

**FACTORS INFLUENCING FINANCIAL SUSTAINABILITY OF PROJECTS  
MANAGED BY RURAL WATER SUPPLY AND SANITATION AGENCY: A  
CASE OF MUHEZA DISTRICT COUNCIL**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE  
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**2023**

**CERTIFICATION**

I, undersigned certify that, I have read and hereby recommends for the acceptance of the dissertation titled; **“Factors influencing financial sustainability of projects managed by Rural Water Supply and Sanitation Agency: a case of Muheza District”** in partial fulfilment of the requirement for the degree of Masters in Project Management (MPM).

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Dr. Saganga Kapaya  
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Date

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I, **Maharangata Jerome Cleophace**, 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 in Project Management (MPM).

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## **ACKNOWLEDGEMENTS**

First and foremost, I give thanks to God for guiding me through this educational process and for bestowing upon me intelligence, strength, and health. With God, absolutely anything is possible.

Second, I would like to express my sincere gratitude to my supervisor for his professional and academic advice. He helped me to develop clear research study ideas and provided the greatest analytical skills for writing and completing this study.

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## **DEDICATION**

This work is dedicated to my lovely wife Mrs. Neema C. Maharangata for her encouragement and support by any means.

## ABSTRACT

Access to a consistent water supply is essential for improving health and economic outcomes in rural regions of low and middle-income countries. However, there has been limited consideration of the factors associated with maintaining the financial sustainability of projects managed by water authorities and agencies in these areas. The overarching goal of this study was to investigate the factors that influence the financial sustainability of projects overseen by the Rural Water Supply and Sanitation Agency (Ruwasa), with a specific focus on Muheza District Council. A cross-sectional research design was employed for this study, and a sample of 132 respondents was selected to participate, each of whom completed questionnaires. The collected data were subject to descriptive analysis, and multiple regression analysis was conducted to explore the relationships among various variables. The null hypotheses were rejected in favor of the alternative hypotheses. The study's findings unveiled that Ruwasa consistently utilized periodic budgeting as a means to bolster its financial sustainability. It reviewed budgets and other financial plans in alignment with its mission, a practice that contributed to an improved financial outlook. Furthermore, Ruwasa implemented a clear separation of responsibilities, supported by comprehensive documentation, and maintained up-to-date annual accounting records. This meticulous approach ensured that all expenditures and funds were meticulously considered, fostering the production of accurate and timely financial reports. Likewise, Ruwasa actively engaged stakeholders in its operations, including the collection of water user fees, which positively influenced financial sustainability. The relationship between financial control systems and the financial sustainability of projects revolved around debt reduction, timely project completion, and the effective management and allocation of resources. As a result, it is recommended that financial control systems should aim to achieve financial sustainability through prudent measures such as the elimination of unnecessary debt, effective resource management, and timely project completion.

**Key words:** *Financial Sustainability, Budget Strategies, Financial Controlling Systems, Stakeholders involvement, Financial Control*

## TABLE OF CONTENTS

<b>CERTIFICATION .....</b>	<b>ii</b>
<b>COPYRIGHT .....</b>	<b>iii</b>
<b>DECLARATION.....</b>	<b>iv</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>v</b>
<b>DEDICATION.....</b>	<b>vi</b>
<b>ABSTRACT .....</b>	<b>vii</b>
<b>LIST OF TABLES .....</b>	<b>xii</b>
<b>LIST OF FIGURES .....</b>	<b>xiii</b>
<b>LIST OF ABBREVIATIONS AND ACRONYMS .....</b>	<b>xiv</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>BACKGROUND INFORMATION.....</b>	<b>1</b>
1.1 Overview.....	1
1.2 Background of the Study .....	1
1.3 Statement of the Problem.....	2
1.4 Research Objectives.....	3
1.4.1 General Objective .....	3
1.4.2 Specific Objectives .....	3
1.5 Research Hypothesis.....	4
1.6 Significance of the Study .....	5
1.7 Study Structure.....	6
<b>CHAPTER TWO .....</b>	<b>7</b>
<b>LITERATURE REVIEW.....</b>	<b>7</b>
2.1 Chapter Overview .....	7



