

**AN ANALYSIS OF MULTIPLE ACTORS IN URBAN WATER SUPPLY: CASE OF  
LANGAS INFORMAL SETTLEMENT, ELDORET MUNICIPALITY**

**BY**

**MURIITHI EVE IRENE**

**W50/34732/2019**

**UNIVERSITY OF NAIROBI**

A Research Project Report submitted in Partial fulfilment of the requirements for the Award of  
Degree of Masters of Art in Urban Management in the Department of Architecture, Faculty of  
Built Environment & Design

**© 2023**

**DECLARATION**

This research project report is my original work and has not been submitted or presented for examination in any other university, either in part or as a whole.

Name: MURIITHI EVE IRENE

Signature  .....

Date 26<sup>TH</sup> JULY, 2023 .....

**RECOMMENDATION/APPROVAL**

This research project report has been submitted for examination with our recommendation and approval as university supervisors

**SUPERVISORS**

- 1. DR. MARGARET MACHARIA KEDOGO

Signature  .....

Date 27<sup>TH</sup> July 2023 .....

- 2. PROF. ROBERT RUKWARO

Signature  .....

Date 27<sup>TH</sup> July, 2023 .....

## **DEDICATION**

I dedicate this work to my parents, Kennedy Nyaga and Evelyne Persia Muriithi. Their keen interest in my education has pushed me to be passionate about studying and successfully complete this course. To Junior, my dear brother, may this serve as motivation that you can do anything you set your mind to.

## **ACKNOWLEDGEMENT**

I would like to thank God for giving me the strength to successfully complete this project. I would also like to thank my supervisors Dr. Margaret Macharia Kedogo and Prof. Robert Rukwaro. Your patience and commitment to go through my work at every step without fail has been indispensable. Thank you for your continued support and taking your time to offer much needed guidance.

I wish to thank my lecturers and classmates at the Department of Architecture, Faculty of Built Environment & Design. Our interactions have played a key role in providing support to the completion of my course.

This work would not be complete without the editorial guidance of my good friends, Naomi Wanjiru, Calvin Hinga and Ian Maiyo. Thank you.

## TABLE OF CONTENTS

DECLARATION .....	
RECOMMENDATION/APPROVAL.....	i
DEDICATION .....	ii
ACKNOWLEDGEMENT .....	iii
LIST OF TABLES .....	vii
LIST OF FIGURES .....	viii
ABBREVIATIONS AND ACRONYMS .....	ix
ABSTRACT.....	x
CHAPTER ONE.....	1
INTRODUCTION .....	1
1.1 Background of The Study .....	1
1.2 Problem Statement .....	1
1.3 Main Objective.....	2
1.3.1 Specific Objectives .....	2
1.4 Research Questions .....	3
1.5 Study Justification.....	3
1.6 Assumptions .....	4
1.7 Research Gap.....	4
1.8 Significance of the Study .....	4
1.9 Limitation of the Study .....	4
1.10 Definition of Terms.....	5
1.11 Organization of the Study .....	5
CHAPTER TWO .....	6
LITERATURE REVIEW .....	6
2.1 Introduction .....	6
2.2 Water Sector Actors .....	6
2.2.1 Local area community .....	7
2.2.2 Local Community Governance.....	7
2.2.3 The State.....	8
2.2.4 Community-Based Organizations.....	8
2.3 Roles and Interests of Water Sector Actors and Potential Areas of Conflict.....	8

2.3.1 Water sector actors' roles and interests .....	9
2.3.2 Potential areas of conflict .....	17
2.4 Theoretical Framework .....	18
2.4.1 Systems theory of management .....	18
2.4.2 Theory of Vulnerability .....	20
2.4.3 Theory of Agential Power .....	21
2.4.4 Theory application and Summary.....	22
2.5 Conceptual Framework .....	25
2.5.1 Conceptual definition .....	25
CHAPTER THREE .....	28
RESEARCH METHODOLOGY.....	28
3.1 Introduction .....	28
3.2 Research Design.....	28
3.3 Study area.....	28
3.4 Data Sources.....	30
3.5 Sampling Design .....	30
3.5.1 Research setting .....	30
3.5.2 Unit of analysis .....	31
3.5.3 Population frame and sampling size.....	31
3.5.4 Sampling techniques.....	32
3.6 Data Collection Tools and Techniques .....	32
3.7 Validity and Reliability of Research Instruments .....	32
3.8 Data Analysis and Presentation.....	33
3.8.1 Data analysis techniques.....	33
3.8.2 Data presentation techniques .....	33
3.9 Operationalization of Variables .....	34
CHAPTER FOUR.....	39
RESULTS AND DISCUSSION .....	39
4.1 Introduction .....	39
4.2 Response Rate .....	39
4.3 Demographic and Socio-Economic Characteristics of Respondents .....	40
4.4 Actors Involved in Water Supply in Langas Area .....	41

4.5 Roles and Interests of Water Supply Process Actors .....	43
4.5.1 Local area community .....	43
4.5.2 Landlords .....	46
4.5.3 Youth groups (CBOs).....	47
4.5.4 County Directorate of Water .....	52
4.6 Urban Management Framework- Multi-Stakeholder Partnership.....	54
4.6.1 State Involvement .....	54
4.6.2 Multi-Stakeholder Partnership (MSP).....	55
CHAPTER FIVE .....	59
CONCLUSION AND RECOMMENDATIONS .....	59
5.1 Introduction .....	59
5.2 Summary of Major Findings .....	59
5.2.1 Identification of actors.....	59
5.2.2 Roles and interests of the water sector actors/players .....	59
5.2.3 An Urban Management Framework: A Multi-Stakeholder Partnership .....	60
5.3 Limitations of The Findings.....	60
5.4 Implications of the Findings in Practice and Theory .....	61
5.5 Recommendations .....	61
5.6 Further Areas of Study .....	63
REFERENCES .....	64

## LIST OF TABLES

Table 2.1 Summary of Actor Roles and Interests .....	16
Table 2.2 Theory application and summary .....	23
Table 2.3 Resources contributed by various actors .....	24
Table 2.4 Conceptual definition.....	25
Table 3.1 Sample size distribution.....	31
Table 3.2 Objectives, Dependent and Independent Variables .....	34
Table 4.1 Response rate .....	39
Table 4.2 Summary of challenges faced by residents.....	43
Table 4.3 Factors hindering State partnership with other actors .....	55
Table 4.4 Actors' contributions to a MSP .....	56
Table 4.5 Possible challenges of a multi-stakeholder partnership.....	56
Table 5.1 Summary of study recommendations .....	62

## LIST OF FIGURES

Figure 2.1 Illustration of Systems Theory of Management. ....	20
Figure 2.2 Control and change enabling techniques.....	22
Figure 2.3 Conceptual Framework .....	27
Figure 4.1 Respondents’ age.....	40
Figure 4.2 Respondent’s demographic distribution.....	40
Figure 4.3 Household Income Distribution .....	40
Figure 4.4 Sources of water. ....	41
Figure 4.5 Effectiveness of ELDOWAS.....	42
Figure 4.6 Adequacy of ELDOWAS .....	42
Figure 4.7 Percentage facing challenges accessing ELDOWAS water .....	42
Figure 4.8 Summary of Roles Played by Local Area Community .....	44
Figure 4.9 Factors Hindering Local Area Community Members from Fulfilling their Roles.....	44
Figure 4.10 Ability of The Community to Effect Change .....	45
Figure 4.11 Reasons the Community is Unable to Effect Change .....	45
Figure 4.12 Role of Government in Strengthening the Community.....	46
Figure 4.13 Role of CBOs .....	47
Figure 4.14 Factors hindering CBOs .....	48
Figure 4.15 Percentage of CBOs trained .....	49
Figure 4.16 Role of training of CBOs.....	49
Figure 4.17 CBOS organizational structure.....	50
Figure 4.18 Role played by ELDOWAS .....	51
Figure 4.19 ELDOWAS’ obstacles to fulfilling its role .....	51
Figure 4.20 Roles of County Directorate of Water.....	53
Figure 4.21 Factors hindering the County from fulfilling its role .....	53
Figure 4.22 Importance of State Involvement .....	54
Figure 4.23 Current level of State involvement.....	55
Figure 4.24 Factors important for a successful Multi-stakeholder partnership .....	57

## **ABBREVIATIONS AND ACRONYMS**

CBO – Community Based Organization

ELDOWAS – Eldoret Water and Sanitation Company

MSP – Multi-Stakeholder Partnership

NGO – Non-Governmental Organization

## **ABSTRACT**

Provision of water in urban areas and particularly informal settlements has been a challenge to many governments all around the world and especially in developing countries. Numerous research has been conducted in search for the best and most innovative strategies that will provide a solution to these perennial water challenges. The general objective of this study is to analyse the multiple actors involved in water supply in urban areas specifically in the informal settlement of Langas. Langas is an informal settlement located within Eldoret Municipality, Kapseret Sub-county, Uasin Gishu County in Kenya. The settlement is home to approximately 127,167 people. The settlement is facing water access and supply challenges among others. The study had three objectives which included identifying those involved in water supply in Langas area, identifying their roles and interests in the water supply process and proposing an urban management framework that addresses all the interests of the actors who are involved in water supply and still ensures that the consumer gets the right commodity under favourable conditions. The study employed descriptive survey research design and a sample of 71 respondents was arrived at using simple random and purposive sampling techniques. The return rate was 85.9% and included respondents from the State (ELDOWAS and Uasin Gishu County Directorate of Water), local area community and community based organizations. From the study it was found that there are four key actors who include the local community, landlords, CBOs and the State. These actors have different roles and interests and lack of coordination leads to inefficiencies. The study recommends a Multi-Stakeholder Partnership that would bring together all the actors with the State playing the middle-man role and firmly taking up its coordination and regulation role. The findings from this research shall offer guidance towards policy formulation which if heeded will cause an exit from the conventional way of providing water to recognizing the various actors, their roles and the resources that can be harnessed through a Multi-Stakeholder Partnership with the goal of providing the community with the right commodity at the right price and quantity.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of The Study**

Rapid urbanization is a phenomena being experienced by many cities across the globe. The intense increase in population comes with many challenges especially in public service provision. One of the major challenges is provision of clean water. According to OECD (2007), over a billion people do not have access to clean water. This basic utility is key for survival hence it is important for urban areas to think of creative ways of dealing with water provision challenges.

The first step towards achieving equality in water supply, is managing the current resources. According to Pacific Institute (2017), the world consumes about 4,000liters<sup>3</sup> every year which is a triple increase from 50 years ago. The institute also adds that the rate of consumption is set to increase by 1.6% per year pushing it to 55% demand by the year 2050.

Africa also faces the same challenge as shown by a report by World Bank which states that water supply in Africa tends to be less than 24 hours a day. This is a relatively low level of service provision. Kenya is equally facing a myriad of water challenges. Urban areas in Kenya currently have a water supply lower than in the 1990s (WSP, 2011). The 2011 report cites major challenges such as coverage, quality and equity. These are clearly management challenges which can be addressed within the urban management framework.

#### **1.2 Problem Statement**

Provision of water entails collaboration between various actors. According to Wamuchiru (2017), provision of water cannot depend on only one model. There is need for interaction between various configurations to ensure that it is successful. Residents especially those living in informal settlements have over the course of time developed their own mechanisms for how to handle water scarcity challenges. This is shown through the presence of “water trucks, hand cart pullers, long queues at water vending kiosks, exposed water pipes and the ubiquitous 20-litre jerry cans dotting the urban street” (Wamuchiru, 2017). These numerous modes of water provision in informal settlements are run by different actors that play a specific role. Lack of harmony among these different players often results in gaps in supply of water within the urban areas specifically in the

informal settlements. The gaps are manifested in the form of an unregulated sector which leaves consumers vulnerable to hiked costs of water and supply of adulterated water.

Langas is the largest informal settlement in Eldoret town; and is a product of the unplanned extension of the municipal boundary in 1988. The settlement, despite being located in close proximity to the core of the town which is about 5 km from the CBD, is still experiencing challenges in water supply and access. Like many other informal settlements in Kenya, Langas is lacking in requisite infrastructure to supply water to its residents. Current water supply in the town by ELDOWAS only serves 60% of the municipality. This has created an opportunity for water vendors and the private sector at large to supply water. The result is an unregulated market which often charges exorbitant prices. The source of the water is also not verified hence residents face the risk of supply of adulterated water.

There have been plans to revitalize Langas including the Eldoret Municipality Langas Informal Settlement Plan, the Eldoret Local Physical Development and Uasin Gishu County Spatial Plan. Development of water policies however has to take cognizance of the various actors involved in provision of water within the informal settlements. Incorporation of these water actors within the policy making process will ensure that their roles and interests are well defined and addressed without compromising the quality and quantity of water availed to the residents of any informal settlement. This research aims to analyse the above named water sector actors as well as identify their interests and influences in order to recommend a suitable urban management framework that will address the interests of all the actors while ensuring that the consumer gets the right commodity under favourable conditions.

### **1.3 Main Objective**

The main objective of the study is to analyse the multiple actors in water supply in urban areas: case of Langas informal settlement, Eldoret Municipality

#### **1.3.1 Specific Objectives**

The research objectives include:

1. To identify those involved in water supply in Langas area
2. To identify their roles and interests in the water supply process

3. To propose an urban management framework that addresses all the interests of the various actors who are involved in water supply and still ensures that the consumer gets the right commodity under favourable conditions.

#### **1.4 Research Questions**

The research aims to answer the following questions:

1. Who are involved in the supply of water in Langas area?
2. What are their roles and interests in supply of water in informal settlements?
3. Which urban management framework can address the interests of all involved parties who are involved in water supply to ensure that the consumer still gets the right commodity?

#### **1.5 Study Justification**

My study recognizes that provision of water in urban areas is a current and urgent problem that needs to be solved. Eldoret Town is rapidly urbanizing and it has achieved the population threshold to have it categorised as a City under the Urban Areas and Cities Amendment Act (2019). The town is facing various challenges and among them is the scarcity of water in some areas particularly the town's informal settlements. The foreseen increase in population, especially in the informal settlements without the upgrade and provision of infrastructure, threatens the quality of water being delivered to the residents.

Langas is an informal settlement facing many water and sanitation challenges among other challenges. Absence of adequate water infrastructure puts residents at the risk of consuming unsafe and unclean drinking water. They also face the risk of contracting waterborne diseases which can lead to loss of life and overall reduced quality of life. The study seeks to identify the failures of the current water management and provision approaches and propose sustainable solutions to fill the identified gaps. The goal is to look into a framework that would enable Langas alongside other informal urban areas are provided with adequate water even as the town is gearing up to be elevated to a City level. These findings can also be duplicated across other towns in the country facing water supply challenges.

## **1.6 Assumptions**

The main assumptions of the study are first that there are multiple actors involved in the supply water in Langas. Secondly, that State is encumbered by challenges in fulfilling its mandate to supply water in Langas due to lack of funding and inadequate capacity.

## **1.7 Research Gap**

Provision of water in informal settlements is a global issue. Dealing with this challenge through the use of Multi-Stakeholder Partnerships has been well researched around the world with studies by Kyessi (2005) and Scanlon et al., (2016) highlighting how such partnerships have been vital in making the process of water supply more efficient in Tanzania and Zambia respectively. However, there has been little to no research on the use of multi-stakeholder partnerships in water provision in Kenya which is a critical research gap. Studies that have looked at the different stakeholders involved in water supply especially in Africa have focused on identification of the actors and left out the key aspect of identification of their roles and interests and analysing how these interests can conflict and affect the efficiency of the water supply process. This is another critical research gap which this study addresses.

## **1.8 Significance of the Study**

The study is set to aid County governments in Kenya as well as other governments in other Global South Cities in ensuring adequate provision of water to residents living in informal settlements. The main beneficiaries of this study are the residents of informal settlements who shall be able to receive adequate, affordable and quality water. The study will also be useful to policy makers by ensuring that they consider inclusive policy making processes that will take cognizance of the different actors in the water supply process in informal settlements and incorporate them sufficiently. Finally, the study shall also serve as a reference for other scholars looking to study water provision in informal settlements in developing countries.

## **1.9 Limitation of the Study**

One of the main limitations encountered during the course of this research is the emergence of the COVID-19 pandemic. The pandemic not only disoriented the University's overall time table initially put in place to guide the study timelines but also affected the researcher's data collection. Social distancing regulations prompted the need to make use of technology to facilitate data collection as opposed to using the traditional method of collecting data from door to door.

## 1.10 Definition of Terms

The following terms are significantly used in the study:

**Actor;** a participant in the water supply process

**Agency;** an organization providing services on behalf of another group

**Collaboration;** the act of working with a person/people to produce an outcome

**Coordination;** organization of different elements of a complex system to enable them to work together effectively.

**Multi-stakeholder partnership;** different organizations within a society working together, bringing together their exceptional abilities and resources while sharing risks to ensure that they can more efficiently deliver on a task

**Partnership;** an arrangement where two or more people formally agree to work together to achieve a mutual goal or interest

**Regulatory;** relating to the control of an activity by use of a set of laws or rule

**State;** a political unit that has sovereignty over a territory and the people within it. In this study, the State refers to Eldoret Water and Sanitation Company, a parastatal at the County level and the Uasin Gishu County Directorate of Water.

