

**FACTORS AFFECTING THE PERFORMANCE OF THE COMMUNITY-
BASED WATER SUPPLY ORGANISATIONS IN KATAVI REGION,
TANZANIA**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
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2023

CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by the Open University of Tanzania a dissertation entitled: *Factors Affecting the Performance of Community-Based Water Supply Organizations in Katavi Region, Tanzania* in partial fulfilment of the requirements for the award of the degree of Master in Business Administration (MBA) (General Management) of the Open University of Tanzania.

**Prof. Joseph Magali****(Supervisor)****17/07/2023****(Date)**

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I **Peter Raymond Ngunula** declare that, the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfillment of the requirement for the Degree of Master Of Business Administration (General Management)

**Signature****17/07/2023****(Date)**

DEDICATION

This dissertation is dedicated to my lovely mother, Consolata G. Masha, and specially dedicated to my lovely family, my wife Farida, my daughters Loreen, Precious and Priscilla and my son Gideon for their love, inspiration and full support towards my academic achievement for all the time I have been far from them.

May Almighty GOD bless you All.

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ABSTRACT

The study investigated the factors that influence the performance of Community-Based Water Supply Organizations (CBWSOs) in managing water supply schemes in the Katavi region of Tanzania. It employed an inductive approach, explanatory research design and qualitative methodological choice. The unstructured questionnaire was used for data, in-depth interviews and documentary reviews were data collection approaches. A total of 36 respondents, including members of the management team and supervisory board from 12 CBWSOs, were purposively selected. Thematic analysis was used to analyze the data. The study's findings revealed that financial control was identified as a critical aspect, emphasizing the importance of community participation in collecting funds. Secondly, infrastructure facilities play a crucial role in the effectiveness and sustainability of water supply schemes. Thirdly, political interference has both positive and negative influences on CBWSOs. The positive political influence can contribute to the enforcement of laws, the sustainability of projects, and the resolution of water-related problems and negative political interference can disrupt the project system, hinder the ability of the CBWSOs to operate effectively and create challenges for customers. Lastly, community awareness fosters financial sustainability, a sense of ownership, responsible resource utilization and transparency. The study recommends the formulation of a policy that promotes financial sustainability infrastructure maintenance, protecting a negative political interference and promoting community awareness and participation.

Keywords: *Financial control, Infrastructure facilities, Political Interference, Community Awareness, performance, Community-Based Water Supply Organizations.*

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LIST OF ABBREVIATIONS AND ACRONYMS

CA	Community Awareness
CBOs	Community-Based Organizations
CBWSOs	Community-Based Water Supply Organisations
FC	Financial control
HHC	Household connections
INF	Infrastructure facilities
KPIs	Key Performance Indicators
NGOs	Non-Governmental Organizations
PCBWSO	Performance of CBWSOs
PI	Political Interference
RANAS	Risk, Attitudinal, Normative, Ability, and Self-regulation
RSDMS	RUWASA Service Delivery and Management System
RUWASA	Rural Water Supply and Sanitation Agency
SPSS	Statistical Package for Social Science
STA	Systems Thinking Analysis.
Tshs.	Tanzanian Shillings
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Overview

Water is a necessary natural resource for sustaining human life and biological arrangements and a key to social and economic development. As a result, governments, Non-Government Organisations, and local and international organisations from all over the globe have implemented water projects to encourage safe rural water supply and sanitation in the past few years. This chapter focuses on the background of the problem, the problem statement, the study objectives, the research hypothesis, the significance of the study, and delimitation.

1.2 Background to the Problem

Water is a naturally occurring resource and fundamental for sustaining life and biological systems (Jacob & Gichuki, 2017). Many organizations put more effort into rural water activities, for example, UNICEF. (2021) and WHO (2019) reveal that 1 in 3 people globally cannot access safe drinking water. The Government enacted reforms to improve water supply and sanitation services, such as the Water Development Policy 2002 and the National Water Sector Development Strategy 2006, to promote integrated water resources management (Nzilano, 2017). According to Emil and Augusta (2018), water supply projects in Africa cannot recover costs, capital maintenance, operations, and maintenance but collect revenues from water sales. The research is based on factors influencing the Performance of Community-Based Water Supply Organisations (CBWSOs), including financial control, infrastructure facilities,

political interference, and community awareness. Financial control is important in managing water supply services. Failure in revenue collection results in poor service provision and jeopardises the sustainability of water supply schemes. Studies in the performance of rural water schemes in the USA and some African countries, including Tanzania (Karres et al., 2022; Nithammer et al., 2022; Omarova et al., 2019; Omondi et al., 2020; Mgoba & Kabote, 2020; Kirenga et al., 2018) focused on technical, institutional involvement, and successful level (Jacob & Gichuki, 2017; Hasan et al., 2019; Kusworo, 2019). None of the above studies focused on financial control.

Poor infrastructure has contributed to inadequate service provisions, such as the age of the water schemes and water points. In line with schemes' infrastructures, there is a growing demand for claims to instruments for primary data collection, particularly for CBWSOs. The study on successful community-based water management by Naiga (2018) and Domínguez et al. (2019) perspectives from Rural Uganda indicated that water infrastructure management was ineffective because of the absence of organisational characteristics (design principles, participatory, holistic, and structured assessment). Gc et al. (2021) in Nepal, Daniel et al. (2023) in Indonesia, Emil and Agusta (2018) in Tarakan Island North Kalimantan, and Wisdale et al. (2017) in South Africa An, et al. (2021) in China focused on income from water-based productive activities, system-level predictors (distance from the village to the water source and increased management capacity, and operator's level of action). Gondo et al. (2020) studied demographic and socio-economic factors in the Okavango Delta. The study focused on water consumption and the affordability of water sources. Kvartiuk and Curtiss (2019) in Ukraine and Mgulo and Kamazima (2022) in Tanzania studied

participatory rural development; community participation focused on governance and management aspect disconnection, lack of quality services, and community participation, support, and involvement. The literature revealed that various studies assessed adequate water supply sustainability, operation and maintenance, record-keeping, and collection of water tariffs but did not focus on how infrastructure facilities affect the performance of CBWSOs. Regarding infrastructure facilities, the Katavi region has 182 villages. CBWSOs, through the Rural Water Supply and Sanitation Agency (RUWASA), serve 172 villages, with 124 villages reached with piped schemes and 41 villages with no piped systems. The coverage by infrastructure is 54%, which means improvement is required. In the financial year 2021/2022, the total budget was Tshs. 27,740,197,208.16, and up to December 2022 total of only TShs. 18,082,024,990.54 received by RUWASA for water infrastructure development in Katavi. On average, the volume of water produced should be at least 42,984,480 litres per day, and revenue collection is supposed to be more than TShs. 34,387,584 per day (equivalent to TShs. 12,379,530,240 per annum) instead of TSh. 305,324,051 annually (extracted from RUWASA Service Delivery and Management System – RSDMS-2023).

Political interference hinders water supply projects' performance (Masombe & Omwega, 2020). Ackermann and Eden (2011) described strategic management from the view of political, social, and technological contexts. They reckoned that both public and private actors influence the performance of organisations but did not focus on how political interference affects the performance of CBWSOs.

Lack of community awareness significantly influenced community-based organisations to deliver intended services. Hagarsu et al. (2020) in Kenya and Leroy (2023) in Mexico investigated how institutional factors affected the performance of community-based water management. Tantoh et al. (2021) and Simatele et al. (2019) in Cameroon concentrated on pro-community-based water management system sustainability, public, private, and grassroots communities, involvement and engagement of all stakeholders, and traditional solid leadership. Vilarinho et al. (2023) explored the performance of water companies in Portugal, analysing managerial practice and the condition of infrastructures. None of the studies focused on how community awareness affects the performance of community-based water organisations.

Lastly, Maral et al. (2023) identified the operational indicators associated with the performance of water utilities in Portugal. Siringi's (2019) study on the performance of Kisumu Water Supply Company focused on the influence of community participation, project management skills, technology, and monitoring and evaluation practices, leaving a gap in Financial control, infrastructure facilities, and political interference factors. Daniel et al. (2023), Miller et al. (2019), Muriiki and Mungai (2022), and Tantoh and McKay (2021) have conducted studies in community-based water supply organisation/utility; however, none of the investigations covered factors influencing the Performance of CBWSOs in Katavi region.

1.3 Statement of the Problem

In Tanzania, water community water management is handed to the CBWSOs without adequate preparation for the management of the schemes (Mwendamseke, 2016). After the completion of projects, beneficiaries of water schemes usually complain about poor services provided by CBWSOs who manage the water schemes. The study investigated financial control, infrastructure facilities, political interference, and community awareness as factors affecting the performance of CBWSOs. Financial control complaints are the signs of inadequate or delayed water service, unstable power, the insufficient capability of organisational water committee members, and a lack of setting applicable tariffs by the CBWSOs (Krolikowski, 2014; Kifanyi et al., 2013; GC et al. (2021).

The problems of data collection tools and financial control, lower education to the community about data and awareness of the operation and maintenance, and geographical challenges CBWSO faces in the Katavi region.

Political interference hinders water supply projects' performance (Masombe & Omwega, 2020). Ackermann and Eden (2011) described strategic management from the view of political, social, and technological contexts. CBWSOs in Katavi have been struggling to collect water charges with Political leaders in the front row to oppose water tariffs. CBWSOs of Mpakato, Kaparema and Ikoise have this challenge in Tanganyika.

Community awareness; despite the efforts of the Government to improve rural water supply management through a community participation approach (CBWSO system), implementing the strategy in the Katavi region still needs to be improved.

1.4 General Objective of the Study

The general objective is to assess the factors affecting the Performance of the Community - Based Water Supply Organisations (CBWSOs) in managing water supply schemes in the Katavi region.

1.5 Specific Objectives of the Study

Specifically, the study aims:

- i. To examine the influence of financial control on the Performance of Community-Based Water Supply Organisations (CBWSOs) in the Katavi region
- ii. To analyse the effect of Political interference on the Performance of CBWSOs in the Katavi region
- iii. To analyse the influence of Infrastructure facilities on the performance of water supply schemes in Katavi
- iv. To analyse the impact of Community awareness on the performance of community water supply schemes in the Katavi region

1.6 Research Questions

The study aimed to answer the following research questions:

- i. How financial control influence the Performance of Community-based Water Organisations in Katavi region?

- ii. How infrastructure facilities influence the Performance of Community-based Water Organisations in Katavi region?
- iii. How political interference influence the Performance of Community-based Water Organisations in Katavi region?
- iv. How community awareness influences the Performance of Community-based Water Organisations in Katavi region?

1.7 Significance of the Study

The study is considered significant both theoretically, policy, and practice. The theoretical contribution will reveal how financial control, infrastructure facilities, and political and community awareness interference are applied to enrich the distress and stakeholder theories. The literature review revealed that no study had integrated the four variables in the mentioned theory. The findings will help the private sector, NGOs, and CBOs position the projects well. Moreover, the study will inform the Government of the problems facing CBWSOs. Third, Government may use the findings to design or amend the policies for strengthening the financial and community participation of the CBWSOs.

Applying the financial distress and stakeholder theories to the present study will guide understanding of the important role financial control plays, the condition of water supply infrastructures, the impact of improving community awareness, and political interference for the survival and persistence of CBWSOs, in Katavi region.

1.8 Scope of the Study

The study will primarily focus on the factors affecting the performance of the CBWSOs in the Katavi region. The study will employ a qualitative research design, and the samples are limited to CBWSOs in the Katavi region. Factors on the Performance of the CBWSOs in managing the water supply scheme are very broad. The study mainly focuses on financial control influence, Political Interference, Infrastructure facilities, and Community awareness influence on the performance of the CBWSOs at Mlele District (6), Mpanda District (3), and Tanganyika District (3) in Katavi.

1.9 Limitations of the Study

The major limitations the researcher can face while undertaking this study are inadequate financial resources to facilitate mobilisation for data collection in Katavi region, lack of previous research studies on the topic, and time constraints; therefore, the research will limit the coverage regarding sample size.

1.10 Organisation of the Study

This research is organised into five chapters. Chapter one consists of the background of the problem, statement of the problem, objectives of the study, which comprise general and specific objectives, hypothesis to be tested, significance of the research, and scope. Chapter two contains the literature review on the study's objectives, including theoretical and conceptual literature review, the definition of relevant terminologies, the research gap conducted in previous studies, and the study's conceptual framework. Chapter Three is about the Research methodology, which

includes the research approach, research design, area of the study, the target population of the study, the sample size and sampling techniques, data collection methods, data management and analysis procedures and trustworthiness, and ethical practices. Chapter four will encompass the presentation of results and interpretation of findings. The last chapter is Chapter Five, comprising the summary of findings, discussion of results and conclusions of results and recommendations

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

The chapter reviews selected literature on the factors affecting the Community-Based Water Supply Organisations' (CBWSOs) Performance in managing water supply schemes in the Katavi region.

2.2 Definition of terms and concepts

2.2.1 Community-Based Water Supply Organizations (CBWSOs)

According to Mulwa (2018), Community-Based Water Supply Organisations (CBWOs) are voluntary associations where people organise to mobilise their collective power's potential. Community-Based projects are the product of the movement toward self-reliance. Community-based management starts with involvement in the decision-making process about water supply, management, and use by democratically elected community representatives (Carroll, 2021). According to the Water Supply and Sanitation Act No. 5 of 2019, Water services in rural areas are managed and operated by CBWSOs under the supervision of RUWASA at the District level.

