may not necessarily work in the other.

The commitment and leadership of the top government leadership and management in designing and implementation of policies has the capacity to ensure successful implementation. Political goodwill from both the national and county government officials in putting human right to water at the core of their projects and policies is an important tool for ensuring accountability and successful implementation of water projects.

**Community and residents**

Close involvement and participation of community in the entire policy process contributes to community buy-in and ultimate success during implementation. Engaging the community throughout the process and making the community realize that the community management model is failing and that a different approach is needed. A participatory approach involving planners, water users, policy makers at all levels, community leaders, private sector and civil society is needed to raise awareness of the importance of accessing adequate safe water among policy makers and the general public. This means that decisions are taken at the lowest appropriate level, with full
consultation and involvement of users in the planning and implementation of water policies.

It is evident that commercialization of rural water schemes is still hindered by little commercial viability. To work towards reducing this challenge, it is in the best interest to support multi-village schemes whereby several village schemes are connected rather than working with the dispersed point water sources systems. This will enhance commercial viability capable of attracting the private sector due to economies of scale.

**NGOs and CBOs**

The Non-governmental organizations (NGOs) and community-based organizations (CBOs) should actively be engaged in urban informal water supply and environmental conservation. There is the need for these organizations to train the residents on health and sanitation and capacity building for water sustainability at the community level. Furthermore, these organizations need to put greater emphasis on the need for environmental sustainability to enhance the management of water sources. Additionally, the NGOs and CBOs need to collaborate with the other stakeholders in the mobilization of funds and also the distribution of the resources that promote water, health and sanitation related-issues in the slums.

**5.5 Suggestions for future research**

There were a number of limitations that were faced when conducting the study that can be addressed in the future studies that are undertaken. The study focused on Obunga Slums in Kisumu County. There is the need for the future studies to expand and explore the issues that are have been highlighted in this study in a comprehensive manner to enhance the application of the results to other places in Kisumu County and beyond.
Additionally, the respondents in the study have made observations that can be analyzed in future studies especially the impact of delegated model of water management which allows for stakeholder participation in water governance.

5.6 Overall conclusion

Despite the growing global attention to water issues, there often remains a major disconnect between globalized assessments and policy debates, and the needs and priorities of the local people at the bottom of the pyramid. Approaches defining water problems and the solutions often see water problems in aggregate, technical terms and ignore socio-economic, political and even cultural issues that underline what constitutes access to adequate water for all. It is important to understand the multiple, divergent framings of systems held by different actors in the water service sector and their policy interactions. Adaptive governance in the form of type two multi-stakeholder approaches can respond flexibly to challenges facing the water services sector.
References


Appendices

i. Questionnaires

ii. Interview Guide
I am a graduate student at United States University Africa undertaking a Master’s degree in International Relations; I am undertaking a research on water governance at Kisumu County as a requirement for my Master’s degree. You have been selected to take part in the study, if you may agree, please respond as objectively as possible to the following questions. Your input will be valuable for this study and will only be used for academic purposes. Thank you.

KEY INFORMAT PERSONS INTERVIEW GUIDE

PART 1.

BACKGROUND INFORMATION

Name

Age

Gender

Education level (Primary, Secondary, tertiary, University)
PART 2.

Water Governance and involved actors

1. In your opinion, who are the important stakeholders in water services provision in Kisumu County?

2. What are the main challenges facing the water service provision in Kisumu?

3. What are the current developments in terms of cooperation and between the stakeholders involved in Water Services Provision?

4. What issues do you think will be important for better water governance?

5. How does your institution interact with (other actors)?

6. In your view what is the role of the Ministry of Water and Irrigation, Lake Victoria Water Services Board, County Government of Kisumu, Civil Society and water users in policy formulation for water management?

7. In your view, has decentralization of water governance improved water services provision to the residents of Kisumu city?

8. In your view, does the current water governance framework include all partners in its governance approach?

9. In your view, are the roles clearly defined for all stakeholders which allow for flexibility but have clarity about ‘who is responsible for what and when?’

10. Are the stakeholders involved in water services provision willing to learn, evolve, and adapt to the changing circumstances?

11. Are the intended beneficiaries involved in water policy making?
12. What is your view about the communication channels and information sharing between stakeholders in the water service sector in the region?
QUESTIONNAIRE FOR WATER SERVICE PROVIDERS

I am a graduate student at United States University Africa undertaking a Masters degree in International Relations; I am undertaking a research on water governance at Kisumu County as a requirement for my Masters degree. You have been selected to take part in the study, if you may agree, please respond as objectively as possible to the following questions. Your input will be valuable for this study and will only be used for academic purposes. Thank you.

1. Under the current contract, is KIWASCO mandated to cover informal settlements?
   1) Yes  2) No

2. If yes, how much water is supplied to Obunga slums in Kisumu? If no, who are the water providers?

3. a) What is the number of licensed water vendors (if any) in Obunga? b) In which sections of Obunga do these vendors supply water?

4. What are the challenges faced by KIWASCO in the supply of water to residents of Kisumu?

5. How are you currently addressing the water problem in Kisumu County?

6. Are there any planned or ongoing water projects to improve water services provision in Kisumu County?

8. If yes, what are the projects and who are the actors involved?

9. Is there a plan to completely cover the area with piped water?
   1) Yes  2) No

10. If yes, what is the time taken and scale?
11. What advise would you give to other water operators in order for them to operate efficiently?

12. Given the situation in Kisumu County’s Obunga Slums, what (in your view) is the best mode of water supply in the area?
QUESTIONNAIRE FOR WATER OPERATORS

I am a graduate student at United States University Africa undertaking a Masters degree in International Relations, I am undertaking a research on water governance at Kisumu County as a requirement for my Masters degree. You have been selected to take part in the study, if you may agree, please respond as objectively as possible to the following questions. Your input will be valuable for this study and will only be used for academic purposes. Thank you.

1. Name of respondent……………………………………………………………………

2. Age ………………………………………

3. Sex of respondent. 1) Male 2) Female

4. How long have you been supplying water in this area?
   1) 0-1 years 2) 1-3 years 3) 3-5 years 4) over 5 years

5. Where do you obtain the water to sell?
   1) City Council Water 2) Boreholes 3) Wells/Springs

   5) Others (Specify) …………………………………………………………….

6. For how much do you buy the water and at how much do you sell?
   Buying ……………………………. Selling ……………………………………………

7. What mode do you use to supply water?
   1) Handcart 3) Stand pipe

   2) Water kiosk 4) others (Specify) ………………………………………

8. What problems do you encounter in obtaining water from the source?

9. What problems do you encounter in water delivery in this area?

10. In your opinion, how can the water situation be improved?
11. How would the improvement impact on your operation in this area?

12. Who do you think should be responsible for the improvement and why?

13. Is your business licensed?

1) Yes  2) No

If no, Why..................................................................................................................