## 1.11 Organization of the Study

The study is organized into five major chapters. Chapter One provides an introduction to the study, clearly outlining the study objectives, justification and limitations. Chapter Two is a thorough review of literature that introduces the various theories underpinning the study and the conceptual framework. Chapter Three outlines the research methodology which describes the techniques and procedure that will be followed while carrying out this research. This includes the research methods, data collection techniques and the entire research design and approach. Chapter Four entails data presentation, analysis and discussions presented as per the study objectives and research questions. Chapter Five draws conclusions and recommendations from the results of data analysis and discussion.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Lieberherr & Ingold, (2019) state that water provision and governance involve multiple actors who are spread across different institutions. Proper collaboration and coordination amongst these actors leads to effective water governance. A study by Chatterjee & Kundu (2020) revealed that provision of water in urban areas is built on co-dependence between state and non-state actors. It is necessary for there to be mutual understanding between these actors since in many urban areas, piped water that is directly supplied by the State does not get to the households. In such cases, local area residents have had to initiate community-led service delivery efforts to allow them to still access water even in the absence of state involvement.

Provision and access to water is a basic human right stipulated under the United Nations Sustainable Development Goal No. 6. Failure to provide water is therefore a gross violation of human rights. It is important for governments and concerned agencies as well as the community at large to ensure that access to water is affordable and available. Ensuring that people can easily access water significantly improves their quality of life as they can run their basic day to day activities.

#### **2.2 Water Sector Actors**

Provision of water mainly in developing countries has over time been the mandate of the government. However, the perennial water access challenges still experienced in many cities of the South demonstrates failures of the approaches being employed. The failure has produced a gap that has over time been filled by other actors especially those in the social sector. These actors include Non-Governmental Organizations (NGOs), Community-based Organizations (CBOs), Faith Based Organizations and Donors (Scanlon et al., 2016). The article by Scanlon et al, (2016) has analysed the cases of Malawi and Zambia and has identified the various water sector actors. The study showed that provision of water is a multidisciplinary endeavour that requires collaboration and cooperation among all the involved stakeholders. The Government should however take the lead in ensuring that these various actors are working effectively and harmoniously.

The study of Malawi categorised these actors into the following broad categories (Scanlon et al., 2016):

- i. Those directly involved in provision of water to the community. These include Non-Governmental Organizations, Community Based Organizations, Faith Based Organizations and state agencies.
- ii. Those engaged indirectly through offering support to the local actors directly involved in provision of water. They include organizations such as UNICEF, Water Aid, DFID and Irish Aid.
- iii. Organizations that provide water to communities in the context of emergencies. In the case of Malawi, one major organization under this category is Save the Children International.
- iv. Finally, there are organizations that carry out the main task of advocating for the communities to access safe and adequate portable drinking water.

### **2.2.1 Local area community**

A case of Dar es Salaam, Tanzania shows that state involvement in provision of water has reduced over the course of time mainly due to reduction in state resources and lack of capacity for the government to properly manage the urban area. This has prompted residents from both formal and informal settlements to look for self-help measures that will in provision of water in order to fill the gap that has been left by the absence of state involvement. According to Kyessi (2005), the residents have organized themselves into community groups and raise funds as well as come up with ways on how to access technical assistance in the provision of water to their neighbourhoods. This presents the community as one of the main water sector actors. The community comes in as an actor both in supply and use of the water.

### **2.2.2 Local Community Governance**

The study by Kyessi (2005), also introduces an important category of actors who are part of local governance. Local authorities are important in developing systems that are environmentally sustainable and planning friendly. He further adds that the functions of the local authority cannot be taken up by either private or civil organizations. However, partnerships and collaborations between them are crucial in ensuring the growth of the local economy and social structure.

The case of Dar es Salaam presents how local governance has aided in providing water supply. The local authority has allowed the residents to elect a committee of up to 10 members who aid in linking the residents with the upper level government structures. The committee is referred to as the Mtaa leadership which further decentralizes by electing other members to head specific committees. These sub-committees include “Executive Committee, Water Management Committee (WMC), Construction Committee, Health and Environmental Committee, Conflict Resolution Committee, Education Committee, Business Committee, Credit Committee, and Markets Committee”. The Civil Based Organizations also utilised these committees to ensure that all activities happen according to the planned initiative.

### **2.2.3 The State**

Apart from local governance actors, there are State organizations that deliver water. They are mainly parastatals. In the case of Kenya, the National and County Governments are mandated with providing water to its citizens. Government organizations such as the Eldoret Water and Sanitation Company (ELDOWAS) directly provide water to residents within Uasin Gishu County including in Langas, the study area.

### **2.2.4 Community-Based Organizations**

According to Chechetto-Salles & Geyer (2006), a community-based organization is an establishment that provides services at the local level. Most, if not all, of the services offered by CBOs are social in nature. These organizations are also non-profit making hence they benefit a lot from volunteers from the community and working directly with members of the community which they are a part of. CBOs over the years have played the important role of closing the gap between private and public water supply. Due to the deep localization, they have been able to step in where other actors have failed to adequately provide water especially in informal settlements.

## **2.3 Roles and Interests of Water Sector Actors and Potential Areas of Conflict**

In an ideal situation, all the above named water sector actors are supposed to work harmoniously to provide water. However, there are several reasons why they have been hindered and this could also be potential areas of conflict between these actors. The first hindrance is lack of institutional capacity which leads to them employing conventional approaches that hinder the participation of the local area stakeholders in the water provision process (Kyessi, 2005). The second obstacle is that the supply infrastructure has stuck to the rigid and old planning and design

initiatives which have largely contributed to increasing the gap in service provision between the low-income and high-income communities.

Thirdly, sticking to the rigid supply infrastructure has not left room for improvement of infrastructure in line with the progressive growth and development of technology and infrastructure. According to Kyessi (2005), progressive approach to water supply has been seen to favour low-income households that tend to spend a big chunk of their income on food and rent, leaving very little to sustain other utility bills.

### **2.3.1 Water sector actors' roles and interests**

#### **2.3.1.1 Local community governance**

Local area leaders have several roles to play in provision of water especially in informal settlements. As aforementioned in the case of Dar es Salaam, they serve the important role of connecting the residents with the upper-level government. The Mtaa system of local administration also presents the role of management of the economic and social development activities of the Dar es Salaam community (Kyessi, 2005). The local governance system also has the role of ensuring that the local communities can access water without relying too much on technical and financial expertise from the upper-level government. This is more so important in the context of developing countries where government and state institutions lack capacity in terms of both resources and personnel.

Allowing communities to be able to fend for themselves will aid in getting rid of the inefficiencies that manifest in the presence of weak institutional capacity. The case of the local administrative committees formulated within the informal settlements of Dar es Salaam showed that they were so decentralized that they resembled a Community Based Organization (CBO). This shows their main interest which is to ensure that water is provided to every household in every neighbourhood of a community. Furthermore, they are interested in ensuring that the commodity that reaches the residents is both of good quality and is affordable.

Local governance system as shown in the Dar es Salaam case study also has another role of mobilizing resources to facilitate provision of water. Kyessi (2005) states that the resources can be in the form of organizing how the private sector can be involved in the process of water supply to the residents. Other types of resources that local administration can aid in mobilizing include labour, materials, finances, expertise, experience, ideas and the ability to plan and organize various initiatives. This introduces the next role of ensuring community participation in accessing adequate

water. The participation entails making sure that the community has some level of control and influence on the level of quality and amount of water provided to them.

### **2.3.1.2 Local area community**

The main interest of the community is to make sure that every household accesses water in its best quality and at the best price possible. A study of the informal settlements in Dar es Salaam showed that the local area community were divided into three major groups. By virtue of Langas being an informal settlement, this type of classification can also be duplicated to the study area. The three main categories of local area community actors include:

- i. Private water vendors
- ii. Local water management committees/groups
- iii. Individual households

#### **i. Private water vendors**

These include residents who have installed water storage tanks within various premises. Others have also purchased and installed water pumps. According to the World Bank, these informal private vendors can also be categorised into;

- a. Those providing water to households
- b. Private entrepreneurs
- c. Cooperatives

As is the case in many informal settlements across the cities of the South, majority of the water is supplied by these private water vendors meaning they are the primary suppliers. In other cases, they come to supplement the formal supplier who is mostly the state. In the case of Dar es Salaam, majority of the private water vendors have dug wells and purchased pumps to pump this water to the storage tanks. The types of wells located within these informal settlements include “traditional shallow wells, hand and motor pump shallow wells and motor deep wells” (Kyessi, 2005). The vendors use part of the revenue to maintain the wells. Entry into the water selling industry is free which has ensured that there is competition as the number of suppliers has drastically increased.

The presence of many suppliers ensures that the prices are regulated by the market and so is the quality of water. It is important to note that the local administration does not involve itself in price regulation and has left it entirely to the market to regulate how much the vendors price their commodity (Kyessi, 2005). However, competition can bring in a negative connotation where various vendors may try to sabotage each other at the expense of the residents. This is a direct effect of the unregulated and unchecked private market especially in the informal sector. An article by Wutich, Beresford and Carvajal (2016) shows the importance of unionizing these private water vendors which shall advance justice in distribution, procedure and interactions.

The main interest of these private water vendors is to make an income. This is presented in the major disadvantage that they price their water higher than public or state utility companies. This further strains these low-income households that cannot afford the price but they have no choice but to spend all their income on these utility bills leaving little or nothing to save (Pangare & Pangare, 2008). To further advance the notion that their main interest is making money, some of these vendors ‘steal’ water from the main state supplier and then resell to residents at exorbitant prices.

## **ii. Local water management committees/groups**

These refers to the small groups that communities in informal settlements have formulated in a bid to adjust to the absence or diminished presence of the state in water provision within their households. In the case of Dar es Salaam, these groups have carried out several roles that show their main areas of interest. First, the committee can aid in sourcing new areas and opportunities for acquiring water.

According to Moretto et al, (2018), the committee in conjunction with the head of the local government aids in sourcing and negotiating spaces where new wells can be dug. The committees also play the crucial role of sourcing and managing resources on behalf of the members of the community. This includes financial resources, expertise, and ideas. They also guide the execution of the various community planning initiatives in regards to access and provision of water. Their main interest is to make sure that all members of the community can access water in the best quality and at an affordable price. The committee also has a role of connecting the residents with the state and hence can act as an advocate of the people’s needs to the government. They can also act as the

link between the community and any NGOs or CBOs that may express an interest in being involved in the water provision process within the neighbourhood.

### **iii. Individual households**

There are residents who have dug wells for private use. They do not distribute this water to other households at a cost but instead choose to use this water just within their premises or households. This category also includes residents who have developed multi-dwelling units and distribute water only to their tenants. According to Moretto et al, (2018), households can also contribute labour and land to facilitate the implementation of water projects.

#### **2.3.1.3 The State**

The government specifically at the National and County levels are mainly tasked with providing water. In the case of Langas, the main water supplier is Eldoret Water and Sanitation Company (ELDOWAS). The government parastatal provides water for the whole of Eldoret town and has been making plans to scale up its supply to cover more areas within the Municipality including Langas. Provision of water by the state is marred by actors within it with varying interests and roles.

##### **i. Funding**

The state is mandated to fund water projects. This includes planning of infrastructure, implementation of the water projects and running and maintenance of the water projects. The main interest of the state in funding water projects is to serve and improve the lives of their citizens. However, many governments as aforementioned lack capacity in terms of funding. The demand for water especially in urban areas far outweighs the supply. Funding water projects in informal settlements becomes more difficult since the investment may take a very long time to be recouped. The amount of revenue collected may also not even be enough to maintain these infrastructure systems.

This has left governments to depend on funds from international donors. Dependence on international donors presents a new set of challenges including delay in disbursement of funds. There are also instances where the funds are released subject to certain conditions. These conditions may not be favourable to governments in developing countries with an example being

the Structural Adjustment Programs. These programs in the short term resulted in high taxes and interest rates which then resulted in economic recession and massive job loss and unemployment (Thomson, Kentikelenis & Stubbs, 2017). There is also a lot of corruption within the government and funds allocated for water projects are more often than not mismanaged. This presents another interest of the various state actors which is to enrich themselves.

Politicians are some of the elites within the state who aim to politicize the water supply process in a bid to enrich themselves. There is a lot of politics within state entities mandated with providing water. Politicization of decisions pertaining to distributing water negatively affects this process (O'Leary, 2009). A case is provided where a member of parliament blocks development initiatives if they sense that they shall not benefit from them.

The benefits range from monetary to image meaning that they would want all development initiatives to be seen as if they are being championed by them. If the people are able to see that their leaders are championing development initiatives, then they shall offer political support. Politicians also dictate where water projects will be implemented to garner political mileage (O'Leary, 2009). This type of development does not follow plans and hence there is inequitable distribution of water projects.

## **ii. Coordinating and regulating other actors**

The state has the responsibility of coordinating the other actors who come up in response to the gaps left by its inefficiencies. When many governments were unable to provide water for their residents due to lack of funding and capacity, some of them like in the cases of Niger, Uganda and Tanzania formalised the private sector through policies. This meant that the government took a step back from being the primary service provider (Moretto, et al., 2018). The State then took up the role of coordinating and regulating these newly formed private entities.

In cases where the private sector came in as a response to the absence of the State, the government over time recognized these institutions and formalised them. One such case is the peri-urban water provision system in Dar es Salaam through the Mtaa organization (Kyessi, 2005). Ideally in such a setting, the state's main interest ought to be ensuring that their citizens are receiving the best possible commodity in terms of quantity, quality and pricing. The government's role primarily as a regulator aids in avoiding situations where all these private actors are consumed

with the sole interest in making profits. Regulation and coordination is realised through the following ways:

- a. Licensing of operators
- b. Price fixing
- c. Performance monitoring
- d. Quality checking
- e. Ordering prohibitions on those who fail to follow the rules

State regulation has the following benefits. First, it ensures that the quality of water supplied to the residents is good. The government can come up with a specific quality standard that all suppliers are subjected to. Secondly, regulation serves to control the pricing of the commodity to avoid overstraining citizens with exorbitant prices. The State ought to ensure that all suppliers trade within a set limit of cost. The State through regulation can aid in avoiding scenarios where the actors may be consumed with the sole interest of making profits (Solanes, 2009). Regulation also ensures there is accountability by the different service providers in the water supply process. Finally, regulation avoids the tendency for anarchy in the water provision sector. The presence of the law ensures that there is order within the water supply process.

However, it is important to note that regulation has failed in many African countries. Several factors have contributed to this situation and they include:

- a. Lack of capacity; funding and manpower
- b. Political interference
- c. Absence of independence
- d. Lack of coordination within the government and also with the other third parties

All is not lost and there are various ways through which this regulation role can be strengthened. Governments can create systems through which these regulatory bodies shall be free from control by the politicians. This will reinforce their autonomy and ensure that they can also not be influenced by consumers and also the third parties being regulated. However, according to World Bank (1994), the consumers need to be involved in the regulatory process to ensure its effectiveness. Developing countries need to empower their citizens to enable to effect change and counter their lack of political influence. This will ensure the effectiveness of the State's regulatory role.

#### **2.3.1.4 Community-Based Organizations**

According to Kifanyi, Shayo & Ndambuki (2013), CBOs have several roles. The first role is direct provision of water through organizing community resources and purchasing tanks or drilling boreholes. Their structured system of organization makes it very easy to collect and mobilise resources from within the community and utilise those resources in an accountable manner. Secondly, other CBOs can serve as a form of regulation by forming an umbrella body that is in-charge of all water vendors within the community (Kifanyi, Shayo & Ndambuki, 2013). This is with the main goal of protecting the interests of the community in regards to pricing and quality of water provided.

CBOs also have the role of redefining policies. According to Monteiro (2014), CBOs can partner with government agencies to fulfil the main goal of providing water to those living in informal settlements. This is mainly achieved by the ability of CBOs to utilise local governance models to effect change. Finally, fostering community participation is key in ensuring water projects sustainability. Due to their local nature, CBOs are able to engage those at the grass root level in water related issues and hence bridging the gap between the government and the people. This translates to sustainability by stimulating the community's sense of responsibility and their willingness to support and maintain any proposed water provision initiatives (Kifanyi, Shayo & Ndambuki, 2013). There are various ways through which CBOs can involve the community: training and capacity building and organizing water committees.

The above described roles are important to informal settlements and in the facilitation of the water provision sector. However, CBOs have various key needs that greatly influence their ability to deliver on their mandate. Community participation is a key need since these organizations work at a local level. Training and capacity building is important to enhance the competence of the actors. There is also a dire need for support from the government. This support will aid towards increasing participation by the public to foster sustainability.

Generally, CBOs also face several obstacles in their quest to deliver quality and affordable water to the community. Lack of technical expertise that partly stems from absence of capacity building is a major obstacle (Karimanzira, 2018). CBOs also are dependent on the government and other actors such as Donors and other NGOs. This dependence impairs the effective functioning of CBOs more so in cases where there is a strain in the relationship between them and the above mentioned actors.