2..2.2 Performance

Organisational performance refers to the degree to which the organisation positions itself effectively with some informational, financial, and human resources (Conțu & Eleonora, 2020). Kifanyi et al. (2013), Hagarsu et al. (2020), Phinehas and Ochieng

(2019), and Hagarsu et al. (2020) analysed the performance of Community-based projects and organisations in urban water supply and sanitation. The parameters considered for performance measurement were mainly water bills collection, intermittent, unaccounted-for water and leakage of water supply. However, the studies did not consider financial control and political interference influence on the performance of CBWSOs in rural areas. Walubengo et al. (2018) conducted a study to establish how the application of stakeholder analysis influences the performance of community-based projects in Kenya, which leaves a gap in the overall performance of a community-based water supply organisation. Madrigal et al. (2011) analysed the underlying factors affecting the performance of community-based drinking water organisations in rural Costa Rica while exploring the influence of public policies and politics. The findings concluded that water charges collection, infrastructure maintenance, and power of water committee members promote water supply organization performance; nonetheless did not articulate how financial control and infrastructures affect the performance of CBWSOs. GC et al. (2021) studied the factors that determine the technical performance of community-managed rural water systems; however, the study is limited to technical aspects of performance, considering physical conditions and functionality of the infrastructures as indicators of technical performance. The study was only based on water systems performance and not the overall performance of rural water supply organizations. This present study will measure the performance of community-based water organizations using the standard performance indicators guided by RUWASA. The parameters for performance measurement for this study focused on Population Served, Water Production versus

Demand, Revenue Collection Efficiency, Water Quality Compliance, and population saved with household connections (HHC).

2.3 Theoretical literature review guiding the Study

Financial Distress theory (Opler & Titman, 1994) and Stakeholder Theory (Freeman, 1983) informed the study described hereunder.

2.3.1 Financial distress theory

Financial distress is the major theory of this study. Financial distress theory is when a corporation fails to generate sufficient revenues and is unable to meet or pay its financial obligations. This situation can be brought about by high fixed costs, a significant degree of illiquid assets, or revenues sensitive to economic downturns (Isayas and McMillan (2021). Opler and Titman (1994) propounded the theory, and it became popularised and modified by Myers and Majluf (2004) to add risk management factors in financial distress. Isaias and McMillan (2021) and Ikpesu et al. (2019) point out that financial distress theory explains how cash inflows and outflows indicate the cash management function of the company, which may ultimately lead to financial distress to the firm company and, subsequently, the collapse of the business. The theory addresses financial challenges affecting the successful performance of organisations. Most CBWSOs, as they do not operate within budgets, have weak internal controls and need to follow their financial policies and audit their accounts. Kaburu (2019), Wachira (2018), Hassan (2019) and Naung (2019) used financial distress theory to establish financial feasibility and management influence on the performance of water infrastructure projects. However, the study did not articulate the

impact of financial control, infrastructures, political interference and community awareness on CBWSOs' performance. Leman (2021) conducted a study on financial distress determinants of government-linked companies, a case study in Malaysia water utilities being among them. The study found that debt ratio and total assets have a strong relationship identified as determinants of a company's financial distress.

Nevertheless, the above studies leave a gap in applying this theory to the overall performance of CBWSOs. At the same time, financial control, political interference, community awareness and infrastructure are factors to be considered. Applying the theory to the present study guides the understanding of financial control's important role in the lack of financial control survival and persistence of CBWSOs.

2.3.2 Stakeholder Theory

Stakeholder theory is the minor theory supporting the financial distress theory in this study. The term "stakeholder theory" refers to the concept that intends to address the outcomes of business decisions, trends, profitability, and their collective impact on all stakeholders. Stakeholders are all individuals who can affect or be affected by business endeavours (Parmar et al., 2010). Freeman and Reed (1983) proposed the stakeholders' theory, intending to balance the conflicting claims of various actors among the firm (managers, workers, stockholders, suppliers and vendors) and Bryson (1995) expanded the theory to include factors such as consumer advocates. Bal et al. (2013) extended the idea by adding elements such as project management and measuring performance. According to the theory, stakeholders of CBWSOs can be internal (owners, customers, employees, and suppliers) and external (governments,

competitors, consumer advocates, conservationists, and broadcast/social media). Freeman (1984) describes these actors as any group or individual who can affect or be affected by achieving the organisation's objectives. Stakeholder theory argues that every legitimate person or group participates in the activities to obtain benefits and that all genuine stakeholders' interests are not self-evident (Donaldson & Preston, 2015). According to Freeman (2001), managers in their stakeholders support and understand how their organisation can influence or be influenced by others to achieve corporate objectives. McNicholl et al. (2017) used stakeholder theory to analyse Characteristics of Stakeholder Networks Supporting Local Government Performance Improvements in Rural Water Supply: Cases from Ghana, Malawi, and Bolivia. However, the study did focus on network characteristics rather than factors influencing the performance of CBWSO. An analytical review of the application of stakeholder analysis as a Project design tool for enhancing performance, as analysed by Walubengo et al. (2018), concluded that the influence of stakeholder analysis on the project could be immense and, if not managed correctly, could lead to project delays, resource drain, political intervention or project termination. Also, Kaburu (2019) and Wachira (2018) investigated factors influencing the implementation of water infrastructure projects in Kenya, where stakeholder theory was applied. Based on the study's outcomes, stakeholder engagement positively influenced the implementation of water infrastructure projects. Hashemi et al. (2023) demonstrated how Stakeholders' roles in sustainable water resources and creating a monocentric governance system impact reaching the targets set by water organisations (a case study of Iran). The study only focused on water for irrigation, leaving a gap in the water supply. Nyambitta and Mohamed (2022) established the influence of stakeholder contribution on the

performance of public authorities in water services delivery in Tanzania. Study findings concluded that stakeholder involvement is essential for the performance of public authorities for water service delivery. However, the study considered only stakeholders (community) influencing the Water authorities' performance. The theory assists in a better understanding of the importance of community participation in the success of community projects.

2.4 Empirical literature review

2.4.1 Financial control influence on performance of CBWSOs

Karres et al. (2022) conducted a study in the USA to analyze the performance of rural water schemes. The study likely employed a mixed-method approach, combining surveys and data analysis to assess various factors affecting water supply schemes. While the exact findings related to financial control are not specified, the study likely explored social, technical, environmental, and institutional factors influencing CBWSO performance. The study may have highlighted the need for improved financial control in CBWSOs in the USA to enhance service provision and sustainability. The specific conclusion regarding financial control is not provided.

Omarova et al. (2019) conducted a study in Kazakhstan to analyze the performance of rural water schemes. The study likely used surveys and data analysis to assess factors affecting CBWSO performance. While financial control is not explicitly mentioned, the study may have uncovered various factors influencing CBWSO performance. The study might have indirectly suggested the importance of financial control in ensuring

sustainable water supply services. The specific conclusion regarding financial control is not provided.

Mgoba & Kabote (2020) conducted a study in Tanzania to analyze the performance of rural water schemes. The study likely utilized surveys and data analysis to examine factors impacting CBWSO performance. While the study did not assess financial control explicitly, it probably explored social, technical, and institutional factors affecting CBWSOs. The findings might indirectly imply the importance of financial control in enhancing water supply scheme performance. The specific conclusion regarding financial control is not provided.

Tantoh and McKay (2021) conducted a study in North-West Cameroon to examine community dynamics and factors affecting rural water system management. The study probably employed a mixed-method approach, combining surveys and data analysis. Financial control is not explicitly mentioned, but the study likely identified various challenges, including inadequate capacity, that may impact CBWSO management. The study indirectly highlights the need for improved financial management to overcome challenges and enhance CBWSO performance. The specific conclusion regarding financial control is not provided.

2.4.2 Infrastructures

Naiga (2018) conducted a study in rural Uganda to assess community-based water management and sustainability. The study likely used a combination of data collection methods, such as surveys and document reviews. Multi-Criteria Analysis and

Analytical Hierarchy Process Analysis Multi-Attribute Theory (MAUT) were adopted. The study found differences in water infrastructure and organizational characteristics in different communities, which were influenced by design principles and participatory assessment. The findings suggest that the design and assessment of water infrastructure can impact the performance of CBWSOs. The study likely concluded that infrastructure facilities have a significant influence on the performance of CBWSOs. Daniel et al. (2023) studied factors related to the functionality and performance of community-based rural water supply and sanitation programs in Indonesia and South Africa. The study may have used surveys and data analysis to examine various predictors. The study used multi-dimensional scaling, Thematic Analysis, Content Analysis, framework analysis, and Multi-Attribute Theory (MAUT). The study likely identified economic, household-level, social, and technology predictors influencing program performance. The findings may suggest that the condition of water infrastructure could be a significant factor affecting the performance of CBWSOs. The study might have concluded that infrastructure-related factors should be considered in program design and implementation.

Emil and Agusta (2019) conducted a study in Indonesia to assess the sustainability of water supply and the gap in water supply demand. The study may have involved surveys and data analysis. Multi-dimensional scaling and content analysis were likely used. The study probably found that economic, social, and cultural factors influenced the performance of CBWOs. The findings may indirectly indicate that the condition and adequacy of water infrastructure play a role in CBWSO performance. The study

may have concluded that addressing infrastructure gaps is essential for CBWSO sustainability.

Gondo et al. (2020) studied demographic and socio-economic factors influencing water governance in Botswana. The study may have involved surveys and data analysis. Content analysis and inferential analysis using Bricolage theory and mass-elite theory may have been used. The study likely identified various factors influencing water governance but did not explicitly focus on infrastructure. While not directly related to infrastructure, the study's findings might suggest that infrastructure condition and accessibility could affect governance and CBWSO performance. The study may have concluded that addressing demographic and socio-economic factors is essential for effective water governance.

The reviewed studies provide insights into various factors influencing the performance of CBWSOs, including economic, social, and cultural factors. However, only the first study by Naiga (2018) explicitly addressed the influence of infrastructure facilities on CBWSO performance. Therefore, the current study can further investigate how the condition and adequacy of infrastructure facilities impact the ability of CBWSOs to provide reliable and sustainable water services.

2.4.3 Political Interference

Proudlock (2019) study likely focused on how political decisions regarding project scope impact development initiatives. The study may have used qualitative research methods to explore the role of politics in community-based development initiatives.

The specific techniques for data analysis are not mentioned, but they likely involve qualitative analysis. The study probably found that political decisions can significantly affect project monitoring and evaluation in community-based initiatives. This study may indirectly suggest that political interference could similarly influence CBWSOs managing rural water systems. The study's conclusion likely emphasizes the need to consider political dynamics in development initiatives.

Muriiki and Mungai (2022) likely examined key success variables influencing the monitoring and evaluation of community-based development initiatives in Kenya. The study may have used descriptive research methodologies and qualitative methods to assess the impact of politics on development initiatives. Qualitative analysis may have been used. The study probably found that the political environment has an impact on project monitoring and evaluation. This suggests that political interference can affect the success of community-based initiatives. The study might conclude that understanding and managing political dynamics is crucial for successful community-based projects.

Gc et al. (2021), Machado et al. (2019), Alam (2022), Salom & Khumlo (2020) likely examined factors and the role of community-based organizations in the sustainability of water services in various countries. The studies may have used a combination of data collection methods, including surveys and content analysis. Content analysis, stakeholder theory, and Multi-Attribute Theory (MAUT) may have been employed. The studies probably found that robust community engagement, user fees, capacity-building efforts, and a supportive environment are essential for water services

sustainability. These findings indirectly suggest that political support or interference could impact the success of community-based water organizations. The studies may have concluded that a favourable political environment is critical for water services sustainability.

Kvartiuk and Curtiss (2019) likely studied participatory approaches and community participation in rural development in Ukraine. The study may have involved qualitative research methods to explore community participation. Thematic analysis and exploratory analysis may have been used. The study probably found issues related to governance, management, and community participation. While not explicitly related to political interference, the findings may suggest that political factors could influence the success of rural development initiatives. The study may have concluded that addressing governance and community participation challenges is crucial for rural development.

2.4.4 Community Awareness

Hagarsu et al. (2020) likely investigated performance drivers in community water projects in Kenya and Mexico. The study may have used a descriptive research design and conducted thematic content and inferential data analysis. The study possibly employed qualitative and quantitative analysis methods. The study likely found that stakeholder involvement, planning, training, human resource capacity, frequency of meetings, project ownership, and community involvement are key drivers of project performance. These findings suggest that community awareness and participation are

crucial for the success of community water projects. The study might have concluded that involving the community and stakeholders is essential for effective CBWSOs.

Tantoh et al. (2021) and Simatele et al. (2019) likely focused on pro-community-based water supply management systems in Cameroon. The studies may have used thematic content analysis and the adaptive sequential method, along with the participatory research community-based natural resources management (CBNRM) model. Qualitative analysis methods were likely employed. The studies probably found challenges related to sustainable water supply, centralization, poverty, passive community involvement, and the importance of stakeholder engagement and strong traditional leadership. These findings indirectly suggest that community awareness and active participation are critical for improving water supply management. The studies may have concluded that a more engaged and aware community can enhance the performance of water supply systems.

Daniel et al. (2023), Emil and Agusta (2018), and Wrisdale et al. (2017) likely explored factors related to the functionality and performance of community-based rural water supply and sanitation programs in Indonesia and South Africa. The studies may have used various research methods, including hierarchical regression, multi-dimensional scaling, and thematic and content analysis. The studies likely employed both quantitative and qualitative analysis techniques. The studies probably identified economic, social, infrastructure, and technological dimensions as factors influencing program performance, including factors like ownership, user involvement, and income from water-based activities. While not explicitly stated, these findings suggest that

community awareness and participation are essential for successful water supply programs. The studies may have concluded that addressing various dimensions, including community awareness and involvement, is vital for program success.

Muriiki and Mungai (2022) studied key success variables influencing the monitoring and evaluation of community-based development initiatives in Kenya. The study used descriptive research methodologies. The specific data analysis techniques are not mentioned, but they likely involve qualitative analysis. The study probably found that community interests and political influence affect project monitoring and evaluation. This suggests that community awareness and political dynamics can influence the success of community-based initiatives, including CBWSOs. The study might have concluded that understanding community interests and politics is crucial for effective community-based development.