2.2	Key Concepts .....	7
2.2.1	Financial Sustainability.....	7
2.2.2	Project .....	7
2.2.3	Rural Water Supply and Sanitation Agency (RUWASA).....	8
2.3	Theoretical Literature Review.....	9
2.3.1	Accounting Process Theory .....	9
2.3.2	Resource-dependency Theory.....	10
2.4	Empirical Literature Review .....	12
2.5	Research Gap .....	15
2.6	Conceptual Framework.....	16
2.7	Theoretical Framework.....	17
2.7.1	The Relationship Effect of Budgeting Strategies on Financial Sustainability of Projects Managed by Ruwasa.....	17
2.7.2	The Relationship Effect Financial Controlling Systems Budgeting Strategies on Financial Sustainability of Projects Managed by Ruwasa .....	18
2.7.3	The Relationship Effect of Stakeholders' involvement on Budgeting Strategies on Financial Sustainability of Projects Managed by Ruwasa .....	18
	<b>CHAPTER THREE .....</b>	<b>20</b>
	<b>RESEARCH METHODOLOGY .....</b>	<b>20</b>
3.1	Chapter Overview .....	20
3.2	Research Philosophy .....	20
3.3	Research Design.....	21
3.4	Study Area .....	23
3.5	Population and Sample Size.....	24

3.5.1	Population .....	24
3.5.2	Sample Size.....	24
3.7	Types of Data .....	25
3.8	Data Collection Tools .....	25
3.9	Type of Measurements.....	26
3.10	Reliability and Validity of Data.....	27
3.10.1	Reliability .....	27
3.10.2	Validity.....	28
3.11	Management and Analysis of Data .....	28
3.11.1	Data Management .....	28
3.11.2	Data Analysis .....	29
3.12	Ethics-Related Matters.....	32
<b>CHAPTER FOUR.....</b>		<b>33</b>
<b>RESULTS AND DISCUSSION .....</b>		<b>33</b>
4.1	Introduction.....	33
4.2	Demographic Information.....	33
4.2.1	Gender.....	34
4.2.2	Age.....	34
4.2.3	Employment Status .....	35
4.2.4	Length in Service .....	35
4.3	Impact of Budgeting Strategies on the Financial Sustainability of Ruwasa- Managed Projects.....	35
4.3	Effect of Financial Controlling Systems on financial sustainability of projects managed by Ruwasa.....	40

4.7	Inferential Statistics on Variables .....	52
4.7.1	Assumptions of Multiple Regression.....	52
<b>CHAPTER FIVE.....</b>		<b>58</b>
<b>CONCLUSION AND RECOMMENDATIONS .....</b>		<b>58</b>
5.1	Introduction.....	58
5.2	Conclusion .....	58
5.3	Recommendations.....	59
5.4	Areas for Further Studies .....	60
<b>REFERENCES .....</b>		<b>61</b>
<b>APPENDICES .....</b>		<b>65</b>

**LIST OF TABLES**

Table 3.1: Sample Size.....	24
Table 4.1: Demographic Information.....	34
Table 4.2: Effects of Budgeting Strategies .....	36
Table 4.3: Effects of Financial Controlling Systems .....	41
Table 4.4: Influence of Stakeholders' involvement .....	46
Table 4.5: Relationship between financial control systems and financial sustainability of projects.....	50
Table 4.6: Linearity Assumption .....	53
Table 4.7: Skewness and Kurtosis coefficients.....	54
Table 4.8: Durbin-Watson Test.....	54
Table 4.9: Multicollinearity Assumption.....	55
Table 4.10: Regression Model Summary .....	55
Table 4.11: Regressions Coefficients .....	56

**LIST OF FIGURES**

Figure 2.1: Conceptual Framework..... 17

Figure 3.1: Map of Muheza District ..... 23

## **CHAPTER ONE**

### **BACKGROUND INFORMATION**

#### **1.1 Overview**

This chapter introduces the background to the problem, statement of the problem, the objectives and questions of the study, significance and cope of the study.