Finally, due to their local nature, CBOs are not very profit driven hence they may encounter the challenge of inadequate water fees that cannot cover the maintenance, operation and management costs (Lusala, 2011). Despite all these challenges, CBOs are a key actor in water provision in informal settlements and their involvement is paramount in achieving the main goal of providing adequate, safe and affordable water to communities.

### 2.3.1.5 Summary of actor roles and interests

Below is a summary of the actor roles and interests (**Table 2.1**).

**Table 2.1** Summary of Actor Roles and Interests

<b>Actor</b>	<b>Role</b>	<b>Interest</b>
Local Governance	<ul style="list-style-type: none"> <li>• Connecting the residents with the upper level government</li> <li>• Management of the economic and social development activities of the community</li> <li>• Ensuring that the local communities can access water without relying too much on technical and financial expertise from the upper level government</li> <li>• Mobilizing resources to facilitate provision of water</li> <li>• Ensuring community participation in accessing adequate water</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring that the commodity that reaches the residents is both of good quality and is affordable</li> <li>• Ensure that water is provided to every household in every neighbourhood of a community</li> </ul>
Local area community	<ul style="list-style-type: none"> <li>• Guiding the execution of the various community planning initiatives</li> <li>• Establishing committees that outsource and manage resources on behalf of the members of the community</li> </ul>	Make sure that every household access water in its best quality and at the best price possible
State	<ul style="list-style-type: none"> <li>• Funding infrastructure projects</li> <li>• Implementation of policies</li> <li>• Maintenance of water projects</li> <li>• Coordinating and regulating other actors</li> </ul>	Serve and improve the lives of their citizens. However, politicization of the water process has brought other interests such as monetary and PR
CBOs	<ul style="list-style-type: none"> <li>• Direct provision of water through organizing community resources</li> <li>• Other CBOs can serve as a form of regulation by forming an umbrella body that is in-charge of all water vendors within the community</li> <li>• Redefining policies</li> <li>• Fostering community participation in ensuring water projects sustainability</li> </ul>	Providing water to low-income households at an affordable price and in the best quality

Source: Author, 2023.

### **2.3.2 Potential areas of conflict**

Due to the complexity of the actors and their relationships, there is bound to be some conflicts. The conflicts can be categorised among the following actors:

#### **2.3.2.1 The State and Community-based organizations**

Lack of coordination may result in duplication of services leading to wastage of resources. Well-funded CBOs also pay better hence they have the ability to take away skilled workforce from the government. Many foreign donors opt to work with CBOs since they find them more accountable and effective in comparison to the government (Brass, 2010). This further worsens the hostile relationship between the two parties. Governments may also be less willing to work with CBOs and hence the water provision system is marred by duplication and other inefficiencies. According to Krishna (2014), there has also been less attention on the main question of how the government can better interact with local constituents. This has hindered many governments from recognizing the great value that lies with community-based organizations. Similarly, many CBOs have not focused on how they can improve and grow their connections and networks with other major actors especially the government.

#### **2.3.2.2 The State and private water vendors**

The main battle between the State and private water vendors is in terms of regulation. Many water vendors are known to charge exorbitant prices that are manipulative. Secondly, others tap water from the government water facilities then repackage and sell to the residents. Any involvement of the government would mean that the water prices would also be regulated meaning it would be reduced. Other officials of the government maybe working together with these private water vendors hence reducing efficiency and possessing conflicting interests in that the government will no longer be carrying out its mandate of being a regulator.

#### **2.3.2.3 The State and the Community**

Social relationships are the key to running a society and fuel all the activities that happen in a community. In informal settlements, the people are bonded by deep relationships that stem from having to stick together to go through the challenges of life. These deep relationships often hinder outsiders from accessing the informal settlement. They present an avenue for resistance in the case where governments and other organizations may want to provide water and sanitation

services. The resistance may stem from ignorance where they are not aware of the need to allow these organizations to access their homes and provide the service.

Resistance may also stem from organizations and governments not properly involving the public in any plans and policies for provision of water. Lack of adequate public participation can lead to development of policies that are not suited for a specific informal settlement. According to Sinharoy, Pittluck & Clasen (2019), public participation is important for the success of projects and fulfilment of the needs of the public. Governments and other organizations need to properly engage with these residents prior to implementation of any water sector policies.

Another social aspect that may hinder implementation of water policies in informal settlements is the discrimination that people living in informal settlements go through. Discrimination stems from the fact that informal settlements are not legally protected or serviced areas and many informal settlers are low-income earners. These areas are often left out in the provision of services since they may not be able to afford hence governments shy away from investing in them lest they are unable to recoup the capital costs. This discrimination creates bad blood between the residents and the government and this may further fuel resistance to government projects.

## **2.4 Theoretical Framework**

### **2.4.1 Systems theory of management**

The first theory that is guiding the study is Systems theory of management. The theory analyses a phenomenon as a whole instead of looking at parts. It focuses on the relation between the various parts and how these interactions produce an outcome (Mele et al., 2010). According to Von Bertalanffy (1950), this theory focuses on the interactions between the elements of a system acknowledging that their relations yield energy and information that affect the behaviour and effectiveness of a system. The study looks at the water supply system as a whole but analyses how the actors, who are the elements, interact on their own and within the system.

#### **i. Components of a system**

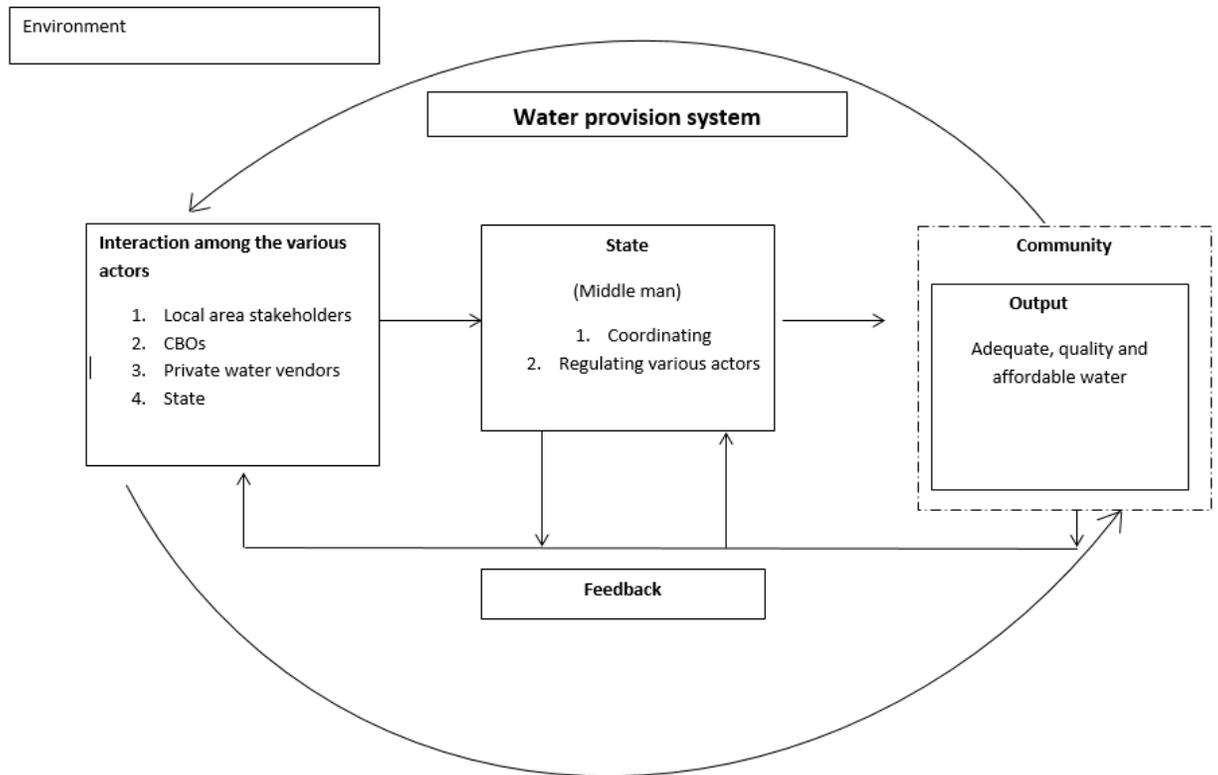
The Systems theory divides a system into six main components. The first component is the sub-system which refers to the different components that make up a system. In the study, the main system is the water supply system. The sub-system comprises the various actors who have been identified in the sections above. They include the State both at the national and county levels, local

community, and CBOs. The second component of a system is synergy which is the ability of the different sub-systems to work together. If every actor decides to provide water to informal settlements independently, then the rate of efficiency will be considerably low. It is important for all the actors to work together to increase their output.

The third component of a system is open and closed systems. An open system is one which interacts with the external environment. An open system receives inputs in the form of technical expertise, capital and labour. The output is then forwarded to the community. A closed system is one which has little to no interaction with the environment. However, many or all organizations can be regarded as open systems. The water supply system is an example of an open system. It receives input from the various actors. These actors also supplement each other and work together to produce a tangible output.

The system boundary is the fourth component of a system which separates it from the environment. Open systems have a flexible or overlapping boundary while closed systems have a rigid or non-flexible boundary. The fifth component is flow which refers to the movement of the inputs within the system from the environment and the various sub-systems. Finally, there is feedback referring to a mechanism that aids in knowing whether the output has been accepted by the environment. Through feedback, the system and its sub-systems can also identify areas that may require improvements and adjustments.

The systems theory of management in application to the study produces a model that can be utilised to provide adequate, affordable and quality water to residents living in informal settlements as shown in **Figure 2.1**:



**Figure 2.1** Illustration of Systems Theory of Management.

**Source:** Author, 2023.

### 2.4.2 Theory of Vulnerability

This theory was propagated by Martha Fineman. According to Kohn (2014), the theory of Vulnerability recognizes that all humans are vulnerable and are more likely to be dependent. It is the duty of the State to reduce and compensate for this vulnerability. The State hence has to make sure that people are able to access services from societal institutions such as hospitals and water provision facilities and entities. The State has also legitimized these institutions, however, these institutions over time have increased the resilience of other groups while reducing the resilience of others. This theory also shows the challenge in governments focusing on formal equality since this is an out-dated way of analysing things.

The theory is primarily against formal structures utilised in ensuring that all people are able to access these social services (Kohn, 2014). In the case of informal settlements, the use of formal structures especially in delivery of water may pose a challenge due to obstacles such as insecure land tenure and poverty. This theory also advises that for governments to cater to the needs of the

vulnerable population, they need to utilise informal structures or unconventional methods previously not used. The theory of vulnerability also advocates for an identity-based approach where the differences of the groups shall be recognized.

Identifying the differences of these groups presents ideas on the best way to cater to their needs. Informal settlements are unique and hence their needs and how they are catered for is also exceptional (Kohn, 2014). This theory is instrumental in identifying comprehensive approaches to dealing with vulnerability as opposed to piecemeal interventions. Applying this to the study, the theory advocates for dealing with water challenges in informal settlements by engaging all stakeholders as opposed to focusing on one or having one entity try to take up the burden on its own.

### **2.4.3 Theory of Agential Power**

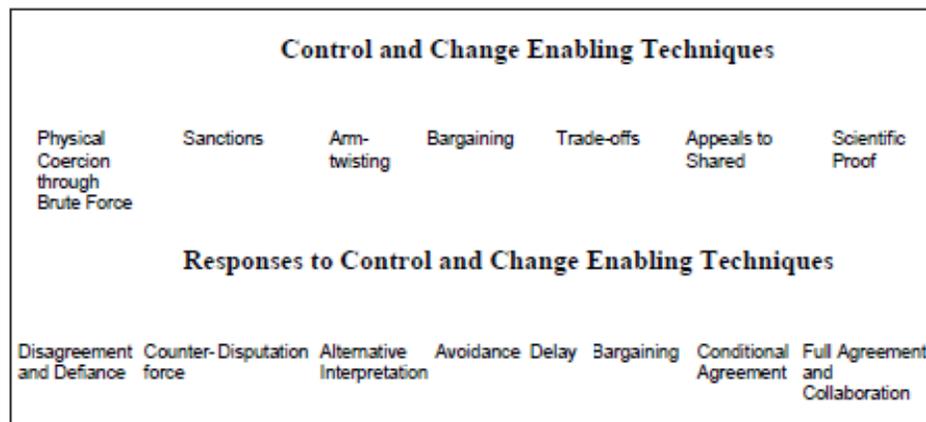
This theory highlights how actors in an agency influence each other and their environment. It advocates for ‘effective politics’ that will yield solid cooperation between the actors (Meissner, 2014). In terms of water provision, states have had ‘agential power’ for quite a while as they have been the main actors in providing water. However, as time has gone by, other actors have come in and it has become increasingly clear that these actors also play very meaningful roles. They can also exercise this power and initiate positive change. Agential power refers to the actors’ ability to influence and change their environment. All parties can have a high agential power which means that the state’s agential power does not have to be low for the community’s agential power to be high.

Agential power has several determinants including ideological, economic, and political power (Meissner, 2014). Ideological power refers to the doctrine and beliefs that an actor has. Different actors have different beliefs and approaches as evidenced by how private water providers are interested in making a profit regardless of whether or not they manipulate the consumer. CBOs are interested and believe in advocating for the rights of vulnerable groups and ensuring they can access water. The State both at the national and county level also believes in taking care of citizens and in many cases is hindered from achieving this goal by lack of resources and capacity.

Economic power according to Meissner (2014) stipulates that water has economic value and any output resulting from water should be regarded as an economic good. Provision of water also needs economic muscle such as laying down of infrastructure and purifying to improve its

quality. Political power appreciates that provision of water by the State is heavily affected by politics. This introduces infrastructural power which is the ability for the State to implement strategic projects that will be accepted by the civil society (Meissner, 2014). However, civil societies can also be used by the State to implement its policies. They can also provide technical assistance to the State to formulate water policies that will be effective in the informal settlements. This presents a partnership between the State and the CBOs.

The different actors exercise their power in various ways which can be through control and change enabling techniques. The response of the actors depends on the technique used (Rosenau, 1990). **Figure 2.2** demonstrates a set of control and change enabling techniques and a response for each technique. The figure clearly shows that various actors have several tools that can be used to either facilitate or discourage their ability to interact.



**Figure 2.2:** Control and change enabling techniques

**Source:** Rosenau, 1990.

#### 2.4.4 Theory application and Summary

The theories outlined above seek to analyse collaboration among various stakeholders to ensure provision of water to people living in informal settlements. **Table 2.2** provides a brief summary of the theories and their contribution to the study.

**Table 2.2:** Theory application and summary

Theory	Contribution to the study
Systems Theory of Management	This theory provides an insight into how the water supply process can be viewed as a system. This means that it is composed of various parts whose interactions make up the whole. Through this theory, the water supply system can be viewed to be composed of several sub-systems which in this case are the actors. A system has permeable sub-systems meaning they are able to share information amongst each other (Von Bertalanffy, 1950). The Systems Theory of Management aids in understanding how the sub-systems interact to produce a desired outcome. In an ideal situation, all parties work together in a multi-stakeholder approach and partnership to supply water in informal settlements.
Theory of Vulnerability	This theory recognizes that people living in informal settlements are vulnerable to manipulation and exploitation from the various actors that provide water to them. The theory also asserts the importance and role of the State in reducing the vulnerability of its citizens. It also identifies the need for a unique approach to dealing with water provision challenges in informal settlements as opposed to dwelling on the formal structures currently utilised to supply water (Kohn, 2014). By identifying the various groups and stakeholders who are involved in the water supply system, recommendations regarding establishment of a multi-stakeholder team are given so as to come up with solutions that are tailor-made to deal with the unique challenges found in informal settlements.
Theory of Agential Power	This theory demonstrates how for a long time, the government has been the main entity with the power and authority to provide water. However, it has faced challenges in fulfilling its mandate and other actors have come in. It is therefore recommended that the State needs to work with these actors as it will increase its agential power instead of reducing it. Furthermore, the State needs also seriously take on its regulatory and coordination role. Where possible, it can partner with other actors to get technical assistance and also support in implementation of water projects.

**Source:** Author, 2023.

As outlined in the table below, it is evident that a multi-stakeholder approach to providing water in informal settlements would be the most suitable approach. Multi-stakeholder partnerships (MSP) refer to different organizations within a society working together, bringing together their exceptional abilities and resources while sharing risks to ensure that they can more efficiently deliver on a task. According to the Partnering Initiative (2016), MSPs can greatly benefit from harnessing the different perspectives offered by various groups to come up with creative solutions to societal challenges.

In reference to the study, there are various resources that the identified actors can bring to the table to ensure effective delivery of services to the residents of Langas Informal Settlement (Table 2.3).