2.5 Research Gap

Globally, most studies on Community-Based Water Supply Organisations have focused on their contributions to the people's livelihood (Jacob & Gichuki, 2017; Mugumya, 2013). Other literature has shown the importance of Community Water Based Supply Organisations (Mayo & Nkiwane, 2013; Mwendamseke, 2016). The present study investigated financial control, infrastructure facilities, political interference, and community awareness as factors affecting the performance of community-based water organisations. Focusing on financial control, many CBWSOs lack skills in managing their water supply services, and the revenue collected is in doubtful position (Karres et al., 2022; Omarova et al., 2019; Omondi et al., 2020;

Mgoba &-Kabote, 2020; Kirenga et al., 2018). For the case of infrastructures, a relative contribution shows water point age; infrastructures have worn out (Naiga, 2018; Domínguez et al., 2019; Daniel et al., 2023; Emil & Agusta, 2018; Wrisdale et al., 2017). Political interference assessment on performance of CBWSOs in managing their rural water systems can be conducted by carefully comparing other studies (Ge et al., 2021; Machado et al., 2019; Alam, 2022 and Salom and Khumlo, 2020). Kvartiuk and Curtiss (2019) in Ukraine and Mgulo and Kamazima (2022) in Tanzania studied participatory rural development with insights on participatory approaches and community participation none of those studies focused on political interference. Lack of community awareness was the unique challenge influencing community-based organisations to deliver intended services to society. Hagarsu et al. (2020), Tantoh et al. (2021), Simatele et al. (2019), Daniel et al. (2023), Emil and Agusta (2018), Wrisdale et al. (2017) and Leroy (2023) investigated major drivers of performance in community water projects the gap was how a sense of ownership could improve performance of community-based water supply services. All the studies are eloquent of a gap in the main focus of this present study regarding financial control, infrastructure facilities, political interference, and lack of community awareness are factors affecting community-based water organisations' performance.

2.6 Conceptual Framework

Regional (2020) states that a conceptual framework is a product of a researcher's reasoning or tentative conclusion. It aims to explain the relationship between independent and dependent variables and systematically synthesises the idea. A dependent variable measures one measure during the experiment and what is affected.

An independent variable is presumed to influence or determine a dependent variable (Villamayor-Tomas et al., 2023 Kunißen, 2019) (Figure 2.1).

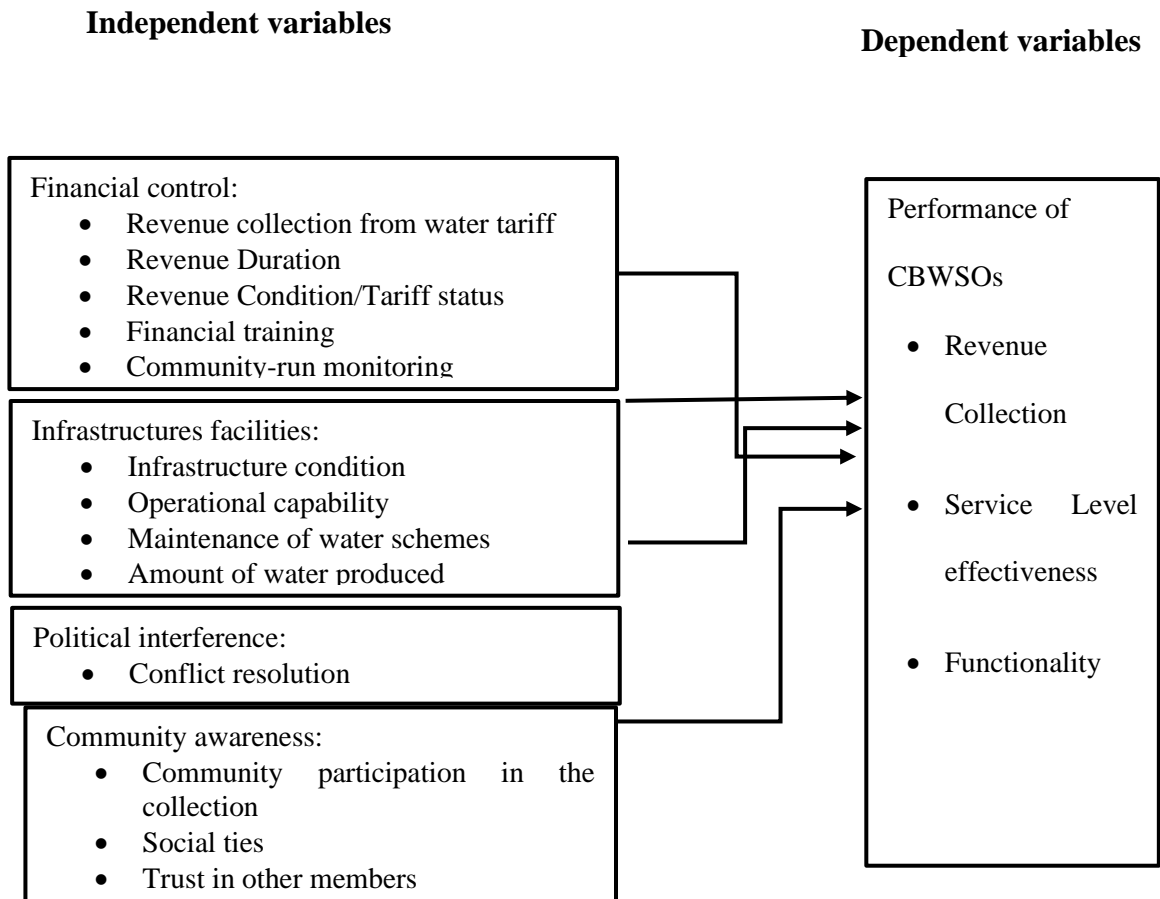


Figure 2.1: The conceptual framework

Source: Compiled from Empirical literature (2023)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

The chapter presents detailed information regarding the research methodology used in this study. The first part introduces the research approach and research design. Other sections include the study's area, the study, the target population of the study, the sample size and sampling techniques, data collection methods, data management and analysis procedures, and the study's trustworthiness.

3.2 Research Approach and methodological choice

The study employed an inductive approach to generate discussions on factors affecting the performance of the CBWSOs in managing water supply schemes in the Katavi region. The inductive approach and qualitative research methodological choice involve data generation and analysis subjected to rigorous qualitative analysis (Saunders et al., 2019). The research philosophy was Interpretivist; the study aimed to test the relationships between variables (Saunders et al., 2019). The research approach was Induction, and the study tested Research Questions with reference to the theory. The research design was exploratory, and the study aims to establish the relationship between variables. The research strategy was an In-depth Interview and documentary review.

3.3 Research Design

An exploratory research design was used in this study in which propositions and questions about a phenomenon affecting the sustainability of the Community-Based Water Supply Organisations (CBWSOs) in managing water supply schemes in the Katavi region were carefully scrutinised and articulated at the outset.

3.4 Area of the Study

The study was conducted in the Katavi region, Tanzania. The main focus is based on CBWSOs found in the following districts, namely Mlele (6), Mpanda (3), and Tanganyika (3). The area was chosen because it was a subset of any region in Tanzania where this study could be conducted. It is a new region with few financial resources and many people not connected to clean water. Katavi region has 182 villages, and CBWSOs through Rural Water Supply and Sanitation Agency (RUWASA) serve 172 villages with coverage of 57.8%. Another reason was evidence of poor revenue collection and infrastructure management by the Community-Based Water Supply Organisations, as reported by the District council.

3.5 Target Population of the Study

Population means the entire mass of observations, the parent group from which a sample will be formed (Saunders et al., 2019). The sample observations only estimate the population characteristics (Saunders et al., 2019). This study targets 36 respondents, including the management team and supervisory board of 12 CBWSOs (Table 3.1). Yunitasari et al. (2023) contended that the sample size of 35 respondents are adequate for the qualitative data analysis.

Table 3.1: Composition of the Sample

LGA	CBWSOs		Number of Villages Served by CBWSOs	Revenue Collection [Tshs] (From May 2020 to March 2023)	Office Status
	Good Performance	Poor Performance			
Mlele DC	Inyonga		3	74,285,160	Own Office
Mpimbwe DC	Kibaoni		3	61,571,150	Hosted
Mpimbwe DC	Majimoto		6	148,412,250	Rented Office
Mpimbwe DC		Mwamapuli & Chamalendi	5	13,169,100	Hosted
Mlele DC		Nsenkwa**	3	2,455,476	Hosted
Mpimbwe DC		Usevya & Ikuba*	5	38,650,500	Hosted
Nsimbo DC		MMASI Community-Based Water Supply Organisations (CBWSO)	9	4,340,250	Own Office
Nsimbo DC		Muongano Community-Based Water Supply Organisations (CBWSO)	11	No records	Hosted
Nsimbo DC		Nsimbo Community-Based Water Supply Organisations (CBWSO)	13	No records	Own Office
Mpanda DC (Tanganyika)	KAPAREMA		5	15,352,490	Rented Office
Mpanda DC (Tanganyika)	MPAKATO		11	41,316,850	Own Office
Mpanda DC (Tanganyika)		MSIKA	9	5,596,820	Hosted

Source: RSDMS, (2023)

* Collection of one-month (26-04-2023) ** Collections of thirty-four (34) months

3.6 Sample Size and Sampling Techniques for the Study

According to Saunders et al. (2019), a sample refers to a small group of respondents drawn from a population where the researcher is interested in gaining information and drawing conclusions. Dasan (2018) views that there is no fixed sample size. The study interrogated the following respondents; the Management team (24) and Supervisory Board (12). A purposive sampling technique was chosen. Moreover, 35 participants were selected and confirmed using saturation point criteria. This sample size adequately provided the intended information on factors affecting the Performance of the CBWSOs in managing water supply schemes in the Katavi region.

3.6.1 Purposive sampling technique

The study adopted a purposive sampling technique to select household members to participate in the survey. Purposive sampling involved selecting participants because they were often readily and easily available to participate in the study, as recommended by Saunders et al. (2019).

3.7 Data Collection Methods

The researcher used three data collection methods to obtain detailed information concerning the study objectives. The main data collection methods were in-depth interviews, surveys, and documentary reviews. According to Saunders et al., (2019), research instruments were central to quality assurance and control.

3.7.1 Questionnaire Survey/In-depth Interview

As recommended by Saunders et al., 2019 and Singh (2016), in-depth interviews involve using semi-structured questionnaires to extract information from respondents during the in-depth interview. The researcher ensured the interview was thoroughly conducted using a semi-structured questionnaire.

3.8 Data Analysis Plan

As proposed by Saunders, Lewis and Thornhill (2019), a researcher was needed to manage data as soon as he started fieldwork. Braun and Clarke (2021) added that before analysing data, the researcher must first know the theoretical analysis on the ground for good thematic analysis. In this regard, a researcher used thematic analysis and followed the six steps. In the first step, the researcher familiarised with the data. Second, the researcher generated initial codes. Third, the researcher used the themes constructed using variables of specific objectives. Fourth, the researcher coded the variables into themes: Fifth, data were analysed using Microsoft Excel 2016 and NVivo to generate tables, figures, and graphs.

3.9 Trustworthiness of the Study

In research, trustworthiness is a state of demonstrating credibility, plausibility, and integrity (Saunders et al., 2019). The qualitative research inquiry aims to search for the common results, which is "truth" (Saunders et al., 2019). The researchers' careful use of the thematic analysis and NVivo software to enhance the trustworthiness of the study.

Questionnaires surveys used questionnaires to extract information from respondents with particular knowledge and understanding of the existing situation (Saunders, et al., 2019; Singh, 2016). the researcher ensured that in-depth interviews were carefully conducted and semi-structured questionnaires were dully filled accordingly.

3.10 Variables and Measurements of the Study

The variables and measurement procedures of this study are presented in Table 3 below:

Table 3.2 Summary of influential factors outcome

Variables	N of VRs	Code	Sub variables	Source	Type of Scale
Performance of CBWSOs	3	PCBWSO	PCBWSO1: Supervisor's role in water delivery PCBWSO2: Role of CBWSOs Board of Directors PCBWSO3: Satisfaction with the level of service provided by CBWSOs	Leroy, D. (2023).	Ratio/scale/ Thematic analysis
Financial control	5	FM	FM1: Revenue collection from water tariff FM2: Revenue Duration FM3: Revenue Condition/Tariff status FM4: Financial training FM5: Community-run monitoring	Machado, et al., (2019) Daniel, et al., (2023) Domínguez, et al., (2019)	Thematic analysis
Infrastructure facilities	4	INF	IF1: Infrastructure condition IF2: Operational capability IF3: Maintenance of water schemes IF4: Amount of water produced	Domínguez, et al., (2019) Ukko et al. (2019) Leroy, D. (2023) Murphy-Mills, et al. (2019)	Thematic analysis
Political Interference	1	PI	PI1: Conflict resolution	Tantoh, et al., (2021)	Thematic analysis
Community Awareness	3	CA	CA1: Community participation in the collection CA 2: Social ties CA 3: Trust in other members	Leroy, D. (2023)	Thematic analysis

3.11. Validity and Reliability of the Qualitative Study

Credibility, dependability, transferability and confirmability are historically rooted in qualitative research from the positivist perspective (Saunders et al., 2019; Cohen et al., 2018; Gay et al., 2012; Yin, 2013). The credibility and dependability of the research instruments were ensured through the pilot study, as suggested by Cohen et al. (2018).

3.11.1 Credibility (validity)

In the qualitative research approach, credibility refers to the extent to which data collected, analysed, and reported is realistic, believable, and truthful (Saunders et al., 2019). This study determined the validity by pre-testing all data-collecting tools through a pilot study. The research ensured the data's validity by enhancing the study, using variables from relevant previous studies and applied theories, piloting data, and consulting the supervisor and other experts in the field.

3.11.2 Dependability (reliability)

Dependability is the stability or consistency of the research findings over time and across settings or conditions (Cohen et al., 2018). This study assured dependability by providing relevant conceptual and theoretical frameworks and explaining the guiding conditions and settings of data collection methods and instruments. The analysis depended on the recommendations given by previous scholars (Ngonyani, 2019; Kifanyi et al., 2013).

3.11.3 Transferability

Transferability refers to the applicability of the research findings to a different context and set apart from the previous (Gay et al., 2012). The study's findings may be applied to other situations or settings based on the case-to-case transfer to all regional or country districts. In this study, transferability was ensured by providing an in-depth description of the research methodology and a detailed description of the findings, enabling readers and other users to consult and make comparisons (Gay et al., 2012; Saunders et al., 2019).

3.11.4 Confirmability

Confirmability is the degree to which others can confirm or corroborate the research findings (Yin, 2013). In this study, the researcher employed triangulation of data sources to ensure and enhance the confirmability of the results.

3.12 Ethical Considerations

As recommended by Wallace and Sheldon (2015), researchers abided by the highest standards of moral and ethical considerations. The researcher followed all procedures to advocate the rights of all participants by observing protocol and confidentiality as follows:

3.12.1 Research clearance letters

The researchers sought clearance letter/permit from the Open University of Tanzania before fieldwork. Before conducting the research in the field, the researcher sought a

license from the required authorities, especially the Regional Administrative Secretary and District Administrative Secretary of the Katavi region.

3.12.2 Informed consent

The researcher obtained the participants' permission by informing them about the purpose of the study and their rights to refuse to participate or withdraw from the discussion for whatever reason whenever they wished to do so without penalty (Cohen et al., 2018).

3.12.3 Anonymity

Participants in the Study have the right to anonymity; their identities were kept anonymous. The researcher kept the respondent's answers private (Saunders et al., 2019). The researcher ensured that respondents' anonymity was maintained when presenting the research findings.

3.12.4 Piloting and other ethical consideration

The researcher conducted a pilot study before embarking on the field to help the researcher modify themes. The information obtained enabled the researcher to modify the research instruments and ensure the integrity of the research. The researcher understood the integrity of the study. Therefore, the researcher also avoided data fabrication, falsification and plagiarism.

CHAPTER FOUR

DATA PRESENTATION AND DISCUSSION OF THE FINDINGS

4.1 Overview

The chapter presents the findings and discussion concerning the factors affecting the performance of community-based water supply organizations in Katavi Region, Tanzania.

4.2 Demographic information

The following section presents the results of demographic factors.

4.2.1 Age

Table 4.1 presents the age information for the respondents.

Table 4.1: Age of study participants

	Frequency	Percentage
18-30	19	36.54
31-40	18	34.62
41-50	8	15.38
Above 50	5	9.62
TOTAL (valid)	50	96.15
Missing	2	3.85
TOTAL	52	100.00

Source: Field Data 2023

4.2. 2 Districts

Districts were considered to fully understand the participant's views, as their views may vary based on the districts. The study participants were from the three districts, as indicated in Table 4.2. Tanganyika had more participants.

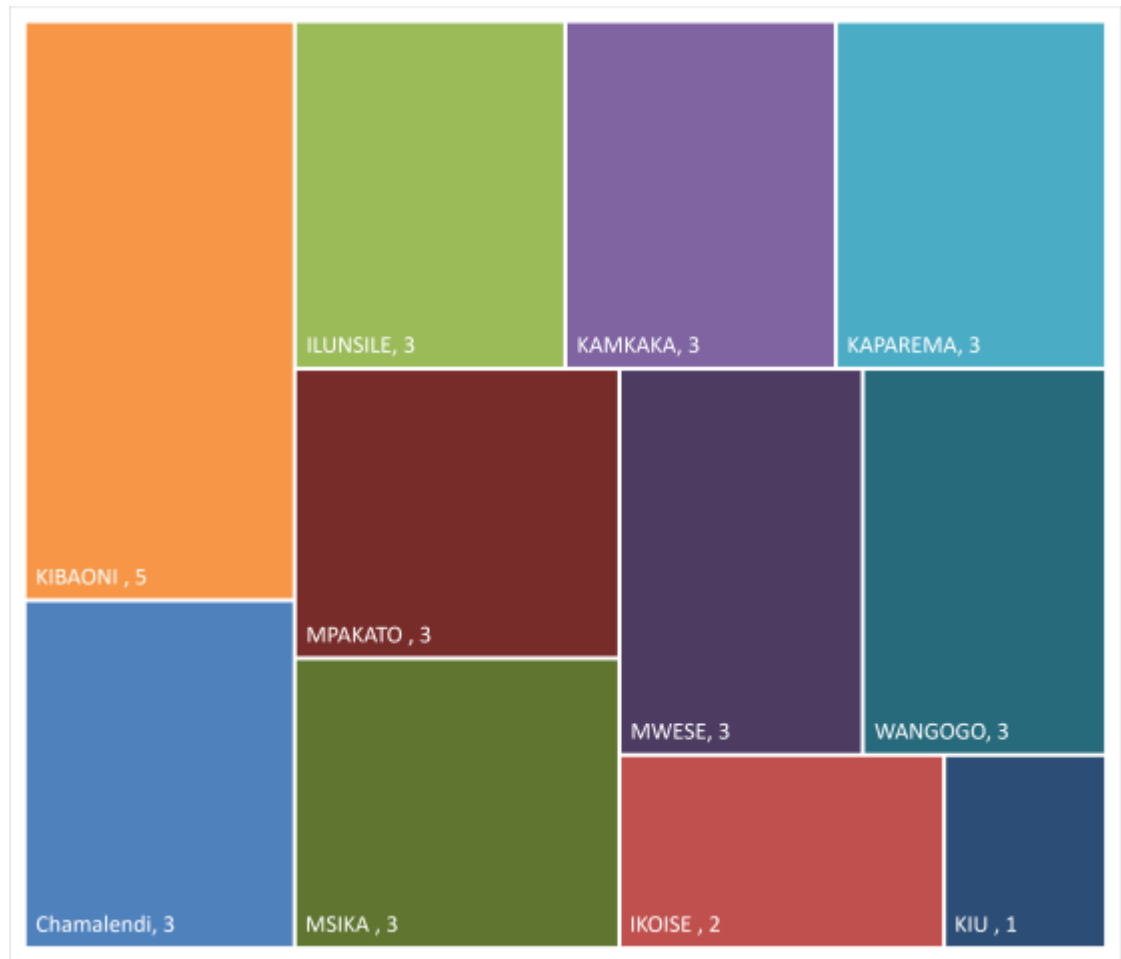
Table 4.2: The number of participants based on the selected districts in Katavi

District	Frequency	Percentage
Mlele	21	40.38
Mpanda	3	5.77
Tanganyika	26	50.00
TOTAL	50	96.15
Missing	2	3.85
TOTAL	52	100.00

Source: Field Data 2023

4.2. 3 Community-Based Water Supply Organisations (CBWSOs)

To fully understand the participants' views, community members in several CBWSOs were visited. The number of CBWSOs visited from each ward are presented in the hierarchy chart (figure) 4.1. larger the number of CBWSOs, the larger the rectangular size.



Source: Field Data 2023

Figure 4. 1 Hierarchy chart for names of CBWSOs

The chart indicates the names of CBWSOs plus the number of participants; the larger the rectangular (box), the higher the frequency. For example, the size of the rectangular for KIBAONI is larger in comparison to other boxes. It is because KIBAONI has higher participants than other CBWOs.

4.2. 4 Sex

The sex of participants is also crucial in understanding patterns in a qualitative study (Smith & Johnson, 2019). Furthermore, sex was also crucial as the female were the

core targeted beneficiaries of the water projects by the Government and Development partners. The number of male and female participants is shown in Chart 4.3.

Table 4.3: Sex of the participants

Sex	Frequency	Percentage
Female	12	23.08
Male	37	71.15
TOTAL	49	94.23
Missing	3	5.77
TOTAL	52	100.00

Source: Field Data 2023

4.2.5 Education Levels

The education of participants is also crucial in understanding patterns in a qualitative study (Smith & Johnson, 2019). Thus, the education level of the study participants was investigated. The education levels of the respondents were primary, Ordinary secondary and advanced secondary education, as indicated in Table 4.4.

Table 4. 4 Education level

Level of Education	Frequency	Percentage
Advanced Secondary Education	17	32.69
Ordinary Secondary Education	28	53.85
Primary Education	5	9.62
TOTAL	50	96.15
Missing	2	3.85
TOTAL	52	100.00

Source: Field data 2023

4.2.6 Position

Besides the education levels of the participants, positions were also considered. The study interviewees included technicians, supervisors, chairpersons and accountants. The diverse backgrounds helped to get views from different people based on their positions. The number of participants based on position is indicated in Chart 4.5.

Table 4. 5: CBWSO Management Positions

Positions	Frequency	Percentage
Accountant	15	28.85
Chairperson	15	28.85
Supervisor	5	9.61
Technician	12	23.08
TOTAL (valid)	48	92.31
Missing	4	7.69
TOTAL	52	100.00

Source: Field Data 2023

4.3 Data Analysis

4.3.1 The influence of financial control on the Performance of Community-Based Water Supply Organisations (CBWSOs)

Figure 4.1. present the themes related to financial control variables. The sub-variables include revenue collection from water tariff, revenue duration, revenue condition/tariff status, financial training and community-run monitoring. By addressing these financial control challenges, CBWSOs improve revenue collection, minimize losses, and enhance their overall performance in providing reliable water services to the community.



Source: Field data 2023

Figure 4.2: Financial control sub-variables

Figure 4.2 A knowledge map showing the financial control sub-themes (variables). The findings of each sub-theme in relation to CBWSOs are further explained in detail below. In brief, they are the key factors when it comes to financial control in WCBWSOs.

4.3.1.1 Revenue collection from water tariff

Revenue collection from water tariffs plays a crucial role in sustaining the operations and financial stability of Community-Based Water Supply Organizations (CBWSOs). It provides the necessary funds for maintaining and expanding water infrastructure, ensuring reliable and accessible water services for the community. During the data collection from the field in the Katavi region, respondents provided insights on revenue collection from water tariffs for Community-Based Water Supply

Organizations (CBWSOs). Respondents highlighted the challenges in revenue collection from water tariffs, including late payments and unpaid bills. They emphasized efficient billing systems and timely reminders to ensure prompt payment. One respondent stated,

"Late payment of water bills, especially by schools and hospitals, is a problem. There is also a lack of collection due to misuse of funds and customer mistrust in using accounts" (Interview field data, June 2023).

The theme reflects the concerns raised by respondents regarding late payments, mismanagement of funds, and the need to build customer trust. Respondents suggested incentives for customers who pay their bills promptly to encourage timely payment. These incentives could include discounts, rewards, or special privileges. By offering incentives, CBWSOs motivate customers to fulfil their payment obligations on time, thereby improving revenue collection. Respondents emphasized the importance of transparency and clear communication about these incentives to ensure customer awareness and participation. One respondent stated,

"One way to encourage timely bill payment is by incentivizing customers who pay promptly. These incentives could include discounts, rewards, or special privileges. Clear communication and transparency about these incentives ensure customers are aware and motivated to participate" (Interview field data, June 2023).

Respondents recognized that affordability can be a significant barrier to timely bill payment, particularly in low-income communities. They suggested introducing

flexible payment options, such as instalment plans or subsidized tariffs for economically disadvantaged households. This approach aims to alleviate the financial burden on customers and increase the likelihood of regular bill payments. Respondents stressed the need for CBWSOs to engage with the community to understand their financial constraints and design appropriate solutions.

"The flexible payment options, such as instalment plans or subsidized tariffs, are important for economically disadvantaged households to alleviate the financial burden and ensure regular bill payments from low-income communities" (Interview field data, June 2023).

Respondents emphasized the importance of community education and awareness programs to enhance understanding and appreciation of the value of water services. By educating the community about the costs associated with providing clean water and the importance of timely bill payment, CBWSOs can foster a sense of responsibility among customers. One respondent asserted,

"Seminars and education can effectively improve the situation but require adequate financial resources" (Interview field data, June 2023).

The response recommends balancing educational initiatives with optimizing operation costs. By addressing revenue collection challenges and implementing the suggestions provided by the respondents, CBWSOs can improve their financial stability, ensure sustainable water supply services and foster a mutually beneficial relationship with the community.

4.3.1.2 Revenue Duration

The revenue condition and tariff status are crucial factors in the financial sustainability of Community-Based Water Supply Organizations. Revenue duration plays a vital role in the financial stability and operational effectiveness of Community-Based Water Supply Organizations (CBWSOs). By maintaining a favourable revenue condition and setting appropriate tariffs that balance affordability with the cost-of-service provision, CBWSOs can ensure the necessary funds to support operations, infrastructure maintenance, and deliver sustainable water supply services to the community. During the data collection from the field in the Katavi region, respondents provided insights on the revenue condition and tariff status for Community-Based Water Supply Organizations (CBWSOs).

Respondents highlighted the challenges faced by CBWSOs in maintaining a favourable revenue condition. They mentioned late payments, unpaid bills, and financial mismanagement. One respondent stated,

"Unpaid debts and loss at domestic points are issues. There is also a lack of suppliers. Using an accounting system, direct involvement of all board members, and following a code of ethics can help address these challenges" (Interview field data, June 2023).

The findings reflect the need for better financial management, involvement of board members and adherence to ethical practices to improve the revenue condition of CBWSOs. Respondents discussed the tariff status, including the pricing structure and customer affordability. They emphasized the importance of setting tariffs that reflect

the cost of providing water services while considering the financial capacity of the community. One respondent stated,

"The low income of people affects the collection of water bills. Controlling leakages and collecting bills on time should be prioritized. Cash collection methods should address these issues" (Interview field data, June 2023).

The findings highlight the need to control water losses, prioritize timely bill collection, and potentially consider cash collection methods to address affordability concerns. Respondents emphasized the need for periodic tariff reviews to ensure that the revenue generated is sufficient to cover operational costs and infrastructure maintenance. They mentioned that changes in expenses, inflation and investment requirements should be considered when reviewing tariffs. One respondent stated,

"The challenges of inefficiency, political interference and inflation are reiterated. Overspending, insecurity, discomfort, and saving difficulties are highlighted. The proposed solutions include keeping accounting records up-to-date, monitoring the financial position and controlling financial statements" (Interview field data, June 2023).

The findings highlight the importance of financial control measures, including regular monitoring and reviewing of financial statements to ensure an appropriate tariff structure. Respondents stressed the importance of involving the community in the tariff-setting process to gain their understanding and acceptance. They mentioned the

need for transparent communication, education on the cost of providing water services and seeking community feedback. One respondent emphasized,

"Creating a good environment and utilizing systems for collection are proposed solutions" (Interview field data, June 2023).

The findings indicate the importance of creating a conducive environment for revenue collection through effective systems and processes that engage and educate the community. By addressing challenges related to revenue conditions, considering tariff affordability, conducting periodic tariff reviews, and actively involving the community, CBWSOs can improve their revenue status, ensure fair pricing, and maintain financial sustainability in providing water supply services to the community.