**Table 2.3:** Resources contributed by various actors

CBOs	State	Private vendors	water	Local community	area
<ul style="list-style-type: none"> <li>• Technical knowledge and expertise-due to interactions with NGOs</li> <li>• Local and community knowledge</li> <li>• Skilled manpower</li> <li>• Funding due to access to global network (NGOs)</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Authority and power to facilitate and effect change</li> <li>• Capacity building</li> <li>• Provide land to set up infrastructure</li> <li>• Funding through budgetary allocation</li> </ul>	<ul style="list-style-type: none"> <li>• Infrastructure</li> <li>• Innovative and creative solutions</li> <li>• Value chain power</li> </ul>		<ul style="list-style-type: none"> <li>• Deep local knowledge</li> <li>• Project support and goodwill</li> <li>• Manpower to run and maintain the water projects</li> </ul>	

**Source:** Author, 2023.

Multi-stakeholder partnerships involve several things:

- i. They are voluntary
- ii. They operate under their own unique principles
- iii. They are context-specific
- iv. They focus on a common vision
- v. They are highly creative and are willing to take risks to achieve their goals and objectives

However, due to the nature of partnerships, MSPs are bound to face several challenges. These challenges include increase in transaction costs which is a direct result of having to unite varying opinions and perspectives, values and interests (The Partnering Initiative, 2016). This means that MSPs are best used in scenarios where they bring true value and provision of water is one such scenario. MSPs can counter such challenges through the following ways:

- i. Identifying and using diversity as an asset
- ii. Valuing the contributions by different actors

- iii. Understanding the background and circumstances within which each actor operates
- iv. Subjecting all actors to the highest standards and holding them accountable
- v. Creating innovative ways of building partnerships and collaboration within the MSP team

## 2.5 Conceptual Framework

### 2.5.1 Conceptual definition

The conceptual definitions are as summarised in **Table 2.4**.

**Table 2.4:** Conceptual definition

Concept	Definition
Actor role	The function carried out by a participant in an action or a process
State involvement	Exercise of political authority over the affairs of a political unit and also performance of certain functions by the same political unit
Effective actor contribution	Ability or power that allows a specific actor to play a role towards bringing a result
Collaboration among various actors	The ability of actors to work together and achieve a common goal

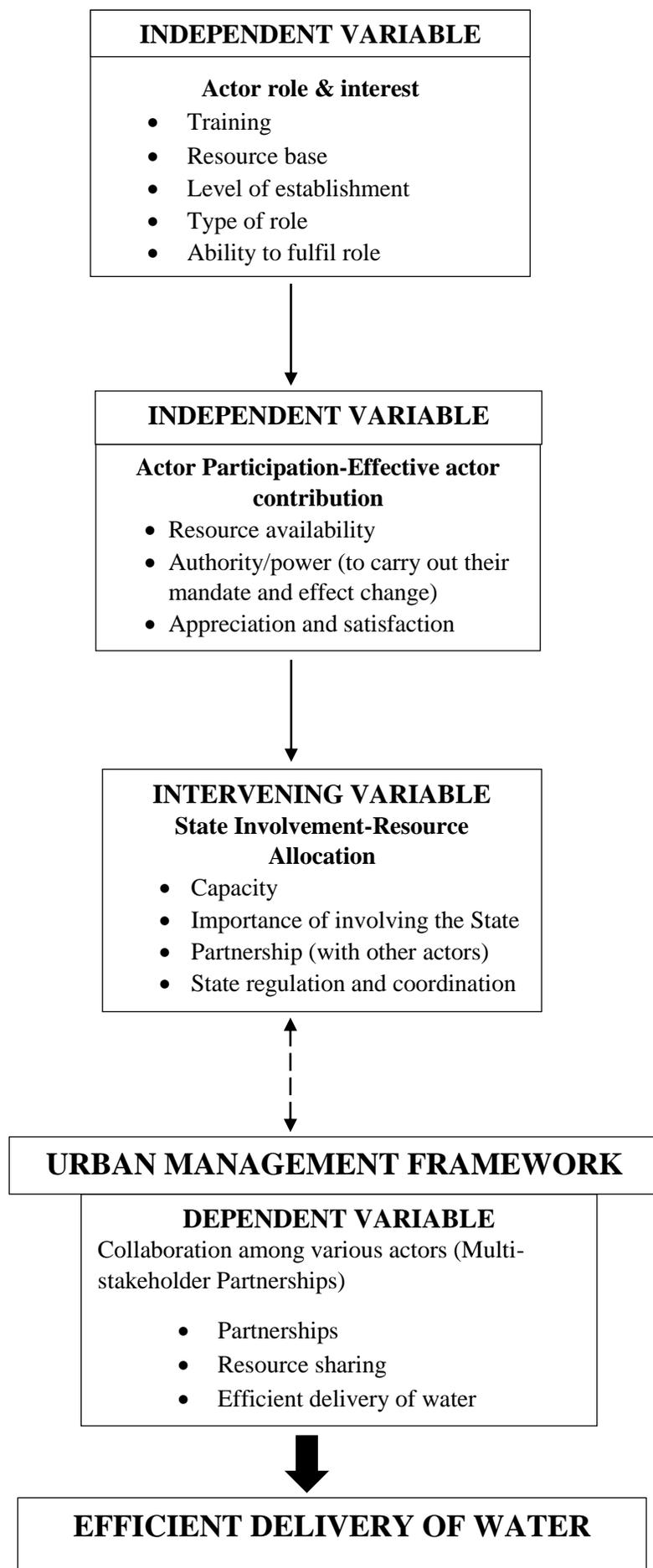
**Source:** Author, 2023

As aforementioned, the main recommendation being propagated through the theories is utilization of multi-stakeholder partnerships (The Partnering Initiative, 2016). This technically means that there is need for collaboration among the identified stakeholders. The collaboration according to the multi-stakeholder partnership approach is anchored on several principles. There are also several key things that may affect the success of this collaboration as illustrated in **Figure 2.3**. One such factor is the roles played by the actors. Under this variable, it is important for each actor to know the type of role they are supposed to play. They should also have a clear understanding of their ability to fulfil their mandate while also being actively aware of any obstacles that may hinder them from fulfilling their mandate. It is also important for the actors to receive the necessary training needed to carry out their task while also being able to identify the resources within their disposal and how to harness them.

The second variable is state involvement in the water supply process. Literature has indicated that the role of the state in terms of coordination and regulation is very crucial for the success of the collaboration among various stakeholders. The role of the state can be indicated

through identifying its importance as viewed by other actors. The involvement of the state can also be measured by looking at its ability to work or partner with actors. It is only when the state is open to working with other actors that the success of the partnership will be guaranteed. It is also important to look at the current role the State has played in water supply in Langas and how this can be strengthened. Finally, the state needs to have the requisite capacity to carry out its coordination and regulatory role. Kyessi (2005) highlights that since many governments lack capacity to deliver some services, they need to work with other partners involved in water provision. The State can further strengthen its regulation role through developing policies that acknowledge the various actors and include them in the water supply process by clearly identifying their roles and proposing ways of regulating their interests.

The final variable that affects the ability of the various actors to successfully work together is the contribution each actor makes (**Table 2.3**). According to The Partnering Initiative (2016), multi-stakeholder partnerships thrive on optimal utilization of the resources provided by every stakeholder. Hence resource contribution and utilization are important. Secondly, the partnership needs to value the contribution from each of the various actors. Appreciation of an actor and their contribution to the partnership will increase their satisfaction which will in turn have them carry out their role more effectively. According to Meissner (2014), the State has to also be willing to empower other actors to have authority or power to carry out their role and effect change. This can be done through advocating for ‘effective politics’ that will yield solid cooperation between the actors.



**Figure 2.3:** Conceptual Framework

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This section describes the techniques and procedure that will be followed while carrying out this research. This includes the research methods, data collection techniques and the entire research design and approach. The chapter also outlines the population frame, data sources and data analysis and presentation techniques utilised in this study.

#### **3.2 Research Design**

This research is qualitative in nature. This research specifically employs case studies which involves an in-depth examination of people or groups of people. It can also be used to thoroughly examine a city, business or an organization. The main interest under case studies is to look at the experiences of the subject and what they mean to them specifically.

In regards to this research, the main aim is to look at how the interactions of the various water actors affect provision of water in informal settlements. The study seeks to first analyse Langas and how water is provided within the settlement. Secondly, it seeks to analyse the various actors, identify their roles and interests and finally proposes a management framework that considers these interests can be managed to ensure the consumer gets the right commodity at the right price.

According to Teegavarapu, Summers & Mocko (2008), case studies collect data through the use of questionnaires, interviews and observations and these data collection tools were utilised in this study. Finally, case studies use content analysis which seeks to understand the patterns of communication. This research study seeks to understand the relationships among the various water sector actors and how these interactions affect the provision of water.

#### **3.3 Study area**

The study area is located within Langas Ward, Kapseret Sub-County, Uasin Gishu County. Langas Ward has a population of 127,167 people according to the KNBS Census report (2019).





**Figure 3.2:** Study Area

**Source:** Author, 2023.

### **3.4 Data Sources**

The research was informed by both secondary and primary data. Secondary data encompassed review of literature by other scholars. This in-depth desk research provided the rationale for the study. Primary sources of data included the various actors identified through the literature review. These actors include Eldoret Water and Sanitation Company (ELDOWAS), Local Area leader (Area Chief), Langas community residents who also include Nyumba Kumi leaders, and CBOs operating within the Langas Informal Settlement.

### **3.5 Sampling Design**

#### **3.5.1 Research setting**

The study area as aforementioned is Langas informal settlement located within Kapseret Sub-county, Uasin Gishu County. The informal settlement has been going through the typical challenges that informal settlements across the Global South go through. The study focused specifically on Blocks 1 and 2 of Langas. Inadequate access to infrastructure and services is one

of the major challenges and this study focuses on the difficulty to access water by the area residents.

### 3.5.2 Unit of analysis

In regards to this research project, the main parameter being investigated is groups of people who are the actors involved in the water supply process. The actors identified include local governance units, local area community, the State and non-governmental organizations.

Under local community governance, the main unit of analysis is the Local Area Chief, the village elders and Nyumba Kumi leaders. Under local area community, the unit of analysis is the household head including landlords. The third group is non-governmental organizations and the main unit of analysis here is the leadership. Under the State, the study will specifically look at the County Directorate of Water and Eldoret Water and Sanitation Company.

### 3.5.3 Population frame and sampling size

According to the 2019 census, the population in Langas is 127,167 people. However, the study focused specifically on Blocks 1 and 2. Blocks 1 and 2 have a total of 648 plots representing 648 households.

#### i. Sample size distribution

The sample size distribution is shown in **Table 3.1**. The total number of responses collected was 71.

**Table 3.1:** Sample size distribution

PURPOSIVE SAMPLING			SIMPLE RANDOM SAMPLING		
Target group	Total Population	Population Sample	Target group	Total Population	Population Sample
ELDOWAS	1	1	Nyumba Kumi Leaders	30	3
County Directorate of Water	1	1	Village Elders	20	2
Local Authority (Chief)	1	1	Households	648	60
CBOs (Area Youth Groups)	3	3	<b>Total</b>	698	65
<b>Total</b>	<b>6</b>	<b>6</b>			

Source: Author, 2023.

### **3.5.4 Sampling techniques**

#### **i. Simple random sampling**

This sampling technique entails choosing a respondent by chance and every member of the population has an equal chance to be selected. Random sampling was employed in selecting respondents from the local area residents.

#### **ii. Purposive sampling**

Purposive sampling is a sampling technique where the researcher chooses the population to participate in their study based on their judgement. This sampling technique requires the researcher to have knowledge of the purpose of their study to enable them to choose eligible participants. The study seeks to analyse the role of water sector players in the water supply process. Purposive sampling was employed in picking out population sample representing the State (ELDOWAS and County Directorate of Water), the Local Authority and Community Based Organizations. This is because these categories only have one representative and hence there are no various options of participants to choose from.

### **3.6 Data Collection Tools and Techniques**

Data collection tools that are envisioned that were used include:

**Questionnaires:** These are guided interviews using close ended and open ended questions. The questionnaires were self-administered which allowed the respondents to give their honest opinions and views. These were thereafter analysed and interpreted.

**Interview schedules:** Key informants such as the administrative personnel were interviewed where they provided key and vital information. The key resources persons were from Eldoret Water and Sanitation Company (ELDOWAS), CBOs (the organized local youth groups).

**Observations:** The researcher observed and documented what was happening on the site. Recording was done through taking down notes, filling the checklist, taking photographs. This information was used to verify the responses provided by the respondents.

### **3.7 Validity and Reliability of Research Instruments**

According to Haradhan (2017), reliability refers to the stability of the findings while validity shows the truthfulness of the findings. These are key in research for they ensure that the research is transparent and reduces instances of bias by the researcher. The study used content

validity to show the extent to which the questions on the questionnaires were able to achieve the objectives of the study. The study utilized content validity by formulating questions that are clear and easy to understand. This ensured that the views collected were as honest and true as possible.

### **3.8 Data Analysis and Presentation**

#### **3.8.1 Data analysis techniques**

Data analysis can be defined as the process of collecting, analysing and organizing data. This ensures that a researcher can extract useful information from the data. The study utilised content analysis which entailed analysis of the data to get patterns of communication. These patterns aided in understanding the relationships between and among the various actors within the water supply process. Data analysis was done according to each objective and sought to answer the research questions.

#### **3.8.2 Data presentation techniques**

Descriptive statistics such as the use of frequency distributions, pie charts and percentages were used in data presentation. Data was also presented in form of graphs, charts and tables. For qualitative data analysis, information was obtained from empirical literature of the open-ended questions of the questionnaire.

### 3.9 Operationalization of Variables

Table 3.2 contains objectives, the dependent and independent variables. It also shows the data collection and methods of data analysis for the study.

**Table 3.2:** Objectives, Dependent and Independent Variables

Research Question	Variable	Indicator	Data Source	Data collection method	Measurement	Question
What are the roles and interests of actors in supply of water in informal settlements?	Actor role	Type of role	Secondary	Literature review	Nominal	What is your role in water supply process? <ul style="list-style-type: none"> <li>• Advocacy to the State</li> <li>• Mobilizing resources</li> <li>• Providing labour</li> <li>• Donating land for setting up water projects</li> <li>• Funding</li> <li>• Policy formulation</li> <li>• Identifying space for projects</li> <li>• Direct provision of water (selling/vending)</li> <li>• Infrastructure provision</li> <li>• Regulation and coordination</li> </ul>
		Ability to fulfil role	Primary	Questionnaire	Ordinal	Have you been able to fulfil your role in the water supply process? <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
			Primary	Questionnaire	Nominal	What obstacles do you face in delivering on your role/mandate? <ul style="list-style-type: none"> <li>• Lack of funds</li> <li>• Inadequate State support</li> <li>• Political interference</li> </ul>

					<ul style="list-style-type: none"> <li>• Interference from competition</li> </ul>
	Training	Primary	Questionnaire Interview schedule	Ordinal	<p>Do you have any training on how to fulfil your role?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
		Primary	Questionnaire Interview schedule	Nominal	<p>What role does training play in improving your efficiency?</p> <ul style="list-style-type: none"> <li>• Improved and efficient resource use</li> <li>• Capacity development</li> <li>• Improved advocacy skills</li> <li>• Strengthening awareness and influence</li> </ul>
	Resource base	Secondary	Literature review	Nominal	<p>What resources can you bring to the Multi-Stakeholder Partnership?</p> <ul style="list-style-type: none"> <li>• Funding/monetary resources</li> <li>• Technical knowledge and expertise</li> <li>• Labour/manpower</li> <li>• Local and community knowledge</li> <li>• Innovation and creativity</li> </ul>
		Primary	Questionnaire Interview schedule	Nominal	<p>Do you have the capacity to harness and utilise these resources?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
	Level of establishment	Primary	Questionnaire Interview schedule	Nominal	<p>What is your organizational structure?</p> <ul style="list-style-type: none"> <li>• Centralized structure</li> <li>• Decentralized structure</li> </ul>
		Primary	Questionnaire	Nominal	<p>How does this structure affect your output?</p>

				Interview schedule		
			Primary	Questionnaire Interview schedule	Nominal	What improvements can be done to the structure to improve your output and efficiency?
	State involvement	Capacity	Primary	Questionnaire Interview schedule	Nominal	Does the State have capacity to carry out its mandate?  <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
		Importance of involving the State	Primary	Questionnaire Interview schedule	Ordinal	How important is the role and involvement of the State in water supply?  <ul style="list-style-type: none"> <li>• Very important</li> <li>• Important</li> <li>• Least important</li> </ul>
			Primary	Questionnaire Interview schedule	Ordinal	How would rate the current level of state involvement in water supply?  <ul style="list-style-type: none"> <li>• Adequate</li> <li>• Moderately adequate</li> <li>• Inadequate</li> </ul>
		Partnership with other actors	Primary	Questionnaire Interview schedule	Ordinal	Do you think the State has the capacity to partner with you and other actors?  <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
			Primary	Questionnaire Interview schedule	Nominal	What obstacles would the State face in partnering with other actors?  <ul style="list-style-type: none"> <li>• System resistance</li> <li>• Inability to yield and share control with other actors</li> <li>• Lack of capacity</li> </ul>