4.3.1.3 Revenue Condition/Tariff status

During the data collection from the field in the Katavi region, respondents provided insights on the revenue condition and tariff status for CBWSOs. Respondents highlighted the challenges faced by CBWSOs in maintaining a favourable revenue condition. They mentioned late payments, unpaid bills, and financial mismanagement.

One respondent stated,

"Unpaid debts and loss at domestic points are issues. There is also a lack of suppliers. Using an accounting system, direct involvement of all board members, and following a code of ethics can help address these challenges" (Interview field data, June 2023).

The findings reflect the concerns respondents raised regarding the need for better financial management, involvement of board members, and adherence to ethical practices to improve the revenue condition of CBWSOs. Respondents discussed the tariff status, including the pricing structure and customer affordability. They emphasized the importance of setting tariffs that reflect the cost of providing water services while considering the financial capacity of the community. One respondent mentioned,

"The low income of people affects the collection of water bills.

Controlling leakages and collecting bills on time should be prioritized.

Effective Cash collection methods can address affordability concerns.

Respondents emphasized the need for periodic tariff reviews to ensure that the revenue generated is sufficient to cover operational costs and infrastructure maintenance. They mentioned that changes in expenses, inflation, and investment requirements should be considered when conducting tariff reviews. One respondent stated, "The challenges of inefficiency, political interference, and inflation are reiterated. Overspending, insecurity, discomfort, and saving difficulties are highlighted. The proposed solutions are to include keeping accounting records up-to-date, monitoring the financial position, and controlling financial statements" (Interview field data, June 2023).

The findings highlight the importance of financial control measures, including regular monitoring and reviewing of financial statements, to ensure an appropriate tariff structure. Respondents stressed the importance of involving the community in the

tariff-setting process to gain their understanding and acceptance. They mentioned the need for transparent communication, education on the cost of providing water services and seeking community feedback. One respondent mentioned,

"Creating a good environment for bill collection and utilizing systems for collection are proposed solutions" (Interview field data, June 2023).

It indicates the importance of creating a conducive environment for revenue collection through effective systems and processes that engage and educate the community. By addressing challenges related to revenue conditions, considering tariff affordability, conducting periodic tariff reviews, and actively involving the community, CBWSOs can improve their revenue status, ensure fair pricing, and maintain financial sustainability in providing water supply services to the community.

4.3.1.4 Financial training

During the data collection from the field in the Katavi region, respondents provided insights on the importance of financial training for Community-Based Water Supply Organizations (CBWSOs). Respondents emphasized the need for financial training to equip CBWSO staff and board members with essential financial management skills. They mentioned the importance of understanding financial statements, budgeting, and cost control. One respondent stated,

"There is a high number of shallow wells. We propose the public funds to construct or rehabilitate these wells (Interview field data, June 2023).

The findings suggest the need for financial training to address issues related to using funds and ensure proper financial management within CBWSOs. Respondents highlighted the significance of financial training in improving revenue collection and tracking. They emphasized the importance of accurate meter readings, efficient billing systems, and timely follow-up on unpaid bills. One respondent stressed,

"Inefficiency of the management team, political interference, and inflation are identified as challenges. Overspending, insecurity, discomfort, and saving challenges are also mentioned" (Interview field data, June 2023).

The findings reflect the need for financial training to address inefficiency and overspending challenges and ensure proper financial control. Respondents stressed the importance of financial training for effective financial planning and budgeting within CBWSOs. They mentioned the need to allocate resources strategically, plan for infrastructure improvements, and ensure the availability of funds for maintenance and repairs. One respondent stated,

"Keeping accounting records up-to-date, monitoring the financial position, and becoming more efficient are suggested actions" (Interview field data, June 2023).

The findings highlight the role of financial training in improving financial planning processes and ensuring accurate monitoring of the organization's financial position. Respondents emphasized that financial training is crucial in promoting transparency and accountability within CBWSOs. They discussed the importance of understanding

financial regulations, ethical practices, and the proper use of funds. One respondent asserted,

"The use of an accounting system, direct involvement of all board members, and following a code of ethics can help address these challenges" (Interview field data, June 2023).

Financial training can promote accountability and ethical behaviour within CBWSOs, ensuring adherence to proper financial control and regulation. By providing financial training to staff and board members, CBWSOs can enhance their financial management skills, improve revenue collection and tracking, strengthen financial planning and budgeting and foster transparency and accountability. The financial stability and sustainability of CBWSOs in providing reliable water supply services to the community. Community-run monitoring or provision of the contribution status to the community can motivate the community to pay bills to CBWOs.

4.4 The influence of Infrastructure facilities on the performance of water supply schemes in Katavi

The influence of infrastructure facilities on the performance of water supply schemes in Katavi was analyzed through thematic analysis of interview data. The analysis was based on key themes such as infrastructure condition, operational capability, maintenance of water schemes and amount of water produced, as indicated in

Figure 4.3. The sub-themes are further explained in the following sections.

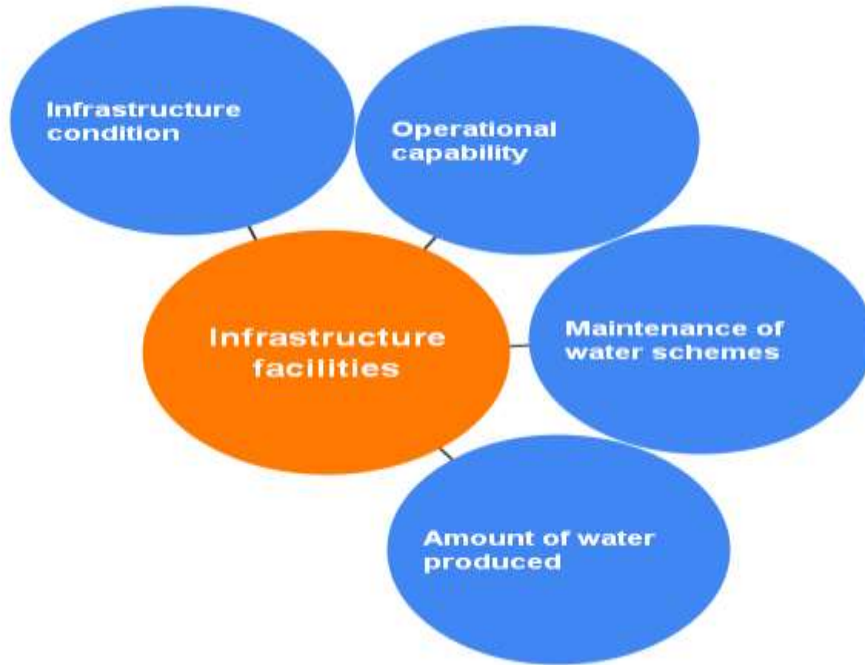


Figure 4.3: Infrastructure knowledge map

Source: Field data 2023

Figure 4.3 A mind mapping of infrastructure facilities of the CBWSOs, indicating issues relating to conditions, capacity, maintenance and amount of water produced. The findings of each variable are explained further below.

4.4.1 Infrastructure condition

Infrastructure condition plays a crucial role in the effectiveness and sustainability of Community-Based Water Supply Organizations (CBWSOs). The responses obtained from the interviews provide insights into the role of infrastructure conditions and highlight various aspects related to its maintenance and challenges. One of the respondents highlights the need for regular infrastructure maintenance to ensure its

optimal condition. They emphasize the importance of regular inspections and repairs to prevent infrastructure deterioration. The respondent stated, *"Infrastructure needs regular maintenance to avoid deterioration"* (Interview field data, June 2023). The findings emphasize maintenance's role in preserving the functionality and longevity of water supply infrastructure.

Additionally, the responses highlight the challenges CBWSOs face in maintaining infrastructure in remote areas. Respondents mentioned difficulties accessing remote locations and the limited availability of skilled personnel for infrastructure maintenance. One respondent stated,

"Infrastructure maintenance is challenging in remote areas due to accessibility and limited skilled personnel" (Interview field data, June 2023).

The findings underscore the unique challenges CBWSOs face in maintaining infrastructure in geographically dispersed and hard-to-reach areas. Furthermore, the responses highlight the importance of community involvement in infrastructure maintenance. Respondents emphasize the role of community members in reporting infrastructure issues and participating in maintenance activities. They mention the need for community education and awareness to promote responsible use and care of infrastructure. One respondent stated,

"Community involvement is crucial in reporting infrastructure problems and ensuring responsible use" (Interview field data, June 2023).

The findings highlight the role of community engagement in preserving the condition of the water supply infrastructure. Moreover, the responses point out the impact of inadequate infrastructure on the quality and reliability of water supply. Respondents mention issues such as water leakages, pipeline bursts, and equipment malfunction due to infrastructure deficiencies. They emphasize the need for timely repairs and upgrades to address these issues and ensure an uninterrupted water supply. One respondent stated,

"Inadequate infrastructure leads to frequent water leakages and interruptions in supply" (Interview field data, June 2023).

The findings highlight the consequences of infrastructure deficiencies on the functioning of water supply systems. The responses underscore the importance of maintaining infrastructure in good condition for the effective operation of CBWSOs. Regular maintenance, addressing challenges in remote areas, community involvement, and timely repairs are crucial for preserving the functionality and reliability of water supply infrastructure. By addressing infrastructure-related issues and engaging the community, CBWSOs can ensure their water supply systems' sustainability and long-term viability.

4.4.2 Operational capability

Operational capability is a key factor in the success and sustainability of Community-Based Water Supply Organizations (CBWSOs). The responses obtained from the interviews shed light on the role of operational capability and highlight various aspects related to the organization's capacity to deliver water services effectively.

One of the respondents emphasizes the importance of adequate human resources in enhancing operational capability. They mention the need for trained personnel who can efficiently operate and maintain the water supply infrastructure. The respondent stated,

"Operational capability depends on having trained personnel who can effectively manage and maintain the infrastructure" (Interview field data, June 2023).

It underscores the significance of skilled human resources in ensuring the smooth operation of CBWSOs. Furthermore, the responses highlight the role of financial resources in determining operational capability. Respondents mention CBWSOs' challenges in securing adequate funds for infrastructure maintenance, repairs, and expansion. They emphasize the need for sufficient financial resources to support operational activities.

One respondent stated,

"Financial resources are crucial for maintaining the operational capability of CBWSOs" (Interview field data, June 2023).

It highlights the importance of financial stability in sustaining the operational capacity of water supply organizations. Moreover, the responses emphasize the role of technology in enhancing operational capability. Respondents mention the benefits of using advanced technology, such as automated systems and remote monitoring, to improve operational efficiency and service delivery. They highlight the need for investment in technology to optimize operational processes.

One respondent stated,

"Adopting advanced technology can significantly enhance the operational capability of CBWSOs" (Interview field data, June 2023).

It highlights the potential of technology in streamlining operations and improving overall performance.

Additionally, the responses highlight the significance of collaboration and partnerships in enhancing operational capability. Respondents mention the importance of working closely with government institutions, non-governmental organizations, and community members to leverage resources and expertise. They emphasize the need for collaborative efforts to address operational challenges effectively. One respondent stated,

"Collaboration and partnerships are vital in enhancing the operational capability of CBWSOs" (Interview field data, June 2023).

It emphasizes the role of collective action in strengthening the operational capacity of water supply organizations. Therefore, the responses highlight the multifaceted nature of operational capability in CBWSOs. Adequate human resources, financial stability, technology adoption, and collaboration play crucial roles in enhancing the operational capacity of these organizations. By investing in human resources, securing financial resources, leveraging technology, and fostering partnerships, CBWSOs can improve their operational efficiency and ensure the sustainable delivery of water services to the community.

4.4.3 Maintenance of water schemes

Maintenance of water schemes is essential for ensuring their long-term functionality and sustainability. The responses obtained from the interviews shed light on the role of Maintenance and highlight various aspects related to the upkeep of water schemes in the Katavi region. One of the respondents emphasised the importance of regular maintenance activities in preventing system breakdowns and ensuring smooth operations. They mention the need for routine inspections, repairs, and replacements of equipment and infrastructure. The respondent stated,

"Regular maintenance is crucial to prevent system failures and ensure uninterrupted water supply" (Interview field data, June 2023).

The findings underscore the significance of proactive maintenance practices in maintaining the reliability of water schemes. Furthermore, the responses highlight the role of trained maintenance personnel in effectively carrying out maintenance activities. Respondents mention the need for skilled technicians to identify and address issues promptly. They emphasize the importance of providing training and support to maintenance staff. One respondent stated,

"Having trained personnel is vital for proper maintenance of water schemes" (Interview field data, June 2023).

The findings emphasize the need for a skilled workforce to ensure the adequate upkeep of water systems. Moreover, the responses highlight the challenges CBWSOs face in accessing sufficient funds for maintenance activities. Respondents stated there is a need for financial resources to cover the costs of repairs, spare parts, and equipment

maintenance. They stress the importance of securing sustainable funding mechanisms to support ongoing maintenance efforts. One respondent stated,

"Limited financial resources hinder proper maintenance of water schemes" (Interview field data, June 2023).

The findings highlight the financial constraints faced by CBWSOs in maintaining their infrastructure. Additionally, the responses emphasize the role of community involvement in maintenance activities. Respondents mention the importance of engaging community members in monitoring and reporting maintenance needs. They highlight the need for raising awareness and promoting a sense of ownership in the community. One respondent stated,

"Community involvement is key to successful maintenance of water schemes" (Interview field data, June 2023).

The findings highlight the significance of community participation in identifying and addressing maintenance issues. Therefore, the responses highlight the critical role of Maintenance in ensuring the functionality and sustainability of water schemes. Regular Maintenance, skilled personnel, adequate funding and community involvement are vital aspects that contribute to effective maintenance practices. By prioritizing maintenance activities, investing in training and resources, securing sustainable funding, and fostering community engagement, CBWSOs can enhance the longevity and performance of their water schemes, ultimately benefiting the community they serve.

4.4.4 Amount of water produced

The amount of water produced by water schemes is a crucial factor in meeting the community's water needs. The responses gathered from interviews shed light on the issue of water production and highlight various aspects related to the quantity of water produced in the Katavi region. One of the respondents emphasized the importance of sufficient water production to meet the growing demand. They mention the need to continuously monitor water sources and infrastructure to ensure optimal water production. The respondent stated,

"Regular monitoring is necessary to ensure adequate water production to meet the increasing demand" (Interview field data, June 2023).

The findings underscore the significance of monitoring systems to maintain sufficient water supply. Furthermore, the responses highlight the challenges water schemes face in achieving the desired level of water production. Respondents mention limited water sources, unreliable rainfall patterns, and inadequate infrastructure impacting water production. They stress the need for sustainable water management practices to maximize water production. One respondent stated,

"Managing water sources is crucial for increasing water production" (Interview field data, June 2023).

It emphasizes the importance of efficient water management strategies. Moreover, the responses highlight the role of conservation measures in optimizing water production. Respondents mention the need for promoting water-saving behaviours and implementing water conservation initiatives within the community. They emphasize

the importance of raising awareness and educating community members about the value of water resources. One respondent stated,

"Water conservation practices are essential to maximizing water production" (Interview field data, June 2023).

The findings highlight the significance of community involvement in conserving water. Additionally, the responses emphasize the importance of regular Maintenance and repairs to ensure optimal water production. Respondents mention the need for well-maintained infrastructure, including pumps, pipelines, and storage tanks, to minimize water losses and enhance production capacity. They stress the role of trained technicians in identifying and addressing issues that may affect water production. One respondent stated,

"Proper maintenance of infrastructure is crucial for maximizing water production." (Interview field data, June 2023)

The findings highlight the relationship between infrastructure maintenance and water production. Therefore, the responses emphasise the importance of adequate water production in meeting the community's water needs. Monitoring water sources, addressing challenges, promoting water conservation and maintaining infrastructure are key aspects that contribute to optimal water production. By implementing effective water management practices, engaging in conservation efforts and ensuring regular Maintenance, water schemes can maximize their water production capacity and provide sufficient water for 4.5 The effect of Political interference on the Performance of CBWSOs

The performance of Community-Based Water Supply Organizations (CBWSOs) in the Katavi region is influenced by various factors, including political interference. Political influence includes conflict resolution and positive and negative political influence, as shown in Figure 4.4.

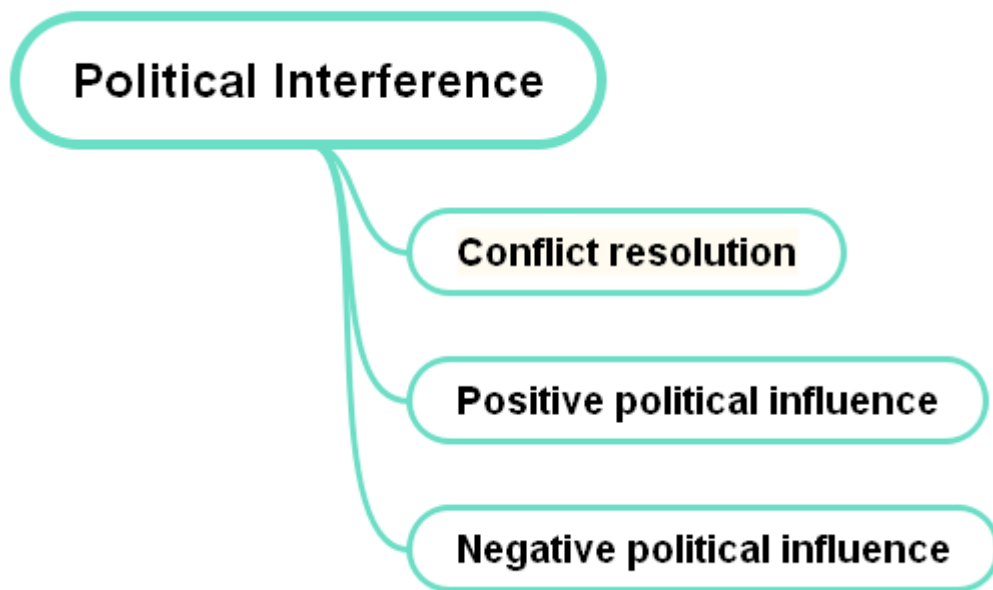


Figure 4.4: Political influence knowledge map

Source: Field data 2023

Figure 4.4 A mind mapping of political interferences of the WCBWSOs projects. The interferences may affect positively or negatively the water projects. The findings of each variable are explained further below.

4.5.1 Conflict resolution

Conflict resolution is vital in maintaining the effective functioning of Community-Based Water Supply Organizations (CBWSOs). The interview responses shed light on

the importance of conflict resolution and provide insights into various strategies and approaches used in the Katavi region.

One respondent emphasized the significance of open communication and dialogue in resolving conflicts within CBWSOs. They highlighted the need for regular meetings and discussions to address concerns and reach consensus. The respondent stated, *"Open communication channels and regular meetings help us resolve conflicts and find solutions together"* (Interview field data, June 2023). It emphasizes creating a platform for open and constructive dialogue among stakeholders. Furthermore, the responses highlight the role of mediation and negotiation in conflict resolution. Respondents mentioned the involvement of neutral third parties or mediators who help facilitate discussions and find mutually acceptable solutions. They stressed the need for impartiality and fairness in the mediation process.

One respondent stated, *"Mediation by impartial individuals has been effective in resolving conflicts and bringing parties together"* (Interview field data, June 2023).

It emphasizes the importance of neutral facilitators in guiding the resolution process. Moreover, the responses emphasized the importance of understanding underlying issues and addressing root causes in conflict resolution. Respondents mentioned the need to identify and address underlying grievances, such as resource allocation, power dynamics, or miscommunication. They stressed the importance of taking a holistic approach to resolving conflicts effectively. One respondent stated,

“We need to address the root causes of conflicts and find sustainable solutions to prevent them from arising again” (Interview field data, June 2023).

It highlights the significance of tackling the underlying issues for long-term resolution.

Additionally, the responses highlighted the importance of building trust and fostering a sense of community ownership in conflict resolution. Respondents mentioned the need for inclusivity and collaboration among community members and stakeholders. They emphasized creating an environment where all parties feel heard and valued. One respondent stated,

“Building trust and promoting community ownership help us resolve conflicts in a way that benefits everyone” (Interview field data, June 2023).

It emphasizes the role of trust-building and community involvement in finding mutually beneficial resolutions. Therefore, the responses highlight the importance of conflict resolution in CBWSOs. Open communication, mediation, addressing underlying issues, and building trust are key approaches to resolving conflicts effectively. By employing these strategies, CBWSOs can foster collaboration, maintain harmony, and ensure the sustainable functioning of water supply services.

4.5.2 Positive political influence

Positive political influence is crucial in effectively managing Community-Based Water Supply Organizations (CBWSOs). The responses gathered from interviews

provide insights into the positive impact of political leaders on the operations and development of CBWSOs in the Katavi region. One respondent emphasized the support provided by political leaders in securing funding and resources for water projects. They stated that political leaders actively advocate for financial support and allocating resources to improve water supply infrastructure. The respondent asserted,

“Political leaders have played a vital role in securing funds for our water projects, ensuring we have the necessary resources to provide reliable water services" (Interview field data, June 2023).

Furthermore, the responses highlight the role of political leaders in creating an enabling environment for the functioning of CBWSOs. They mentioned that political leaders support implementing policies and regulations promoting sustainability and effective management of water schemes.

One respondent stated,

“Political leaders have been instrumental in creating a conducive regulatory framework for CBWSOs, enabling us to operate efficiently and sustainably" (Interview field data, June 2023).

Moreover, political leaders contribute to community engagement and participation in water management initiatives. They are crucial in raising awareness about the importance of water conservation, responsible water usage and community involvement.

One respondent confirmed,

"Political leaders have actively encouraged community engagement in water management, fostering a sense of ownership and responsibility among community members" (Interview field data, June 2023).

Additionally, political leaders can advocate for CBWSOs at higher levels of government and decision-making bodies. They can represent the interests and concerns of CBWSOs, ensuring that their needs and priorities are heard and addressed.

One respondent highlighted this by stating,

"Political leaders have been our voice at the regional and national level, advocating for our issues and pushing for necessary policy changes to support the growth and development of CBWSOs" (Interview field data, June 2023).

Therefore, positive political influence has a significant impact on CBWSOs. Political leaders contribute to securing funding and resources, creating a supportive regulatory environment, promoting community engagement and advocating for the interests of CBWSOs. The quotes provided by the interview respondents highlight the critical role of political leaders in enabling the successful management and development of water supply services at the community level.

4.5.3 Negative political influence

Negative political influence can harm Community-Based Water Supply Organizations (CBWSOs) operations and management. The interviews' responses shed light on

political leaders' negative impact on CBWSOs in the Katavi region. One respondent highlighted the negative influence of political interference in the decision-making processes of CBWSOs. They mentioned that political leaders sometimes impose their own agenda or personal interests, disregarding the needs and priorities of the community. The respondent stated,

"Political interference has hindered our ability to make independent decisions and implement projects that align with the community's needs"

(Interview field data, June 2023).

Furthermore, the responses indicate that political leaders may use their positions for personal gain or corruption, leading to the mismanagement of funds and resources within CBWSOs. One respondent expressed concerns about financial irregularities and misuse of funds, stating,

"Some political leaders have been involved in embezzlement and misappropriation of funds meant for water projects, undermining the integrity and financial sustainability of CBWSOs" (Interview field data, June 2023).

Additionally, political leaders may engage in patronage and favouritism, directing resources and benefits to specific individuals or groups within the community, regardless of their water needs. Political leaders' interference results in inequitable resource distribution and the exclusion of marginalized communities. One respondent reported,

"Political favouritism has resulted in unequal access to water services, with certain areas or groups receiving preferential treatment, while others are neglected" (Interview field data, June 2023).

Moreover, political leaders may need to pay more attention to their responsibilities to support and oversee CBWSOs. Lack of support by political leaders impedes the effectiveness and growth of CBWSOs in addressing water challenges.

One respondent highlighted this by stating,

"Some political leaders have shown a lack of interest and commitment to the development of CBWSOs, leaving us without the necessary guidance and support to overcome operational and financial challenges" (Interview field data, June 2023).

Therefore, political interference, corruption, favouritism, and lack of support from political leaders can undermine the integrity, financial sustainability and equitable provision of water services.

4.6 The impact of Community awareness on the performance of community water supply schemes in the Katavi Region

The study sought to assess the impact of Community awareness on the performance of community water supply schemes in the Katavi region. The key themes analyzed in this section are community participation in the collection, Social ties and trust in other members (see Figure 4.5).



Source: Field data 2023

Figure 4.5: Community awareness knowledge map

Figure 4.5 A mind mapping of community awareness of the WCBWSOs projects. The findings of each variable are explained further below.

4.6.1 Community participation in the collection of funds

Community participation in the collection of funds is a crucial aspect of effectively managing Community-Based Water Supply Organizations (CBWSOs). The responses obtained from the interviews shed light on the significance of community involvement in financial matters and its impact on the sustainability and functioning of CBWSOs. One respondent highlighted the importance of community participation in the collection process, stating,

“When community members actively participate in the collection of funds, it ensures that the financial burden is distributed among the

community, making the CBWSO financially sustainable" (Interview field data, June 2023).

The findings imply that community participation in the collection of funds promotes financial sustainability and ensures that the costs of water supply services are shared equitably among the community members. Another respondent emphasized the role of community participation in building a sense of ownership and responsibility, stating,

“When community members contribute to the collection process, they feel a sense of ownership over the CBWSO and are more likely to support its activities and initiatives" (Interview field data, June 2023).

The findings suggest that active community participation in fund collection fosters a sense of ownership and accountability, leading to more significant support and commitment to the CBWSO's objectives. Participation in the collection process also helps in addressing financial challenges. One interviewee supported this,

"When community members actively contribute to the collection of funds, it reduces the burden on the CBWSO and enables them to meet their financial obligations more effectively" (Interview field data, June 2023).

The findings imply that the community actively participates in fund collection, alleviates the financial strain on the CBWSO, enabling them to allocate resources efficiently and invest in infrastructure development and maintenance. Furthermore, community participation in fund collection facilitates transparency and accountability.

One respondent stated,

"When community members are involved in the collection process, it promotes transparency in financial management, as they can monitor the utilization of funds and ensure that they are being used for the intended purposes" (Interview field data, June 2023).

The findings suggest that community participation creates a system of checks and balances where community members can hold the CBWSO accountable for properly utilizing funds.

The findings provided by the interview respondents highlight the importance of community participation in the collection of funds for CBWSOs. Community involvement promotes financial sustainability, fosters a sense of ownership and responsibility, helps address financial challenges, and ensures transparency and accountability in financial management. By actively engaging the community in fund collection processes, CBWSOs can create a more inclusive and participatory system where the community is crucial in supporting and sustaining water supply services.

4.6.2 trust in other members

Trust in other members is vital in effectively managing Community-Based Water Supply Organizations (CBWSOs). The responses obtained from the interviews shed light on the significance of trust within the community and its impact on the functioning of CBWSOs. One interview respondent emphasized the importance of trust in building solid relationships and cooperation among community members, stating, "Trust is important for us to work together and achieve our goals" (Interview

field data, June 2023). The findings imply that trust is a foundational element that enables community members to work together towards common objectives and fosters a sense of unity and collaboration.

Another respondent highlighted the role of trust in decision-making processes within the CBWSO, stating,

“We trust each other's judgment and rely on everyone's expertise when making important decisions" (Interview field data, June 2023).

Trust enables community members to have confidence in each other's abilities and opinions, creating an environment where decisions are made collectively and everyone's expertise is valued.

Trust also contributes to the smooth functioning of CBWSOs by ensuring the responsible use of resources. One interviewee stated,

“We trust that the funds and resources allocated to the CBWSO are used for the betterment of the community." (Interview field data, June 2023).

The findings imply that trust in the management of CBWSOs leads to a belief that the allocated funds and resources will be utilized effectively and transparently for the benefit of the community.

Furthermore, trust in other members fosters a sense of accountability and responsibility. One respondent stated,

"We trust that everyone will fulfil their duties and responsibilities towards the CBWSO and the community" (Interview field data, June 2023).

The findings suggest that trust creates an environment where community members feel accountable for their actions and are motivated to fulfil their obligations, ensuring the smooth operation of the CBWSO.