Which urban management framework can address the interests of all involved parties who are involved in water supply to ensure that the consumer still gets the right commodity?	Effective actor contribution	Resources availability	Secondary	Literature review	Nominal	<p>What resources can you contribute to the water supply system/process?</p> <ul style="list-style-type: none"> <li>• Funding/monetary resources</li> <li>• Technical knowledge and expertise</li> <li>• Labour/manpower</li> <li>• Local and community knowledge</li> <li>• Innovation and creativity</li> </ul>
	Authority/power to effect change		Primary	Questionnaire Interview schedule	Ordinal	<p>Do you think you have the authority/ability to effect change?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
			Primary	Questionnaire Interview schedule	Nominal	<p>What obstacles do you face in effecting change?</p> <ul style="list-style-type: none"> <li>• Political interference</li> <li>• Lack of political support and goodwill</li> <li>• Inadequate State support</li> <li>• Conflicting interests; inadequate management of interests from other actors</li> </ul>
			Primary	Questionnaire Interview schedule	Nominal	<p>How would the State provide support to allow you to effect change?</p> <ul style="list-style-type: none"> <li>• Offer training</li> <li>• Enhanced collaboration</li> <li>• Policy adjustments</li> <li>• Enhanced public participation and involvement</li> </ul>
	Appreciation and satisfaction		Secondary	Literature review	Nominal	<p>How would actors in multi-stakeholder partnership value contributions from each other?</p> <ul style="list-style-type: none"> <li>• Providing feedback</li> </ul>

						<ul style="list-style-type: none"> <li>• Creating an environment for openly giving opinions</li> <li>• Being considerate</li> </ul>
			Primary	Questionnaire Interview schedule	Nominal	<p>What obstacles would such a partnership face?</p> <ul style="list-style-type: none"> <li>• Lack of accountability</li> <li>• Increased transaction costs</li> <li>• Inadequate conflict resolution mechanisms</li> <li>• Lack of a common vision</li> </ul>
			Secondary	Literature review	Nominal	<p>What role would appreciation play in improving MSPs?</p> <ul style="list-style-type: none"> <li>• Motivating actors</li> <li>• Enhancing teamwork</li> <li>• Improve innovation and creativity</li> </ul>
	Collaboration among various actors	Partnership	Primary	Questionnaire Interview schedule	Ordinal	<p>Do you think MSPs is a feasible option in solving water supply challenges in informal settlements?</p> <p>(Yes or no, if no, explain why)</p>
		Resource sharing	Secondary	Literature review	Nominal	<p>How can the partnership ensure accountability in resource use?</p> <ul style="list-style-type: none"> <li>• Set specific goals</li> <li>• Provide progress update</li> <li>• Provide feedback</li> <li>• Create an environment of trust</li> <li>• Recognize and appreciate progress</li> </ul>

Source: Author, 2023

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter is a presentation of data analysis and discussion of findings obtained from the questionnaires and interview schedules administered to the respondents. The objectives of the study include identification of those involved in water supply in Langas area, secondly identification of their roles and interests in the water supply process and thirdly to propose an urban management framework that addresses all the interests of the actors who are involved in water supply and still ensures that the consumer gets the right commodity under favourable conditions. This chapter will present and discuss the findings based on the above-mentioned objectives. The results of this study are based on the findings of the study and all the objectives have been addressed.

#### 4.2 Response Rate

The number of questionnaires that were set to be administered was 71 as shown on **Table 4.1**. However, the number of responses collected is 61 bringing the response rate to 85.9%. According to Mugenda and Mugenda (2003), a response rate of 60% is good while 70% and above can be considered very good. Hence, the response rate is adequate for the study and analysis. A breakdown of the number of responses per every category of respondents is outlined in the **Table 4.1**:

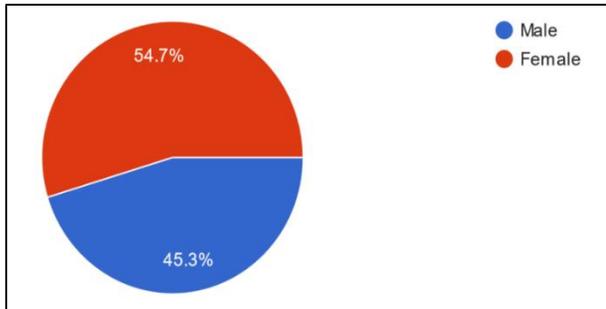
**Table 4.1:** Response rate

Target group	Total Population	Population Sample	Response rate
ELDOWAS representative	1	1	1
County Directorate of Water representative	1	1	1
Local Authority (Chief)	1	1	1
Nyumba Kumi Leaders	30	3	2
Village Elders	20	2	2
CBOs (Area Youth Groups)	3	3	3
Households	648	60	48
Total	704	71	61

**Source:** Author, 2023.

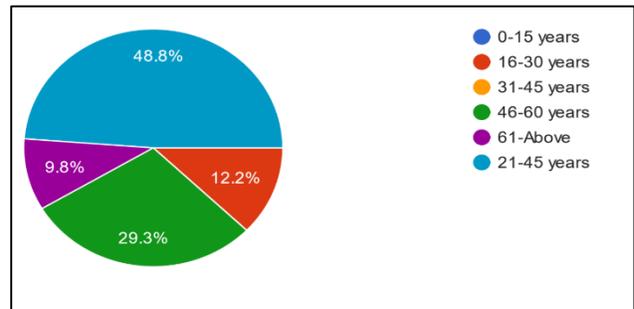
### 4.3 Demographic and Socio-Economic Characteristics of Respondents

A majority of the respondents (54.7%) were female with male respondents being 45.3% (Figures 4.1 and 4.2). 47.2% of the respondents were aged between 31-45 years meaning the study targeted household heads who could provide information regarding the real challenges households face in accessing water. Household heads were also delineated as the unit of analysis under the category of respondents: households.



**Figure 4.1:** Respondent’s demographic distribution

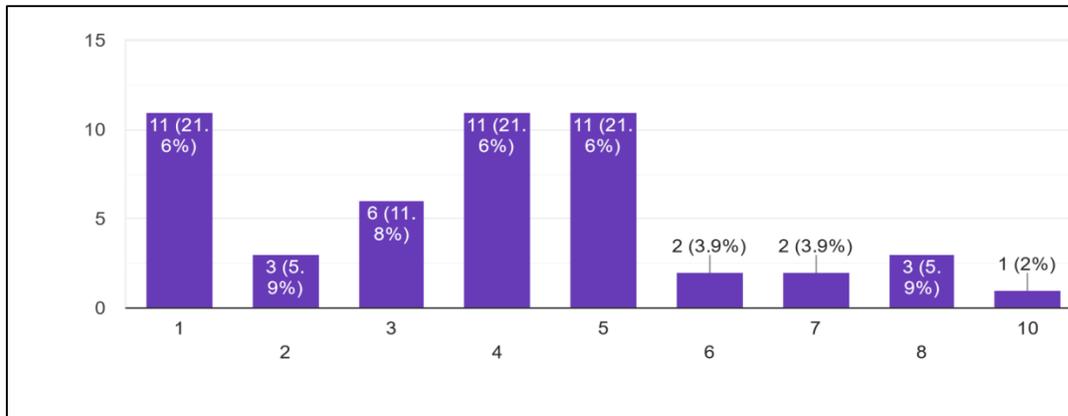
**Source:** Author, 2023.



**Figure 4.2:** Respondents’ age

**Source:** Author, 2023.

The average household size is four to five people per household as shown on Figure 4.3. Such a household requires approximately 100 litres per day however by virtue of inadequacy many survive on considerably less.



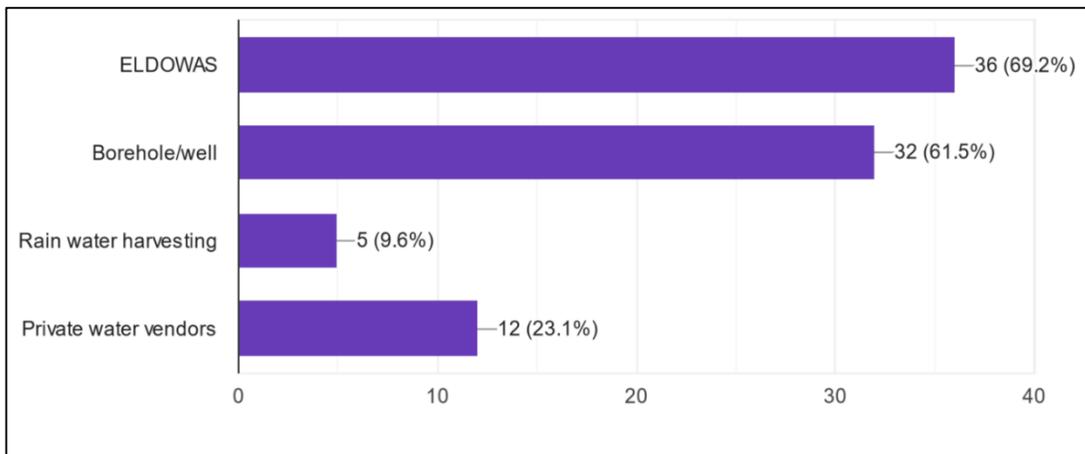
**Figure 4.3:** Household Income Distribution

**Source** Author, 2023

#### 4.4 Actors Involved in Water Supply in Langas Area

Majority of the residents (69.2%) source their water from Eldoret Water and Sanitation Company (ELDOWAS) however due to the challenges of extreme water rationing and poor quality of water, many have opted to utilise other sources of water. 61.5% of the residents get their water from boreholes or wells. However, majority do not own these wells. Many of the boreholes were owned by landlords who sell water to their tenants and other members of the community. The average cost of water from these boreholes is Kshs 10 per 20 litre container. This brings into play landlords as major actors in the water supply process.

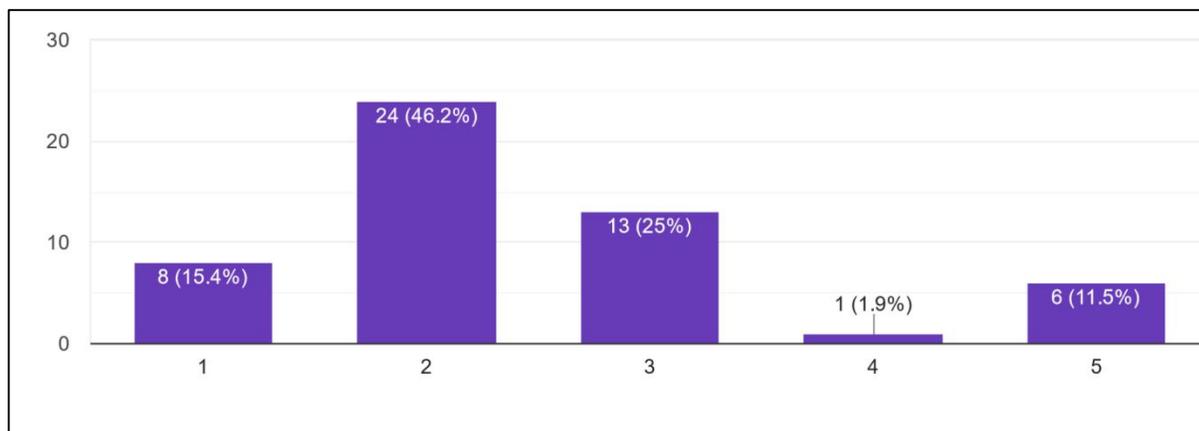
Landlords also supplement water supply within their premises by harvesting rain water that is directed to tanks and residents use it for all uses apart from drinking. Harvested rain water is provided to tenants freely. Residents whose landlords have not drilled boreholes buy their water from other private water vendors located within the area and these make up about 23.1% of the total population as shown in **Figure 4.4**. These vendors supply water to the various plots and they sell water at Kshs 20 per 20 litre container. Majority of these water vendors are youth groups who have water points and earn a living from supplying and selling water to residents.



**Figure 4.4:** Sources of water.

**Source** Author, 2023

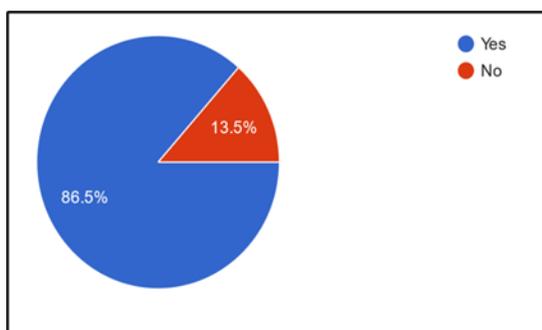
46.2% of the residents rated ELDOWAS as being an ineffective water service provider (**Figure 4.5**). This is because the organization provides water to the residents mostly twice a week but on most weeks, the taps were dry for the whole week. Other water sources were rated reliable in terms of availability and quantity but expensive.



**Figure 4.5:** Effectiveness of ELDOWAS

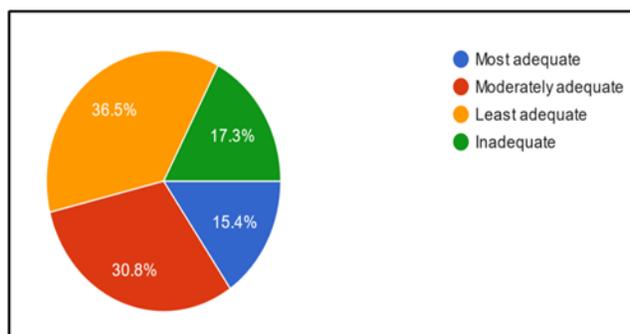
**Source:** Author 2023

36.5% of the respondents termed ELDOWAS' adequacy as being least adequate with 86.5% of them citing that they have challenges accessing water from the main water service provider (Figures 4.6 and 4.7).



**Figure 4.6:** Percentage facing challenges accessing ELDOWAS water

**Source:** Author 2023



**Figure 4.7:** Adequacy of ELDOWAS

**Source:** Author 2023

**Table 4.2** lists a summary of the challenges the residents mentioned they face when accessing water from various water providers. The residents also cited that they felt manipulated by the presence of different providers who were competing. The presence of different actors has left them open to exploitation especially in terms of prices of the commodity.

**Table 4.2:** Summary of challenges faced by residents

<b>ELDOWAS</b>	<b>Boreholes/wells</b>	<b>Private water vendors</b>
<ul style="list-style-type: none"> <li>• Extreme water rationing</li> <li>• Costly/expensive</li> <li>• Low quality of water (muddy water on rainy days)</li> <li>• Unreliability in terms of quality</li> </ul>	<ul style="list-style-type: none"> <li>• Costly/expensive</li> <li>• Unsanitary since some wells have been dug near pit latrines</li> <li>• Cannot be used for drinking unless boiled</li> </ul>	<ul style="list-style-type: none"> <li>• Costly/expensive</li> <li>• Source unverified</li> </ul>

**Source:** Author, 2023.

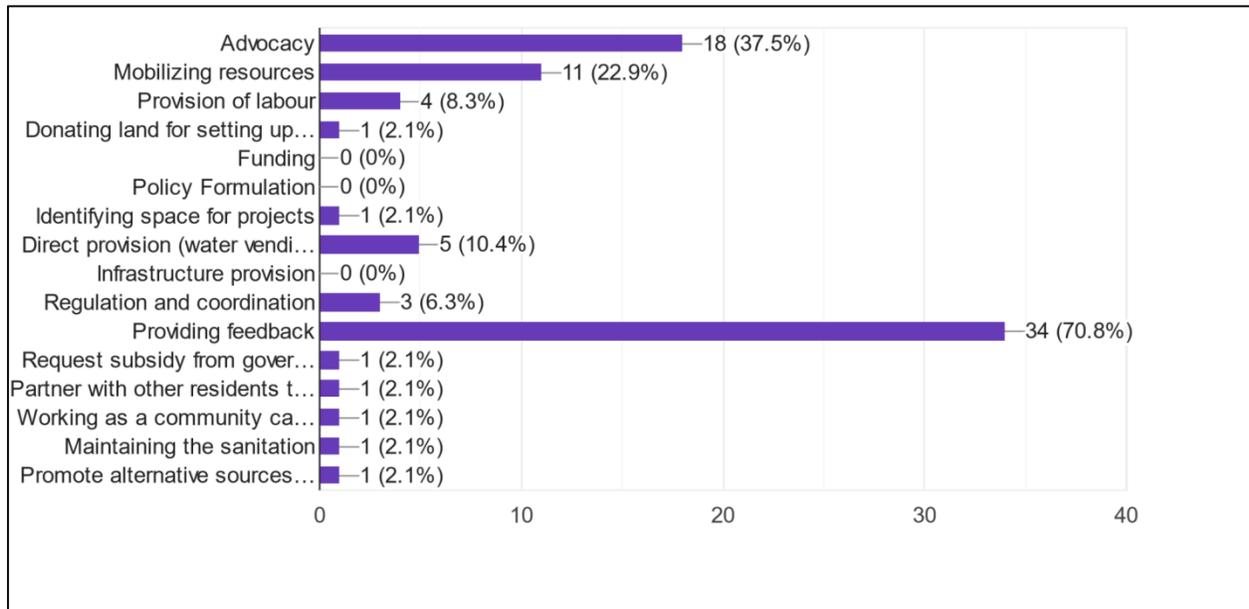
## **4.5 Roles and Interests of Water Supply Process Actors**

Different actors were found to have a different set of roles from both the primary and secondary data collected. This section is divided into different segments showing the roles for each specific actor.

### **4.5.1 Local area community**

#### **4.5.1.1 Type of role**

70.8% of the respondents were of the opinion that their main role is providing feedback to the suppliers as illustrated in **Figure 4.8**. This is in line with the systems theory of management which noted that interaction among various actors would produce a result and the community would provide feedback which would enrich the water supply process. Some residents (37.5%) also mentioned that they take up the role of advocacy where they stand in for their neighbours when talking to the State. These residents were mainly village elders, Nyumba Kumi leaders and a few other individual residents. Their main interest is to ensure that all households are able access water at the right price and quantity.

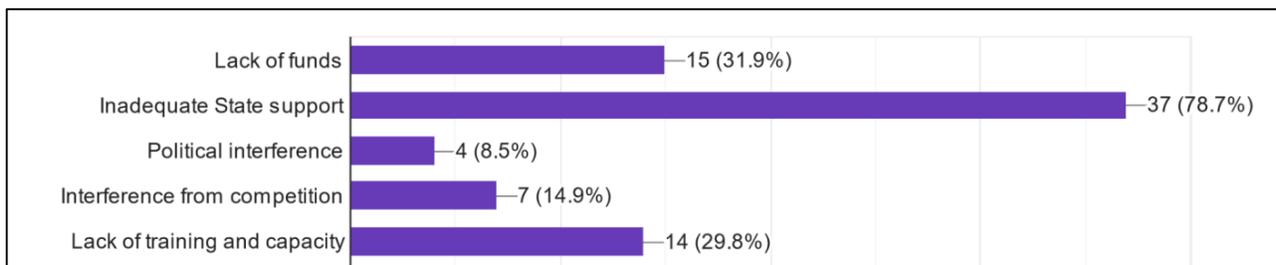


**Figure 4.8:** Summary of Roles Played by Local Area Community

**Source:** Author, 2023

#### 4.5.1.2 Ability to Fulfil Role

However, many residents (78.7%) felt that they could not fulfil their main role of providing feedback due to lack of State support as depicted in **Figure 4.9**. According to their experience, the State does not respond to the issues they raise. 31.9% of residents also were of the opinion that they lack funds in implementing their local and community water projects. 29.8% of the community also termed lack of training and capacity as a key obstacle to fulfilling their main roles of providing feedback and advocacy. Residents also stated that lack of training and capacity hindered them from knowing avenues to forward their concerns.



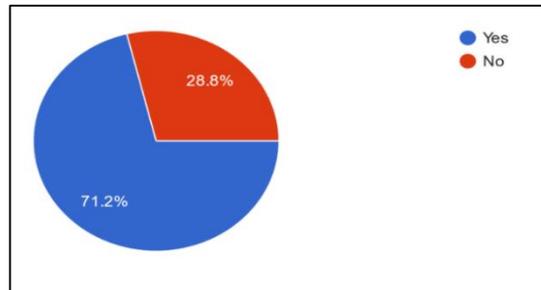
**Figure 4.9:** Factors Hindering Local Area Community Members from Fulfilling their Roles

**Source:** Author, 2023

Inability to provide feedback is a major vulnerability and it leaves the residents open to manipulation and exploitation. The theory of Vulnerability asserts the importance of the State in reducing the vulnerability of its citizens (Kohn, 2014).

#### 4.5.1.3 Ability to Effect Change

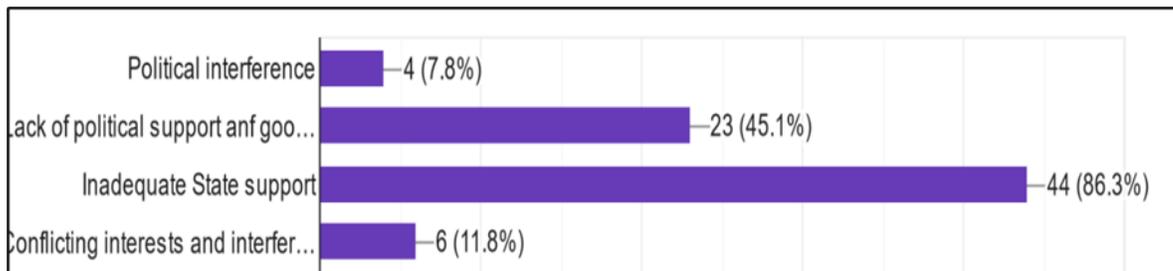
71.2% of the respondents thought they have the ability to effect change. Getting the government to listen and act on their feedback is the change the residents were referring to



**Figure 4.10:** Ability of The Community to Effect Change

**Source:** Author, 2023

The residents cited that their ability or inability to effect change is affected by inadequate State support (86.3%) and lack of political support and goodwill (45.1%) (**Figure 4.11**).



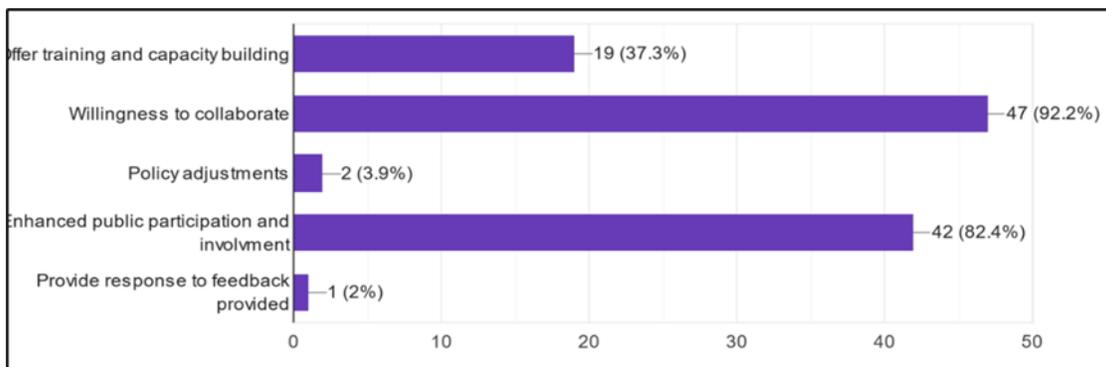
**Figure 4.11:** Reasons the Community is Unable to Effect Change

**Source:** Author, 2023

The residents, however, proposed several ways through which the State can strengthen their ability to effect change. 92.2% of the respondents were of the strong opinion that the State should be willing to collaborate with the community in implementing water projects and acting on feedback (**Figure 4.12**). According to Meissner (2014), the theory of agential power advocates for ‘effective politics’ that will yield solid cooperation between the actors. Willingness to collaborate

highlights “effective politics” where the State is willing to yield power to its residents to allow them the ability to effect change.

Enhanced public participation and involvement was also highlighted by 82.4% of the respondents as a way through which the State can support them to effect change within their surroundings. Involving residents in proposed water projects will allow the residents an opportunity to learn and provide their input. 37.3% of the residents responded that the State can offer training and capacity building. The community can be trained on avenues of submitting their feedback and advocacy. However, the State needs to step in and support the community through training and capacity building.



**Figure 4.12:** Role of Government in Strengthening the Community

**Source:** Author, 2023

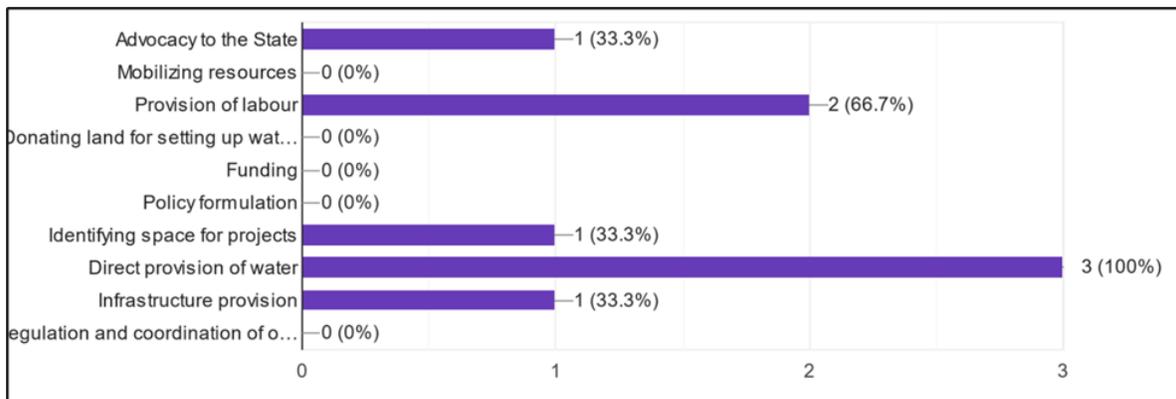
#### 4.5.2 Landlords

Normally landlords have the role of providing housing to the community which also includes provision of access to utilities. Landlords have drilled boreholes/wells and they sell water to their tenants and other members of the community. Most landlords sell the water between Kshs 10 - Kshs 20 per 20 litre container. According to the residents, this is expensive creating the impression that landlords are interested in profits since there is no cost of maintaining the borehole.

### 4.5.3 Youth groups (CBOs)

#### 4.5.3.1 Type of role

The main role of the youth groups located within Langas is direct provision of water (Figure 4.13). They do this by collaborating with ELDOWAS where the water service provider provides a water point for them. They pay ELDOWAS for this water point and they are left selling the water to the rest of the residents. These youth groups also provide infrastructure (33.3%) in the form of water tanks to store water since ELDOWAS is unreliable in terms of frequency. The youth groups also provide labour in the form of hand carts that deliver water to individual households. 66.7% of the CBOs provide labour in terms of helping to dig boreholes within the Community. They also mentioned that they could provide labour for any community water projects funded by both the Government and the community. Due to their diverse community knowledge, CBOs can also play the role of identifying space for water projects. This is because they know the areas with acute water shortage within the settlements.



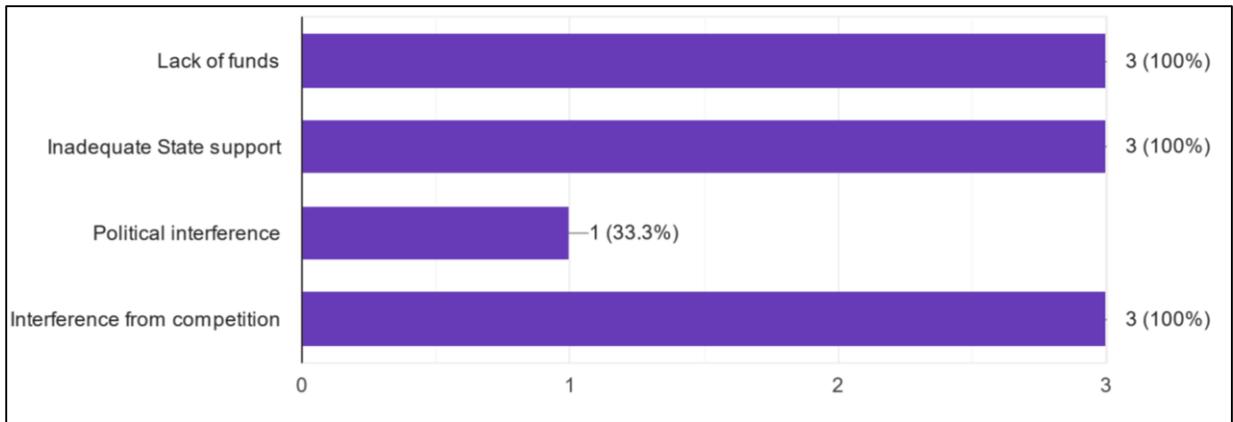
**Figure 4.13:** Role of CBOs

**Source:** Author, 2023

According to Kifanyi, Shayo & Ndambuki, (2013), Youth Groups have the main roles of direct provision of water, acting as a form of regulating other actors within the Community, redefining Government policies and fostering community participation in water projects. However, within the study area, the Youth Groups have a different set of roles as outlined in **Figure 4.13**. Youth Groups can be considered in other roles such as provision of labour for water projects, infrastructure provision and identifying location for proposed projects. These roles further cement the need for adequate State support and collaboration to allow the State to harness these services offered by the Youth Groups.

### 4.5.3.2 Ability to fulfil role

These community organizations are unable to fulfil their roles/mandate due to several reasons. First, lack of funds hinders them from being able to increase the number of storage tanks so as to increase their capacity. Secondly, they cited inadequate State support as another obstacle to achieving their roles (**Figure 4.14**). They viewed State support as provision of infrastructure such as water tanks and setting up water points at a subsidized cost. Lack of State support can also be seen as resistance from the State and lack of coordination as not only do these youth groups depend on water points established by the State but they also drill boreholes and this serves as competition with the State. They also mentioned interference from competitors as another obstacle.



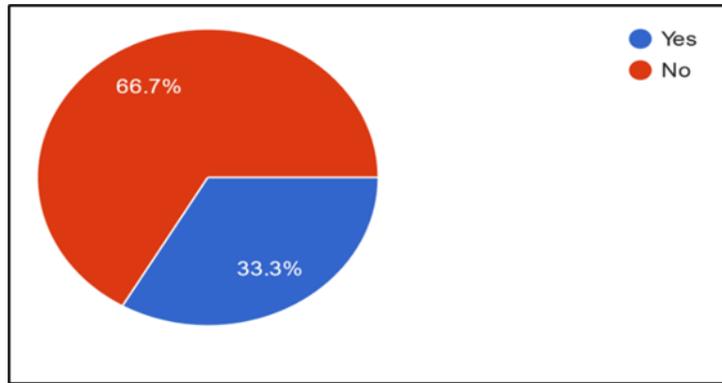
**Figure 4.14:** Factors hindering CBOs

**Source:** Author, 2023

According to Karimanzira (2018), many CBOs depend on the Government for capacity building. Hence, there needs to be a seamless relationship between the two actors. However, the findings reveal that inadequate State support is the key reasons why the CBOs are unable to fulfil their roles and mandates. This finding supports the theory of Agential Power that proposes for the State to yield its power and partner with actors such as CBOs and use them as agents of implementing their proposed projects.

### 4.5.3.3 Training

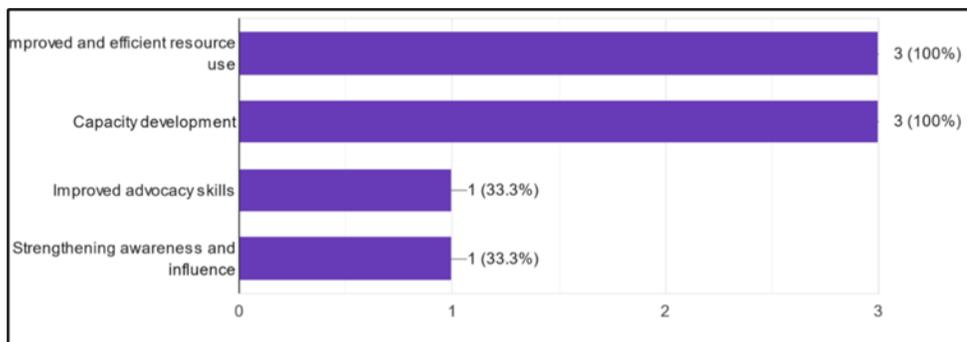
**Figure 4.15** shows that 66.7% of the youth groups which represents two of the three youth groups located within the study area do not have training on how to fulfil their mandate.



**Figure 4.15:** Percentage of CBOs trained

**Source:** Author, 2023

The youth groups strongly cited that training would play a big role in improving efficient resource use and capacity development (**Figure 4.16**). Training will also allow these community groups to advocate for the needs of the community to the State in matters pertaining to water provision including others. **Figure 4.13** highlights that only one youth group performs their advocacy role. Training will equip these youth groups with the ability to advocate to the State on behalf of the community.



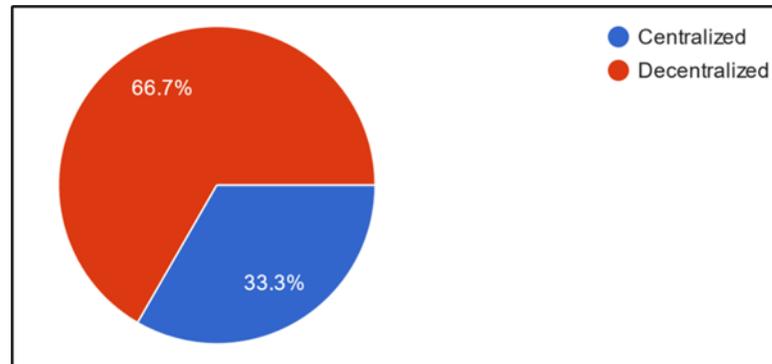
**Figure 4.16:** Role of training of CBOs

**Source:** Author, 2023

### 4.5.3.4 Organizational structure

The ability to fulfil their role is affected by their organizational structure. As shown in **Figure 4.17**, 66.7% have a decentralized structure which means that there are several individuals

responsible for making business decisions and running the business. Decentralized organizations rely on a team environment at different levels in the organization.