The findings provided by the interview respondents highlight the importance of trust in building strong relationships, facilitating decision-making processes, ensuring responsible resource utilization and fostering accountability within CBWSOs. Trust creates a foundation of mutual respect and confidence among community members, enabling effective collaboration and achieving common goals. CBWSOs can strengthen community relationships, enhance decision-making processes, and create a sustainable and resilient water management system by prioritizing trust-building initiatives.

4.7 Discussion of the Findings

4.7.1 The influence of financial control on the performance of CBWSOs

The interviews with respondents in the Katavi region highlight key themes related to financial control in Community-Based Water Supply Organizations (CBWSOs). These themes include revenue collection from water tariffs, revenue duration, revenue condition/tariff status, financial training, and community-run monitoring. By addressing the challenges associated with these themes, CBWSOs can improve their

financial control, enhance revenue collection, minimize losses, and improve their overall performance in providing reliable water services to the community.

The importance of revenue collection from water tariffs is emphasized in the interviews. Timely payment of water bills is crucial for the financial stability of CBWSOs. The challenges identified include late payments and unpaid bills, mismanagement of funds and customer mistrust. To address these challenges, respondents suggested implementing incentives for customers who pay their bills promptly, introducing flexible payment options for economically disadvantaged households, and conducting community education and awareness programs to enhance understanding and appreciation of the value of water services.

The duration of revenue collection is also highlighted as a significant factor in the financial stability of CBWSOs. Shortening the revenue cycle and ensuring consistent revenue streams are essential for effective financial planning and resource allocation. Respondents stressed the importance of efficient billing systems, accurate meter readings, and proactive follow-up on unpaid bills. They also discussed the need for strategies to prevent illegal connections and encourage the community to promote timely bill payments.

The revenue condition and tariff status are crucial aspects of financial control for CBWSOs. Respondents mentioned challenges such as late payments, unpaid bills, and financial mismanagement affecting revenue. They emphasized the importance of setting tariffs that balance affordability with the cost-of-service provision and

conducting periodic tariff reviews to account for changes in expenses, inflation, and investment requirements. Involving the community in the tariff-setting process and promoting transparent communication and education were also important factors.

Financial training emerged as a significant theme in improving financial control within CBWSOs. Respondents emphasized the need for financial training to equip staff and board members with essential financial management skills, including understanding financial statements, budgeting and cost control. Financial training was also vital in improving revenue collection and tracking, financial planning and budgeting, and promoting transparency and accountability within CBWSOs.

Community-run monitoring was identified as a crucial factor in enhancing financial control and the overall performance of CBWSOs. By involving the community in monitoring activities, CBWSOs can foster community engagement and ownership, ensure quality assurance and improved service delivery, promote transparency and accountability, and contribute to the long-term sustainability of water supply services. Community participation in monitoring financial transactions, revenue collection, and expenditure was highlighted to demonstrate commitment to proper financial management.

These findings align with existing studies and theories on financial control in CBWSOs. Prior research has emphasized the importance of revenue collection, efficient billing systems, and customer engagement in improving the financial sustainability and performance of CBWSOs (Kemerer et al., 2019; Alemie et al.,

2017). Using incentives for timely bill payment and flexible payment options for low-income communities has been suggested as an effective strategy (Kemerer et al., 2019). Moreover, involving the community in monitoring activities has been recognized as a means to ensure accountability and sustainability in water supply projects (Strecker et al., 2015).

Regarding relevant theories, the findings align with financial management and control principles. Effective revenue collection, shortening the revenue cycle, and maintaining a favourable revenue condition reflect the importance of financial control mechanisms to ensure the financial stability of CBWSOs (Ntibinyane et al., 2021). The application of financial training to enhance financial management skills and the community's involvement in monitoring aligns with the principles of accountability and transparency in financial governance (Hahn et al., 2014).

Therefore, the findings of the interviews highlight the significance of financial control in improving the performance of CBWSOs in the Katavi region. Addressing challenges related to revenue collection, duration, condition/tariff status, financial training, and community-run monitoring can enhance the financial stability, revenue generation, and overall service delivery of CBWSOs. By implementing the suggestions provided by the respondents and drawing upon relevant studies and theories, CBWSOs can work towards ensuring sustainable water supply services and building a mutually beneficial relationship with the community.

4.7.2 The Influence of Infrastructure Facilities on the Performance of CBWSOs

The findings from the interviews regarding the influence of infrastructure facilities on the performance of water supply schemes in Katavi align with existing studies and theories related to water infrastructure and operational management. Infrastructure condition is a crucial factor in the effectiveness and sustainability of water supply organizations. This finding is supported by previous research highlighting the importance of infrastructure maintenance in ensuring the functionality and longevity of water systems (Ntibinyane et al., 2021; Alemie et al., 2017). Regular inspections, repairs, and community involvement in reporting infrastructure issues are important practices. These findings align with the principles of asset management, which emphasize the need for proactive maintenance to prevent system failures and optimize infrastructure performance (Mugumya et al., 2021).

Operational capability is identified as another key factor in the success of water supply organizations. The importance of adequate human resources, financial stability, technology adoption, and collaboration is highlighted. These findings are consistent with previous studies that emphasize the role of human resources and financial management in enhancing operational efficiency and performance (Teshome et al., 2020; Tadesse et al., 2019). The adoption of technology and collaboration with stakeholders are also recognized as factors contributing to improved operational capability (Mugumya et al., 2021; Admassu et al., 2019).

Maintenance of water schemes is identified as essential for their long-term functionality and sustainability. The findings highlight the importance of regular

maintenance activities, trained maintenance personnel, adequate funding, and community involvement. These findings align with studies emphasizing the significance of proactive maintenance practices, a skilled workforce, and financial resources for effective maintenance (Tadesse et al., 2019; Admassu et al., 2019). Community involvement in maintenance activities is an important aspect that fosters a sense of ownership and responsibility among community members (Teshome et al., 2020).

The amount of water produced is a crucial factor in meeting the community's water needs. The findings emphasize the importance of continuous monitoring, effective water management, water conservation practices, and infrastructure maintenance. These findings align with studies highlighting the importance of sustainable water management, conservation measures, and efficient infrastructure operation in maximizing water production (Tadesse et al., 2019; Admassu et al., 2019). Effective water management practices, community involvement, and infrastructure maintenance are recognized as key factors in optimizing water production (Mugumya et al., 2021). Therefore, the findings from the thematic analysis align with existing studies and theories, highlighting the importance of infrastructure conditions, operational capability, maintenance practices, and water production in the performance of water supply schemes. By addressing the challenges identified in these areas and implementing effective strategies, water supply organizations in Katavi can improve their performance, ensure sustainable water supply services, and meet the community's needs.

4.7.3 The Effect of Political Interference on the Performance of CBWSOs

The findings suggest that political interference can positively and negatively affect the performance of Community-Based Water Supply Organizations (CBWSOs). Positive political influence, as highlighted by some respondents, can contribute to the enforcement of laws, the sustainability of projects and the resolution of water-related problems. The findings align with the theory that political support and advocacy can positively impact public service delivery (Brinkerhoff, 2008).

On the other hand, negative political interference, as mentioned by some respondents, can disrupt the project system, hinder the ability of the CBWSOs to operate effectively and create challenges for customers. This negative influence can be attributed to political leaders misusing resources or spreading false information. Studies have shown that political interference in public service delivery can lead to inefficiencies, corruption, and a decline in service quality (Khemani, 2006; Andrews et al., 2017).

The negative impact of political interference on CBWSOs can be attributed to various factors. One factor is the misuse of resources, where political leaders may divert funds intended for water projects for personal or political gains. Political interference can lead to inadequate infrastructure maintenance, reduced revenue collection, and ultimately hinder the performance of the CBWSOs (Brinkerhoff, 2008).

Additionally, political interference can result in the spread of misinformation or the manipulation of public perception. Interference can also undermine the community's trust in the CBWSOs and their willingness to cooperate, pay water bills, or actively participate in water management activities (Andrews et al., 2017). To mitigate the

negative effects of political interference, it is crucial to ensure the autonomy and independence of CBWSOs from political pressures. Strengthening governance structures, promoting transparency and accountability, and fostering community engagement can help protect CBWSOs from undue political influence (Brinkerhoff, 2008; Andrews et al., 2017).

Therefore, the findings highlight the need for a conducive political environment that supports and empowers CBWSOs to deliver water services to communities effectively. By fostering positive political influence and mitigating harmful interference, CBWSOs can thrive and fulfil their mandate of providing communities with a sustainable and reliable water supply.

4.7.4 The impact of Community awareness on the performance of CBWSOs

The findings regarding the impact of community awareness on the performance of community water supply schemes in the Katavi region align with relevant studies and theories on community participation and trust in water governance. Community participation in the collection of funds is highlighted as a significant factor in the effective management of CBWSOs. The findings emphasize that active community involvement in fund collection promotes financial sustainability, ownership, accountability and transparency.

These findings align with studies that emphasize the importance of community participation in water governance, as it fosters a sense of ownership, shared responsibility and equitable distribution of costs (Wheeler et al., 2018; Meinzen-Dick

et al., 2019). The findings also align with the principles of community-based management and co-production of services, where the community plays an active role in resource mobilization and decision-making processes (Bakker, 2010; Kooy et al., 2018).

Trust in other members is a crucial element in the effective management of CBWSOs. The findings highlight that trust among community members fosters strong relationships, cooperation, effective decision-making, responsible resource utilization and accountability. These findings resonate with studies that emphasize the role of trust in community-based natural resource management, including water management. Trust is key to successful collective action, collaboration and establishing social norms and institutions (Poteete et al., 2010; Béné et al., 2019). Trust contributes to the social capital of a community, enabling members to work together towards common goals and ensure the sustainable management of resources.

The findings underscore the importance of community awareness, participation, and trust in the performance of community water supply schemes. By actively involving the community in fund collection processes and fostering trust among community members, CBWSOs can promote financial sustainability, accountability, and collaboration. These findings align with the principles of community-based governance, co-production, and social capital theory, emphasizing the role of community participation and trust in achieving sustainable and effective water management (Ostrom, 1990; Pretty & Ward, 2001; Agrawal & Gibson, 1999).

Therefore, the findings highlight the importance of community awareness, participation and trust in promoting CBWSOs' sustainability.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the findings

The summary of findings is presented based on the results from specific objectives.

5.1.1 The influence of financial control on the Performance of Community-Based Water Supply Organisations (CBWSOs) in the Katavi region

The findings of this study highlight the influence of financial control on the performance of Community-Based Water Supply Organisations (CBWSOs) in the Katavi region. Key themes such as financial planning and budgeting, revenue generation and collection, financial reporting and transparency, cost recovery and financial sustainability, financial management capacity, resource allocation and prioritization, partnerships and external support and debt management provide insights into the challenges and opportunities associated with financial management practices in CBWSOs.

Effective financial planning and budgeting were crucial for the performance of CBWSOs, as they ensure appropriate resource allocation and goal alignment. Revenue generation and collection mechanisms were identified as important financial stability and sustainability factors. Transparent financial reporting practices contribute to accountability and stakeholder trust. Cost recovery and financial sustainability were recognized as essential for the long-term viability of CBWSOs. Lastly, the capacity of

CBWSOs to effectively manage their finances plays a significant role in their overall performance.

Therefore, the findings emphasize the critical role of financial control in the performance of CBWSOs in the Katavi region. The insights this research provides inform the development of targeted interventions and policies to enhance financial management practices, thereby improving the availability and quality of water supply services for the community.

5.1.2 The Influence of infrastructure facilities on the performance of water supply schemes

The findings regarding the influence of infrastructure facilities on the performance of water supply schemes in the Katavi region highlight several key themes. Firstly, infrastructure condition plays a crucial role in the effectiveness and sustainability of Community-Based Water Supply Organizations (CBWSOs). Regular maintenance, addressing challenges in remote areas, community involvement and timely repairs are crucial for preserving the functionality and reliability of water supply infrastructure. Secondly, operational capability is a key factor in the success of CBWSOs, with adequate human resources, financial stability, technology adoption, and collaboration playing crucial roles. By investing in human resources, securing financial resources, leveraging technology and fostering partnerships, CBWSOs can improve their operational efficiency.

Thirdly, maintaining water schemes is essential for their long-term functionality and sustainability. Regular maintenance activities, trained personnel, adequate funding, and community involvement are key aspects that contribute to effective maintenance practices. Lastly, the amount of water produced by water schemes is crucial in meeting the community's water needs. Monitoring water sources, addressing challenges, promoting water conservation, and maintaining infrastructure are key aspects that contribute to optimal water production. By implementing effective water management practices, engaging in conservation efforts, and ensuring regular maintenance, water schemes can maximize their water production capacity and provide sufficient water for the community.

Addressing the infrastructure condition, enhancing operational capability, prioritizing maintenance activities, and optimizing water production are key factors in improving the performance of water supply schemes in the Katavi region. By investing in infrastructure maintenance, human resources, financial stability, technology adoption, community engagement, and efficient water management practices, CBWSOs can enhance their overall performance and ensure the reliable provision of water services to the community.

5.1.3 The Effect of Political Interference on the Performance of CBWSOs

The findings regarding the influence of political factors on the performance of Community-Based Water Supply Organizations (CBWSOs) in the Katavi region reveal both positive and negative aspects. Positive political impact is characterized by political leaders' support in securing funding and resources, creating a conducive

regulatory environment, promoting community engagement, and advocating for the interests of CBWSOs. This support enables CBWSOs to operate efficiently and sustainably and meet the community's water needs.

However, negative political influence includes interference in decision-making processes, corruption, favouritism, and lack of support from political leaders. These factors hinder CBWSOs' ability to make independent decisions, mismanage funds, create unequal access to water services, and lack necessary guidance and support for overcoming operational and financial challenges. Addressing negative political influences and nurturing positive political support is crucial for the successful management and development of water supply services by CBWSOs in the Katavi region.

5.1.4 The impact of Community awareness on the performance of CBWSOs

The study's findings highlight the importance of community awareness and participation in the performance of community water supply schemes in the Katavi region. Community participation in the collection of funds is crucial for the financial sustainability of CBWSOs. Active involvement of community members in the fund collection process ensures equitable sharing of the financial burden and fosters a sense of ownership and responsibility. It also helps address financial challenges and promotes transparency and accountability in financial management. Trust among community members is another key factor that influences the performance of CBWSOs. Trust enables strong relationships, cooperation, and decision-making within the community. It contributes to responsible resource utilization, fosters

accountability, and creates an environment of unity and collaboration. By promoting community participation in fund collection and nurturing trust among community members, CBWSOs can enhance their effectiveness, sustainability, and the provision of water supply services to the community.

5.2 Conclusion

The study findings emphasize the importance of several key factors in the performance of community water supply schemes in the Katavi region. Financial control is critical in ensuring the financial sustainability of Community-Based Water Supply Organizations (CBWSOs). Effective financial management, including transparent fund collection, community participation, and responsible resource utilization, is essential for the long-term viability of water supply systems.

Infrastructure facilities significantly influence the performance of water supply schemes. Adequate infrastructure conditions, operational capability, and maintenance practices are crucial for ensuring water supply infrastructure's functionality, reliability, and longevity. Addressing infrastructure deficiencies, engaging the community, and investing in technology and collaborations are key strategies to optimize the performance of CBWSOs.

Political interference can have positive and negative impacts on the performance of CBWSOs. Positive politics promotes securing funding, creating a supportive regulatory environment and advocating for the interests of CBWSOs. Also, it enhances their effectiveness and development. However, negative political influence, including

interference in decision-making, corruption, favouritism lack of support, hampers the functioning and sustainability of CBWSOs. Therefore, ensuring good governance, transparency and accountability in political processes is crucial for the success of water supply schemes.

Community awareness and participation are vital for the performance of CBWSOs. Community involvement in the collection of funds promotes financial sustainability, fosters a sense of ownership and responsibility, and enables equitable financial burden sharing. Trust among community members facilitates strong relationships, collaboration, responsible resource utilization and accountability. CBWSOs can enhance their effectiveness, sustainability, and community support by actively engaging the community, fostering trust and promoting participation.

Therefore, a holistic approach that addresses financial control, infrastructure facilities, political interference and community awareness is essential to operate community water supply schemes successfully. By considering and integrating these factors, CBWSOs can improve their performance, ensure reliable water services and contribute to the well-being and development of their communities.

5.3 Recommendations

5.3.1 General or Practical Recommendations

Based on the findings of the study, several recommendations are provided to enhance the performance of community water supply schemes in the Katavi region:

5.3.2 Strengthen financial control

Implement transparent and accountable financial management practices within CBWSOs. It includes developing clear guidelines for fund collection, ensuring community participation in the collection process, and establishing mechanisms for monitoring and reporting on fund utilization. Additionally, explore alternative funding sources and sustainable financing mechanisms to alleviate financial constraints.

5.3.4 Prioritize infrastructure maintenance

Recognize the importance of regular infrastructure maintenance and invest in proactive measures to address infrastructure deficiencies. It involves regular inspections, repairs and upgrades to prevent deterioration and ensure uninterrupted water supply. Improving access to skilled personnel for infrastructure maintenance in remote areas and promoting community involvement in reporting infrastructure issues are also vital for properly maintaining CBWOs.

5.3.5 Enhance governance and mitigate political interference

Establish mechanisms to ensure transparent and accountable governance within CBWSOs. Promote the adoption of clear policies and regulations that safeguard the independence of CBWSOs from political interference. Encourage political leaders to play a positive role by supporting CBWSOs, advocating for funding and resources and creating an enabling environment for their operations.

5.3.6 Foster community awareness and participation

Implement strategies to enhance community awareness of the importance of water supply services and their role in supporting CBWSOs. Also, it promotes community participation in decision-making processes, fund collection, and proper enhancement of maintenance activities. Strengthen trust among community members through effective communication, engagement, and inclusivity.

5.3.7 Facilitate capacity building and knowledge sharing

Provide training and capacity-building opportunities to CBWSO members and community stakeholders. This includes technical training on infrastructure maintenance, financial management, and community engagement. Encourage knowledge sharing and collaboration among CBWSOs, government institutions, and non-governmental organizations to leverage resources, expertise, and best practices.

5.3.8 Foster Partnership and Collaborations

Actively seek partnerships and collaborations with government institutions, non-governmental organizations and other stakeholders involved in water management. It can help to secure funding, access technical expertise and promote knowledge exchange. Collaborative efforts can enhance the operational capacity and long-term sustainability of CBWSOs.

5.3.9 Monitor and evaluate performance

Establish a system for monitoring and assessing the performance of CBWSOs regularly. It includes tracking water production, quality, and service reliability and

evaluating financial management practices and community satisfaction. Use these evaluations to identify areas for improvement and guide decision-making processes.

5.4 Policy implication

The findings of this study have several policy implications for improving the performance of community-based water supply schemes (CBWSOs) in the Katavi region: Policies should be implemented to reduce political interference in the governance and decision-making processes of CBWSOs, promoting transparent and participatory structures. It can be achieved by adopting governance models that prioritize stakeholder engagement and accountability while safeguarding the autonomy of CBWSOs.

Through targeted education and behaviour change campaigns, policies should enhance community awareness and participation. Providing communities with knowledge about water management practices, encouraging their active involvement in decision-making processes and fostering a sense of ownership can lead to more sustainable and efficient water supply schemes. Policies should support infrastructure development and maintenance, ensuring water infrastructure's quality, functionality, and reliability. Adequate funding mechanisms and capacity-building programs should be established to facilitate infrastructure upgrades and regular maintenance. Therefore, developing comprehensive policies that address political interference, community awareness, and infrastructure management can contribute to the improved performance and sustainability of CBWSOs in the Katavi region.

5.5 Contribution of the study to the theory (theoretical implications)

5.5.1 Effects of financial control

The identified themes include financial planning and budgeting, revenue generation and collection, financial reporting and transparency, cost recovery and financial sustainability, financial management capacity, resource allocation and prioritization, partnerships and external support, and debt management.

It is crucial to assess the CBWSOs to pay for water services for the long-term financial sustainability of water resources. Moreover, responsible borrowing should ensure that the debt burden does not outweigh the benefits gained from the funds borrowed. It highlights the need for CBWSOs to engage in informed decision-making and prudent financial planning when considering taking on debt. The findings show that all stakeholders should effectively promote the financial sustainability of the CBWSOs because financial distress is a sign of unsustainability.

5.5.2 Effect of political interference

Governance and decision-making are fundamental aspects to consider when analyzing the effect of political interference on the performance of Community-Based Water Supply Organisations (CBWSOs) in the Katavi region. The significance of transparent and accountable governance is required to establish strong governance frameworks that promote accountability and autonomy in decision-making.

Another key idea from the study was the potential impact of political interference on resource allocation, underscoring the importance of fair and equitable resource

allocation processes within CBWSOs and the potential risks associated with political interference. It is related to the stakeholders' theory because political interference deters good governance.

5.5.3 Effect of community awareness and water facilities maintenance

When the community is aware of their responsibility, they can query on improper use of funds, lack of maintenance of infrastructure and political interference. By knowing their role, the community promotes financial sustainability, good political will and proper maintenance of water facilities. Therefore, adequate knowledge of their responsibilities reduces the financial distress of CBWSOs. Thus, Moreover, the study contributes to the stakeholders' theory by emphasizing the role of the community in the management of CBWSOs' facilities.

5.6 Direction for further studies

Further study is recommended to explore the mechanisms and strategies that can effectively mitigate political interference and enhance transparent and participatory governance structures within CBWSOs in the Katavi region. Additionally, future research should investigate the impact of community awareness campaigns and education programs on long-term behavioural change, sustainability, and performance of water supply schemes in the region. The mixed method design and expansion of the area of the study are also recommended for future studies.

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APPENDICES

APPENDIX I: IN-DEPTH INTERVIEW FOR MANAGEMENT TEAM AND COMMITTEE

I am an Open University of Tanzania student pursuing a Master of Business Administration degree. I am studying *“Factors Affecting Performance of the Community-Based Water Supply Organisations (CBWSOs) in Managing Water Supply Schemes in Katavi Region.”* The study is conducted for academic purposes only; your participation is highly valued for making this study successful. I request that you participate in the study. You are assured that the information you provide will be treated as confidential in the research and used for this study only.

I: PRELIMINARY INFORMATION

Name of District.....

Name of Ward.....

Name of CBWSOs.....

Villages Involved.....,.....,.....,

Interviewee Information: Gender: Male [] Female []

Age 18- 30 [] 31- 40 [] 41- 50 [] Above 50 []

Education level: Informal education [] Primary education [] Ordinary secondary education [] Advanced secondary education []

Occupation: Peasant/farmer [] Businessperson [] Employee []

The position you hold in water management organisation:.....

II: PERFORMANCE FACTORS INFORMATION

a. Performance of CBWSOs

1. When was your organisation established?.....
2. How many members serve as employees of this Community-Based Water Supply Organisation?.....
- b) What is the total population Served by this CBWSO?.....
- c) How many people are connected by this CBWSO.....
- d) What volume of water does this CBWSO produce?.....
- e) What volume of water is demanded by the surrounding population?.....
- f) What is the level of Water Quality Compliance of your CBWSO?.....

b. Financial control

3. Who does the planning and budget in your organisation?.....
4. What is your annual budget?
5. What are the actual expenditures within the planned budget?
6. Are the expenditure aligned with the budget? If not, what are the causes of this?
7. What are the major problems involving revenue collection? Can you give examples?
8. What are the major problems involving cash expenditure? Can you give examples?
9. What is your opinion towards the improvement of Financial control for the CBWSOs?
 - (i)
 - (ii)
 - (iii)

c. Infrastructures influence

- 10. (i) How many domestic water points do you have?.....
 - (ii) How many private connections do you have?.....
 - (iii) How many cattle troughs do you have?
 - (iv) How many public institutions are connected with water services in your area?.....
 - (v) List the size and number of water tanks that exist in your organisation.....
.....
11. How is the technology utilised by water schemes compatible with the actual situation?
.....
12. What is the status of the whole project's infrastructure?
.....
13. How does the status of infrastructures affect the efficiency of water service delivery?
.....
.....
14. What policies or procedures are in place to safeguard or protect against infrastructure vandalism?
15. What kind of technical backstopping is provided by RUWASA?
16. How does technical backstopping contribute to improving infrastructure and water availability?

d. Political interference

17. How the political leaders positively influence the management of CBWSOs? Can you give an example?

- (i)
- (ii)
- (iii)
- (iv)
- (v).....

18. How the political leaders negatively influence the management of CBWSOs? Can you give an example?

- (i)
- (ii)
- (iii)

e. Community Awareness

19. How does community members' awareness positively influence the management of CBWSOs? Can you give an example?

.....
.....

20. How does a lack of community members' awareness negatively influence the management of CBWSOs? Can you give an example?

.....
.....
.....

21. What should be done to promote the community members' awareness of the performance of CBWSOs?

Thank you for taking the time to respond to this in-depth interview. If you have any queries, please do not hesitate to contact Peter R. Ngunula by telephoning 0713 417 141/0628 992 936 mobile number or emailing ngunula@yahoo.com or peter.ngunula@ruwasa.go.tz email address.

In case of additional information or clarification, please do not hesitate to contact the interviewer before 20th June 2023 as detailed above to: **Peter R. Ngunula**, P. O. Box 28, Mpanda, **KATAVI**.

APPENDIX III: RESEARCH CLEARANCE LETTERS



Ref. No OUT/ PG202001064

12th June, 2023

Regional Administrative Secretary (RAS),
 Katavi Region,
 P.O.Box 235,
KATAVI.

Dear Executive Director,

RE: RESEARCH CLEARANCE FOR MR. PETER RAYMOND NGUNULA. REG NO: PG202001064

2. The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1st January 2007. In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

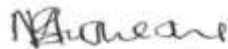
3. To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief

background, the purpose of this letter is to introduce to you **Mr. Peter Raymond Ngunula, Reg. No: PG202001064)** pursuing **Master of Business Administration (MBA)**. We here by grant this clearance to conduct a research titled "**Factors Affecting the Performance of the Community-based Water Supply Organizations in Katavi Region, Tanzania**". He will collect his data at your area from 13th June to 13th July 2023.

4. In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820. We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,

THE OPEN UNIVERSITY OF TANZANIA



Prof. Magreth S. Bushesha

For: **VICE CHANCELLOR**

THE UNITED REPUBLIC OF TANZANIA



MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

THE OPEN UNIVERSITY OF TANZANIA



Ref. No OUT/PG202001064

12th June, 2023

District Executive Director,
Nsimbo District Council,
P.O.Box 688,
KATAVI.

Dear Executive Director,

RE: RESEARCH CLEARANCE FOR MR. PETER RAYMOND NGUNULA. REG NO: PG202001064

2. The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1st January 2007. In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

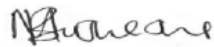
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Yours sincerely,

THE OPEN UNIVERSITY OF TANZANIA



Prof. Magreth S. Bushesha

For: VICE CHANCELLOR



Ref. No OUT/ PG202001064

12th June, 2023

District Executive Director,
Mpimbwe District Council,
P.O.Box 245,
KATAVI.

Dear Executive Director,

RE: RESEARCH CLEARANCE FOR MR. PETER RAYMOND NGUNULA, REG NO: PG202001064

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Prof. Magreth S. Bushesha

For: **VICE CHANCELLOR**

THE UNITED REPUBLIC OF TANZANIA



MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

THE OPEN UNIVERSITY OF TANZANIA



Ref. No OUT/ PG202001064

12th June, 2023

District Executive Director,
Mpanda District Council,
P.O.Box 1,
KATAVI.

Dear Executive Director,

**RE: RESEARCH CLEARANCE FOR MR. PETER RAYMOND NGUNULA. REG NO:
PG202001064**

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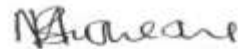
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MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

THE OPEN UNIVERSITY OF TANZANIA



Ref. No OUT/PG202001064

12th June, 2023

District Executive Director,
Mlele District Council,
P.O.Box 686,
KATAVI.

Dear Executive Director,

RE: RESEARCH CLEARANCE FOR MR. PETER RAYMOND NGUNULA, REG NO: PG202001064

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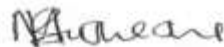
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