**Figure 4.17:** CBOS organizational structure

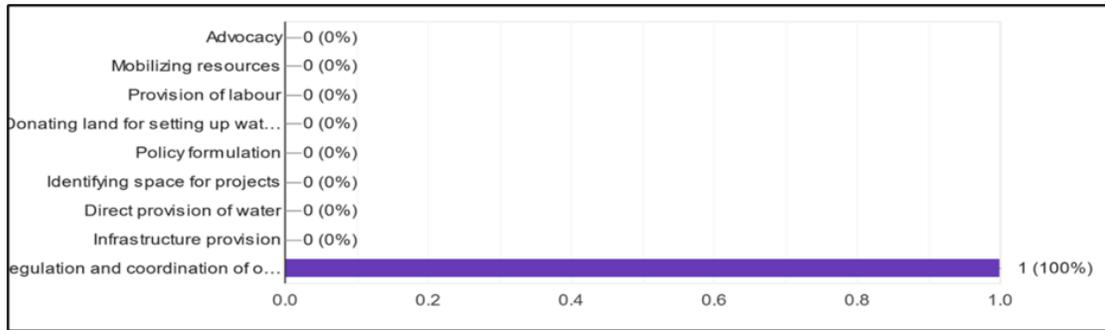
**Source:** Author, 2023

This organizational structure affects their outputs in the following ways: it allows sharing of tasks hence improving effectiveness and provides an ease of coordinating activities. However, a decentralized structure can be improved by providing training to the leaders allowing them to be aware of their roles further cementing the need for training and capacity building of the various actors.

#### **4.5.3.5 Eldoret Water and Sanitation Company (ELDOWAS)**

##### **4.5.3.6 Type of role**

Eldoret Water and Sanitation Company (ELDOWAS) is a state-owned company at the County level tasked with supplying water and dealing with sewer waste in Uasin Gishu County. The organization is run as a parastatal with its own management structure hence it is not heavily dependent on the County Government for finances. In regards to Langas, ELDOWAS has the main role of providing water and regulation and coordination of other actors (**Figure 4.18**).



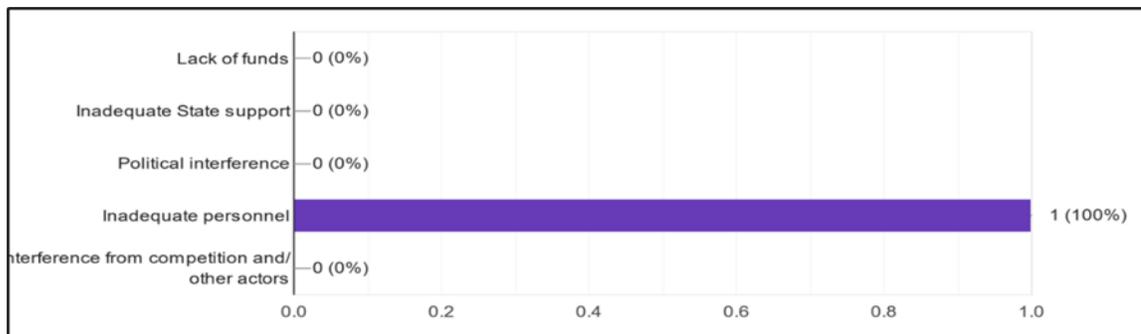
**Figure 4.18:** Role played by ELDOWAS

**Source:** Author, 2023

This finding is in line with literature by Moretto (2018). In case studies of Niger, Uganda and Tanzania, the Government stepped back and formalised the private sector hence taking up the role of coordination and regulation. However, another key role identified in the literature review is funding. Governments have the primary role of funding or facilitating funding of water projects from donors. The findings (**Figure 4.18**) reveal that ELDOWAS does not fund any community water projects. This presents a major failure on the State’s part since the Community is left to fend for itself. ELDOWAS can also partner with the CBOs and the Community in the mobilization of funds to ensure accountability.

#### 4.5.3.7 Ability to fulfil role

The interview with its representative revealed that the organization feels it has been able to successfully carry out its role. However, the company has a challenge of inadequate personnel. This means that ELDOWAS is not able to properly coordinate other actors leaving them to their own devices as illustrated in **Figure 4.19**.



**Figure 4.19:** ELDOWAS’ obstacles to fulfilling its role

**Source:** Author, 2023

According to Solanes (2009), the main reasons that hinder the State from fulfilling its coordination and regulation role include lack of capacity in terms of funding and manpower, political interference, absence of independence and lack of coordination within the Government and with other actors. Findings outlined in **Figure 4.19** show that ELDOWAS has been unable to fulfil its mandate due to inadequate personnel. This requires the State to thoroughly understand its regulation and coordination role and employ personnel with the conclusions in mind.

#### **4.5.3.8 Training**

The current staff of the organization is adequately trained and this has been vital in allowing them to dispense their duties. Capacity development has also improved efficiency of the organization.

#### **4.5.3.9 Organizational structure**

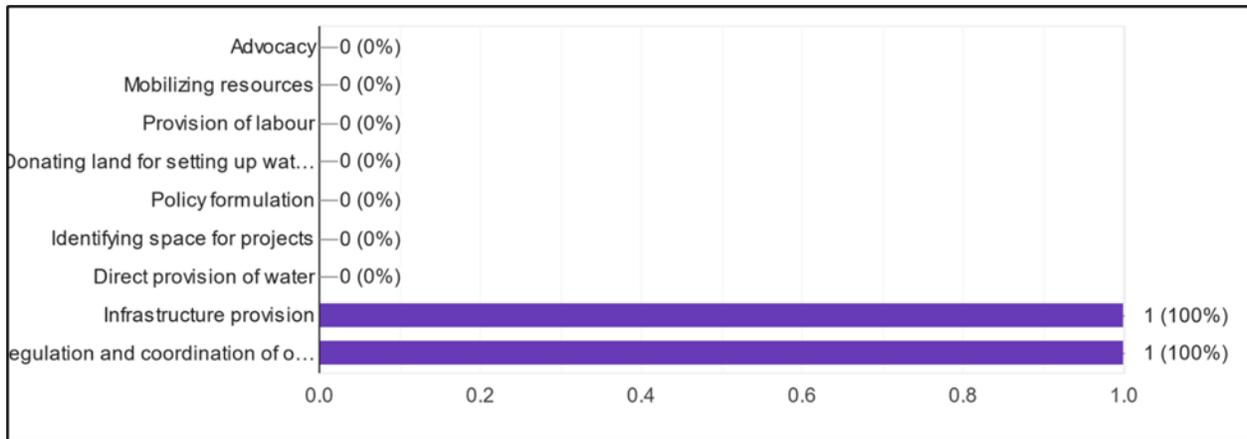
ELDOWAS has a decentralized organizational structure meaning they work as a team. This structure improves on coordination of staff across all the departments within the organization. However, the organization can be further improved by devolution which can also be referred to as territorial management. The company can set up territorial teams comprising of a leader, a meter reader, artisan's repairs, disconnection personnel, servicing/replacement and new connection staff. This team shall be able to deal with challenges specific to Langas and work with the community to come up with solutions.

According to ELDOWAS, territorial management can provide an opportunity for the State to form partnerships with the specific actors found within a community which paves the way for a Multi-Stakeholder Partnership. This would be in line the Systems Theory of Management where the State acts as the middle man and hence regulating what products gets to the final consumer and collects feedback which is used in its regulation and coordination role.

### **4.5.4 County Directorate of Water**

#### **4.5.4.1 Type of role**

The section dealing with water under the County Government of Uasin Gishu is domiciled in the Department of Water, Environment, Natural Resources, Tourism & Wildlife Management. It has the main role of providing infrastructure and regulating and coordinating other actors (**Figure 4.20**). The department is mainly tasked with drilling of boreholes especially in areas outside the Municipality to facilitate supply of water to the rural residents.



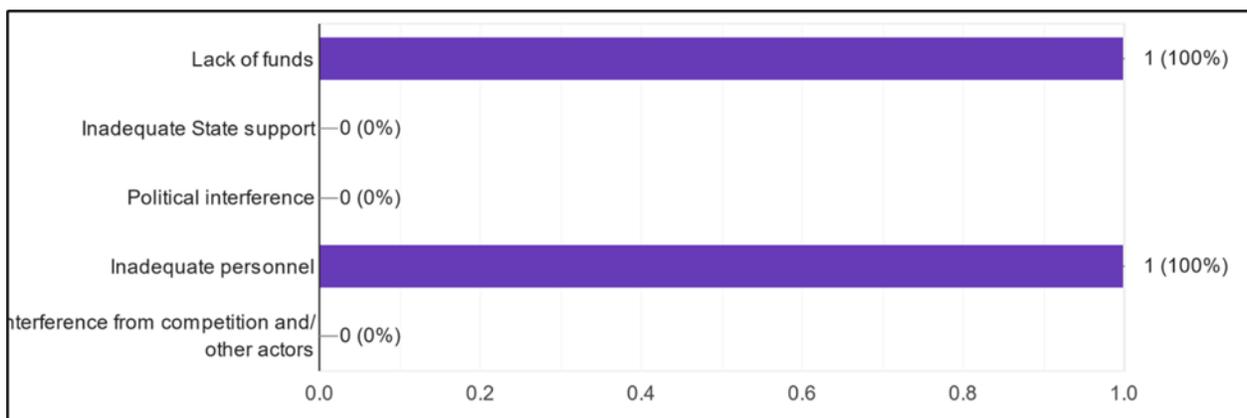
**Figure 4.20:** Roles of County Directorate of Water

**Source:** Author, 2023

The Directorate of Water seems to be fully immersed in its role of regulation and coordination, however, it is important to note that most of its operations are restricted to areas outside the Municipality. Majority of the population lives within the Municipality and it is prudent that the County Directorate of Water is able to assist ELDOWAS in provision of water to the residents living within the Municipality including Langas.

#### 4.5.4.2 Ability to fulfil role

The County Directorate of Water is able to fulfil its role but it encounters several challenges. These challenges include lack of funds and inadequate personnel as outlined in **Figure 4.21**. Lack of personnel greatly affects its regulation and coordination role.



**Figure 4.21:** Factors hindering the County from fulfilling its role

**Source:** Author, 2023

#### **4.5.4.3 Training**

Members of staff under the Directorate of Water are adequately trained. Training has been key in developing their capacity to adequately dispense their duties.

#### **4.5.4.4 Organizational structure**

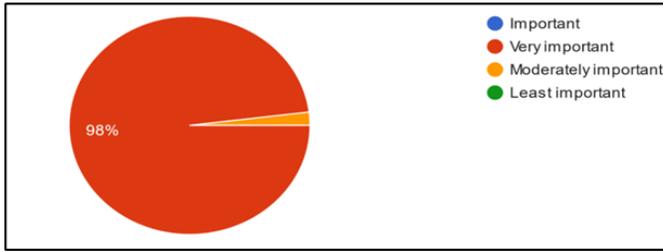
The department has a decentralized structure starting with the County Executive Committee Member, Chief Officer, Director and then other junior officers. This structure has aided in quick response to the needs of the community. Further improvement can be done to this structure by filling all the vacancies. This will increase manpower required to fulfil its coordination and regulation role.

One of the key points to note is the fact that the Department's mandate is mostly restricted to rural areas; outside the Municipality. The Department can be a great addition to the team providing water to the Municipality including Langas. It has equipment that can be used drill boreholes and this can be a good resource to contribute to the Multi-Stakeholder Partnership. Data collected showed that ELDOWAS lacks capacity to fulfil its mandate of providing water to residents. Partnering with the County Directorate of Water means that in areas why ELDOWAS is yet to lay down pipes, the County Directorate of Water can drill boreholes instead. Laying down of pipes in Langas can be a challenge due to security of tenure hence drilling boreholes can be a quicker, cheaper and more reliable mode of providing water.

### **4.6 Urban Management Framework- Multi-Stakeholder Partnership**

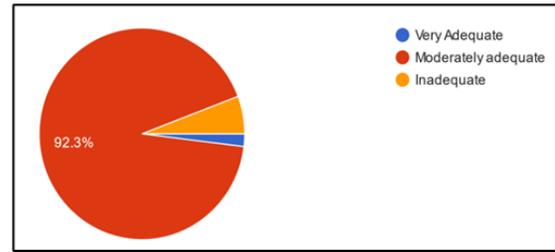
#### **4.6.1 State Involvement**

All the actors/respondents agreed that the involvement of the State in water supply is very important with 98% of the community members agreeing with this (**Figure 4.22**). This supports the premise by Solanes (2009) that State Involvement is crucial and necessary to protect the interests of the Community. However, 92.3% of the local area community members were of the opinion that State involvement in the water supply process in Langas was moderately adequate (**Figure 4.23**). The main reason for this is because ELDOWAS is unable to provide water daily to the residents. This forces them to engage private water vendors to fill the gap created by the inadequacy.



**Figure 4.22:** Importance of State Involvement

**Source:** Author, 2023



**Figure 4.23:** Current level of State involvement

**Source:** Author, 2023

The study revealed that the State has the ability and capacity to partner with other actors in the water supply process through: funding, external donor influence, technical expertise and policy formulation. However, through the study various actors identified several obstacles that would hinder the State from partnering with other actors and are summarised in **Table 4.3**.

**Table 4.3:** Factors hindering State partnership with other actors

CBOs	ELDOWAS	County Directorate of Water
<ul style="list-style-type: none"> <li>System resistance</li> <li>Inability to yield and share control</li> </ul>	<ul style="list-style-type: none"> <li>Lack of capacity</li> </ul>	<ul style="list-style-type: none"> <li>Procedures and protocols that result in delayed project implementation</li> <li>Restricted to work in areas outside the Municipality</li> </ul>

**Source:** Author, 2023

Another key obstacle is the fact that the major players under the State: ELDOWAS and the County Directorate of Water do not work together. Challenges of lack of personnel can be solved by having the two State entities pulling their resources together. This partnership will also ensure that their activities are not fragmented and duplicated. It is important to note that the respondents emphasized that the role of the State; regulation and coordination is very important. The State needs to uphold its role seriously to streamline the water supply process.

#### 4.6.2 Multi-Stakeholder Partnership (MSP)

As aforementioned, a multi-stakeholder partnership refers to different organizations within a society working together, bringing together their exceptional abilities and resources while sharing risks to ensure that they can more efficiently deliver on a task.

#### 4.6.2.1 Actor contribution

The first step in developing a multi-stakeholder partnership is to identify the various resources each partner can contribute to the partnership. The resources can be used as a basis of dividing roles among the different stakeholders. The study revealed the following resources (**Table 4.4**) from the various groups interviewed:

**Table 4.4:** Actors’ contributions to a MSP

Local area community	CBOs	ELDOWAS	County Directorate of Water
<ul style="list-style-type: none"> <li>Local and community knowledge (88.5%)</li> <li>Labour/manpower (25%)</li> <li>Technical knowledge and expertise (11.5%)</li> </ul>	<ul style="list-style-type: none"> <li>Technical knowledge and expertise (33.3%)</li> <li>Labour/manpower</li> <li>Local and community knowledge</li> <li>Innovation and creativity</li> </ul>	<ul style="list-style-type: none"> <li>Technical knowledge and expertise</li> <li>Funding</li> <li>Regulatory and coordination framework</li> </ul>	<ul style="list-style-type: none"> <li>Technical knowledge and expertise</li> <li>Equipment</li> <li>Local and community knowledge</li> </ul>

**Source:** Author, 2023

#### 4.6.2.2 Possible challenges of a multi-stakeholder partnership

The respondents gave various challenges of a multi-stakeholder partnership as outlined in **Table 4.5**:

**Table 4.5:** Possible challenges of a multi-stakeholder partnership

Stakeholder	Challenge	Solution
Local Area Community	Not being heard	Formulate a response matrix to ensure any feedback received is well-documented
ELDOWAS	Lack of a common vision	Putting in place the right framework for working together
County Directorate of Water	Increased transaction costs	Emphasizing on the need to work as a team
	Lack of a common vision	
CBOs	Ineffective conflict resolution mechanisms (66.7%)	Putting in place conflict resolution mechanisms in agreement with every stakeholder Jointly formulating the group’s goals and objectives
	Lack of a common vision (100%)	

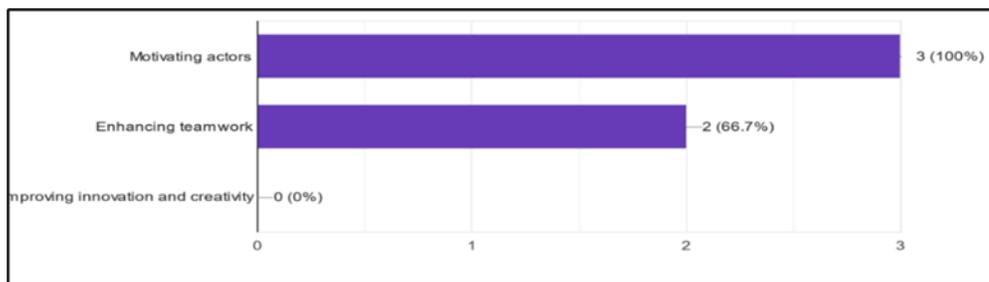
**Source:** Author, 2023

The above proposed solutions are in line with those provided by The Partnering Initiative (2016). Conflict resolution can be categorised as an innovative way of building partnerships and collaboration within the MSP team. Conflict resolution mechanisms include negotiation, mediation and arbitration.

#### 4.6.2.3 Feasibility of a multi-stakeholder partnership

The key informants from the different stakeholders interviewed were of the view that a multi-stakeholder partnership is a feasible option in ensuring efficient and effective provision of water in Langas informal settlement. The main reasons mentioned were that water provision is multi-sectoral in nature and all the relevant players are integral in ensuring access to all. Water is also a national resource managed regionally hence there is need for actors found within a specific region to work together. Finally, MSP is a good option because working together will consolidate more resources required to provide water to all the residents of Langas. The stakeholders also reiterated the need for the Government to partner with them to provide infrastructure while they focus on actual provision of water to the community.

However, for the partnership to be successful, there is need for three key things: appreciation, valuing contributions and ensuring accountability in resource use. The youth groups outlined that appreciating actors would serve to motivate them while also enhancing teamwork (Figure 4.24).



**Figure 4.24:** Factors important for a successful multi-stakeholder partnership

**Source:** Author, 2023

The stakeholders can also value contributions from each other by actively and sincerely providing feedback. Feedback is also an important element that can be used to ensure accountability in resource use coupled by setting specific goals. Provision of feedback is highly reliant on proper communication. Effective dialogue within the proposed multi-stakeholder partnership will be built on non-violent communication, and creating safe spaces. This further

supports the findings of this study which revealed that there is also need for the stakeholders to create an environment of trust and openness so that feedback is received positively and promptly implemented.

Finally, according to The Partnering Initiative (2016), accountability is a key concept that guarantees the success of an MSP. CBOs and the State agencies interviewed strongly suggested that setting specific goals and providing honest feedback are key in ensuring accountability in resource use within the partnership. Providing frequent progress updates is also important in ensuring that all actors can be consistently appraised of the activities being carried out at any given time and how they can assist. All actors also need adequate training to clearly understand their role and how they can fit in within the partnership.

#### **4.6.2.4 Multi-Stakeholder Partnership Scope**

Multi-stakeholder partnerships have different scopes and this largely depends on the solutions and interventions they seek to achieve. The respondents proposed the systematic approach is based on a continuous process that will seek solutions to on-going challenges. Water provision challenges in the informal settlements are numerous and a multi-stakeholder partnership will go a long way towards providing solutions on the long-term. It is recommended that this multi-stakeholder partnership be allowed to evolve over time with no particular end-point.

## CHAPTER FIVE

### CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the conclusion and recommendations obtained from the study objectives. The main objective of the study was to analyse the multiple water sector players in the supply of water in informal settlements. The specific objectives included: identification of those involved in water supply in Langas area, secondly identification of their roles and interests in the water supply process and thirdly to propose an urban management framework that addresses all the interests of the actors who are involved in water supply and still ensures that the consumer gets the right commodity under favourable conditions.

#### 5.2 Summary of Major Findings

##### 5.2.1 Identification of actors

The study revealed that there are four main actors involved in the water supply process in Langas. They include: the local area community which includes landlords, the State, and the Community Based Organizations. The State in the study referenced Eldoret Water and Sanitation Company and the Uasin Gishu County Directorate of Water.

##### 5.2.2 Roles and interests of the water sector actors/players

70.8% of the local area community residents believed that their main role is to provide feedback to the main water suppliers. 37.5% of the residents also took up the role of advocacy by forwarding their neighbours comments and queries to the State on their behalf. This was done through the local community governance leaders i.e. Nyumba Kumi leadership that is within the households. The main interest of the local area community is to ensure everyone receives water at the right price, quality and quantity.

Landlords have the main role of providing water to their tenants (who are members of the community). They provided infrastructure in form of drilling boreholes and providing taps through which the residents can access water. They sell the water to their tenants at a fee showing that they are also interested in making profits.

The main role of Community Based Organizations within Langas is direct provision of water. The youth groups have identified the gap left by the State and they have taken the initiative to earn a livelihood by providing water to the community. This category of players faces several

challenges including: lack of funds, dependence on the State for infrastructure, and inadequate funds to sufficiently maintain their water points. They also lack adequate training to efficiently fulfil their mandate.

The State has the main role of coordination and regulation of various actors. However, the study identified that the State was divided into two main actors/players. Eldoret Water and Sanitation Company (ELDOWAS) has the main role of direct provision of water. They also provided infrastructure such as laying down of water pipes and installing water meters within premises. Uasin Gishu County Directorate of Water has the main role of providing infrastructure such as drilling of boreholes and also regulation and coordination of other actors. The State personnel are adequately trained and this has been vital in allowing them to dispense their duties. However, they raised a major challenge of inadequate personnel and lack of funds.

### **5.2.3 An Urban Management Framework: A Multi-Stakeholder Partnership**

The study identified various resources that the various actors can contribute to an MSP as summarised in **Table 4.4**. Findings reveal that a Multi-Stakeholder Partnership is a viable option because water provision is multi-sectoral in nature and all the relevant players are integral in ensuring success. A Multi-Stakeholder Partnership also allows for the various actors to pool their resources together which eases the process of providing water to the residents of Langas. The success of the MSP is based on three key things: appreciation, valuing contributions and ensuring accountability in resource use.

The main obstacles that would face an MSP include lack of a common vision, increase transaction costs and ineffective conflict resolution mechanisms. However, there are several solutions which have proposed to deal with the obstacles. They include putting in place the right framework to working together, emphasizing on the need to work as a team, putting in place conflict resolution mechanisms in agreement with every stakeholder and jointly formulating the group's goals and objectives.

### **5.3 Limitations of The Findings**

The study has identified the water sector players within informal settlements, their roles and interests and hence proposed Multi-Stakeholder Partnerships as an urban management framework to manage all these water sector players. It does not delve deeply into how the Multi-Stakeholder Partnership should be structured. The study was also limited to informal settlements hence it may not be applicable to other areas such as urban areas even though they may be facing

the same challenges in regards to water provision. This is mainly because informal settlements such as Langas have land tenure issues that hinder provision of infrastructure such as underground water pipes. It is easier for water agencies to install water infrastructure of properties with secure land tenure which ensures safety of the infrastructure. Finally, every informal settlement has unique challenges and hence application of this study to other informal settlements may require revision to fit into the specific informal settlement. However, the general principles recommended in this study may apply to any informal settlement.

#### **5.4 Implications of the Findings in Practice and Theory**

The results of this study have clearly outlined the specific actors involved in water supply in informal settlements. This could guide the government in terms of policy formulation where the policies will be cognizant of the various actors, their roles and interests and how they could work together. The State could also invest resources and personnel towards their coordination and regulation mandate. The study has also outlined the specific resources that the various actors can contribute to a Multi-Stakeholder Partnership. This will aid in further research on multi-stakeholder partnerships by providing a starting point since understanding an actor's contribution is key in proposing an exact structure of the partnership.

Findings showed that the State has had a challenge fulfilling its coordination and regulation role. This has created a gap that is filled by other actors which poses a threat to the residents leaving them vulnerable. This supports the Theory of Vulnerability which outlines that it is the responsibility of the State to reduce this vulnerability hence it should ensure that people can access water in the best possible and recommended conditions. The State has also been mentioned as not providing support to the actors to allow them to initiate and effect change. This calls for effective politics as propose by the Theory of Agential Power. The State entities need to yield their power and allow for other actors to influence and change their environment.

#### **5.5 Recommendations**

The following recommendations are made in view of the analysis of multiple actors in water supply in urban areas. The study established the importance of State involvement in the water provision process. It is recommended that the State should firmly step into its regulation and coordination role so as not to leave a gap. The State should also serve as a mediator among the other actors and their roles and interests and regulate them to avoid consumer exploitation. The

study also recommends training and capacity building of the various actors so as to empower them to adequately and efficiently fulfil their roles.

The study established that the presence of multiple actors whose activities are not coordinated results in conflict and inefficiencies in water provision especially in informal settlements. Hence, the study recommends a Multi-Stakeholder Partnership that will have all the actors work together to achieve a common good and split risks. Water is a national resource which is managed regionally and hence such a partnership will serve to consolidate the resources within Langas region and restructure the water provision programs and activities. A streamlined relationship among the various actors will eliminate the gaps brought in by the failures of the multiple actors working on their own.

Finally, a Multi-Stakeholder Partnership will be feasible when the following principles are at its core: appreciation, valuing actor contribution, accountability in resource use, teamwork and giving space for innovation and creativity in approaching various issues and challenges. Feedback is also vital and it holds the partnership together. The actors should freely give feedback and also be able to positively react to any comments raised. **Table 5.1** is a summary of the recommendations:

**Table 5.1:** Summary of study recommendations

<b>Objective</b>	<b>Recommendation</b>
To identify those involved in water supply in Langas area	<ul style="list-style-type: none"> <li>• Identification of actors involved in the water supply process: local area community, CBOs, State (ELDOWAS &amp; the County Directorate of Water).</li> <li>• For the full involvement of all the stakeholders identified, their full participation requires them to be empowered, trained and have their capacity enhanced.</li> </ul>
To identify the roles and interests of those involved in the water supply process	<p><b>Local Area Community</b></p> <ul style="list-style-type: none"> <li>• Empower the Local Community (residents and tenants) to allow them to provide feedback and initiate and effect change: through training and capacity building.</li> <li>• Enhanced public participation and involvement in community projects.</li> <li>• Standardize the cost of water offered by all parties including landlords to ensure affordability.</li> <li>• Strengthen Nyumba Kumi leadership to advocate for the needs of the community: through training and capacity building.</li> </ul> <p><b>CBOs</b></p> <ul style="list-style-type: none"> <li>• State support to CBOs through infrastructure provision such as water tanks.</li> </ul>

	<ul style="list-style-type: none"> <li>• Training and capacity of CBOs to facilitate advocacy and ensure improved and efficient resource use.</li> </ul> <p><b>State</b></p> <ul style="list-style-type: none"> <li>• The state should do proper staffing to allow them to fulfil their coordination and regulation role.</li> <li>• The local area community proposed ELDOWAS and the County Government to be involved project mobilization and funding at the local level.</li> <li>• ELDOWAS and County Directorate of Water should work together to solve their staffing and capacity issues: County Directorate has machinery to drill boreholes and ELDOWAS can install meters and pipe connection to individual houses.</li> <li>• Expand the mandate of the County Directorate of Water to include areas within the Municipality.</li> <li>• Set up a territorial team that will be in-charge of specifically dealing with Langas.</li> </ul>
<p>To propose an urban management framework that addresses all the interests of the various actors who are involved in water supply and still ensures that the consumer gets the right commodity under favourable conditions</p>	<ul style="list-style-type: none"> <li>• Propose a Multi-Stakeholder Partnership in provision of water in urban areas.</li> <li>• The State entities should serve as the middle man within the partnership.</li> <li>• Partnership to be guided by appreciation, valuing contributions and ensuring accountability in resource use.</li> <li>• Training and capacity building of all actors on their roles and how they fit in within the partnership.</li> </ul>

**Source:** Author, 2023

**5.6 Further Areas of Study**

Further to this study, other studies should focus on: the specific structure and functioning of a Multi-Stakeholder Partnership. This includes how the actors will run their day to day affairs and the organizational structure. There is need for further research on how specifically the State can offer capacity building to its staff to ensure they are able to thoroughly dispense their coordination and regulation role. Further research can be done to see how the principle of Multi-Stakeholder Partnerships can be applied to other informal settlements in Kenya and draw some comparisons on their success.

## REFERENCES

- Brass, J. N. (2010). *Surrogates for government? NGOs and the state in Kenya*. (Doctoral thesis, University of California, Berkeley). Retrieved from [https://escholarship.org/content/qt6b4157cd/qt6b4157cd\\_noSplash\\_45dcd042b4e768a1430c98df63486c86.pdf](https://escholarship.org/content/qt6b4157cd/qt6b4157cd_noSplash_45dcd042b4e768a1430c98df63486c86.pdf)
- Chatterjee, S., & Kundu, R. (2020). Co-Production or Contested Production? Complex Arrangements of Actors, Infrastructure, and Practices in Everyday Water Provisioning in a Small Town in India. *International Journal of Urban Sustainable Development*, 1–13. <https://doi.org/10.1080/19463138.2020.1852408>
- Haradhan, M. (2017). Two Criteria for Good Measurements in Research: Validity and Reliability. *Munich Personal REPEC Archive*. Annals of Spiru Haret University, 17(3): 58-82, <https://mpra.ub.uni-muenchen.de/83458/>
- Karimanzira, E. (2018). Challenges faced by community based organisations in empowering women in Rudhaka west district of Marondera, Zimbabwe. *Global Journal of Advanced Research*, 5(2), 54-60, <http://gjar.org/publishpaper/vol5issue2/d785r76.pdf>
- Kifanyi, G.E., Shayo, B.M.B., & Ndambuki, J. M. (2013). Performance of community based organizations in managing sustainable urban water supply and sanitation projects. *International Journal of Physical Sciences*, 8(30), 1558-1569. 10.5897/IJPS2013.3920
- Krasner, S. D., & Risse, T. (2014). External actors, state-building, and service provision in areas of limited statehood: Introduction. *Governance*, 27(4), 545-567.
- Kyessi, A. G. (2005). Community-based urban water management in fringe neighbourhoods: the case of Dar es Salaam, Tanzania. *Habitat International*, 29(1), 1-25.
- Kohn, N. A. (2014). Vulnerability theory and the role of government. *Yale JL & Feminism*, 26, 1.
- Krishna, A. (2004). Partnerships between Elected Local Governments and Community-Based Organizations: Exploring the Scope for Synergy. *Social Development Papers*, World Bank 52. <http://web.worldbank.org/archive/website00518/WEB/PDF/PARTNERS.PDF>

- Lieberherr, E., & Ingold, K. (2019). Actors in Water Governance: Barriers and Bridges for Coordination. *Water*, 11(2), 326. <https://doi.org/10.3390/w11020326>
- Lusala, J. B. (2011). Problems, issues and challenges of community water projects in rural areas of Iganga District (Bugweri & Luuka Counties). *School of Forestry, Environmental and Geographical Sciences (SFECS) Collections*. <http://hdl.handle.net/10570/3539>
- Mancilla García, M., & Bodin, Ö. (2019). Participation in multiple decision making water governance forums in Brazil enhances actors' perceived level of influence. *Policy Studies Journal*, 47(1), 27-51.
- Meissner, R. (2014). Who wants to be an agent? A framework to analyse water politics and governance. *Water SA*, 40(1), 1-9.
- Mele, C., Pels, J., & Polese, F. (2010). A brief review of systems theories and their managerial applications. *Service science*, 2(1-2), 126-135.
- Monteiro, Alcides. (2014). The active role of community-based organizations in the local redefinition of national policies. *Revista de Cercetare si Interventie Sociala*. 46. 203-215.
- Moretto, L., Faldi, G., Ranzato, M., Rosati, F. N., Ilito Boozi, J. P., & Teller, J. (2018). Challenges of water and sanitation service co-production in the global South. *Environment and Urbanization*, 30(2), 425–443. <https://doi.org/10.1177/0956247818790652>
- Mugenda, O. M. & Mugenda, A. G. (2003). *Research methods, Quantitative and Qualitative Approaches*. ACT, Nairobi.
- Obayagbona, H. (2008). Governance without government” Water provision in Lagos, Nigeria. *Institute of Social Studies*
- O’Leary, D. (2009). Corruption and transparency in the water sector. *In Water Ethics* (pp. 299-320). CRC Press.
- Pangare, G., & Pangare, V. (2008). *Informal water vendors and service providers in Uganda: The ground reality*. The water dialogues: Informal water vendors, Uganda.
- Rosenau J. N. (1990) *Turbulence in World Politics: A Theory of Change and Continuity*. Princeton University Press, Princeton, N.J.

- Scanlon, T., Uguru, O. P., Jafry, T., Chinsinga, B., Mvula, P., Chunga, J., & Chungu, K. (2016). The role of social actors in water access in Sub-Saharan Africa: Evidence from Malawi and Zambia. *Water Resources and Rural Development*, 8, 25-36.
- Sinharoy, S. S., Pittluck, R., & Clasen, T. (2019). Review of drivers and barriers of water and sanitation policies for urban informal settlements in low-income and middle-income countries. *Utilities policy*, 60, 100957.
- Solanes, M., (2009). Common Regulatory Principles and Regulation of Water and Sanitation Services. *International Institute for Sustainable Development (IISD)*
- Teegavarapu, S., Summers, J. & Mocko, G. (2008). Case Study Method for Design Research: A Justification. *Proceedings of the ASME Design Engineering Technical Conference*. 4. 10.1115/DETC2008-49980.
- The Partnering Initiative, (2016). *An introduction to multi-stakeholder partnerships*. GPEDC High Level Meeting. Retrieved from <http://thepartneringinitiative.org/research-and-learning/platforms-for-partnership/>
- Thomson, M., Kentikelenis, A., & Stubbs, T. (2017). Structural adjustment programmes adversely affect vulnerable populations: a systematic-narrative review of their effect on child and maternal health. *Public Health Reviews*, 38(1). <https://doi.org/10.1186/s40985-017-0059-2>
- Von Bertalanffy, L. (1950). An outline of general system theory. *British Journal for the Philosophy of science*, 1(2), 134-165.
- Wutich, A., Beresford, M., & Carvajal, C. (2016). Can informal water vendors deliver on the promise of a human right to water? Results from Cochabamba, Bolivia. *World Development*, 79, 14-24.
- Ziegler, R. (2019). Viewpoint– water innovation for a circular economy: The contribution of grassroots actors. *Water Alternatives*, 12(2), 774.