#### **1.2 Background of the Study**

The enhancement of health and economic outcomes in rural regions of low- and middle-income countries hinges on having consistent access to water resources. However, the factors influencing the financial feasibility of projects managed by water authorities and agencies in these areas have not received sufficient consideration (Nzau & Kimungoyi, 2018). Financial sustainability remains a prominent concern within the sector, particularly concerning rural water services (Nzau & Kimungoyi, 2018). The Water Sector Development Programme, by 2021, has set an ambitious target to increase rural water accessibility in Tanzania from its current rate of 65% to 85% (Carter, 2021). Alarming data from the Ministry of Water and Irrigation reveals that a third of water points in rural areas are no longer operational, a predicament attributed to several factors including insufficient technology, funding, capacity gaps within the Community Owned Water Supply Organizations (COWSO), and reluctance within the communities regarding water pricing (Carter, 2021).

As per the United Nations (UN, 2009), numerous organizations reliant on donations

and government funding encounter difficulties in sustaining their initiatives and programs due to the stringent financial and accounting standards imposed by donors and governments. In the words of Kisinga (2014), inadequate financial sustainability of projects leads to resources being spent on addressing existing issues rather than expanding water infrastructure. Moreover, it results in local communities having to rely on precarious water sources, often situated at a considerable distance, while functional water points remain scarce. According to Lewis (2011), rural water programs that solely depend on user fees to cover all life-cycle expenses are not financially feasible. Assessments of the cost-effectiveness of improved drinking water access consistently demonstrate that investments in such initiatives typically yield greater social benefits than their associated costs.

### **1.3 Statement of the Problem**

Numerous sub-Saharan African countries, in compliance with their water regulations, mandate that rural communities shoulder the financial responsibility for operating and maintaining their water projects (Hutton and Andres, 2018). As emphasized by Ashoka and Maingo (2015), attaining financial sustainability in rural water initiatives holds great significance because it empowers organizations to provide more extensive and diversified services. As pointed out by Kisinga (2014), insufficient funding stands out as a pivotal factor contributing to the failure of many rural projects, rendering organizations financially unsustainable. Despite the critical importance of financial sustainability, water projects managed by entities like Ruwasa in rural areas, such as Muheza district, have not

consistently yielded conspicuous outcomes in terms of financial viability. To secure the financial feasibility of their projects, water authorities and agencies must also gain a deeper understanding of the underlying causes of project failures. Surprisingly, there have been minimal, if any, investigations conducted by the Rural Water Supply and Sanitation Agency (RUWASA) to examine the variables influencing the financial viability of the projects it supervises in the context of the Muheza district. This research endeavors to address this knowledge gap comprehensively.

## **1.4 Research Objectives**

### **1.4.1 General Objective**

To investigate the factors influencing financial sustainability of projects managed by Rural Water Supply and Sanitation Agency (Ruwasa) with reference to Muheza district council

### **1.4.2 Specific Objectives**

The study intended to accomplish the following specific objectives:

- i) To examine the effect of budgeting strategies on financial sustainability of projects managed by Ruwasa
- ii) To examine the effect of financial controlling systems on financial sustainability of projects managed by Ruwasa
- iii) Establish the influence of stakeholders' involvement on financial sustainability of projects managed by Ruwasa
- iv) To examine the relationship between financial control systems and financial



sustainability of projects managed by Ruwasa

### **1.5 Research Hypothesis**

In line with the objectives of this study, the following hypotheses were tested.

*Null Hypothesis: ( $H_{o1}$ ):* There is no effect of budgeting strategies on financial sustainability of projects managed by Ruwasa

*Alternative Hypothesis: ( $HA_1$ ):* There is the effect of budgeting strategies on financial sustainability of projects managed by Ruwasa

*Null Hypothesis: ( $H_{o2}$ ):* There is no effect of financial controlling systems on financial sustainability of projects managed by Ruwasa

*Alternative Hypothesis: ( $HA_2$ ):* There is the effect of financial controlling systems on financial sustainability of projects managed by Ruwasa

*Null Hypothesis: ( $H_{o3}$ ):* There is no influence of stakeholders' involvement on financial sustainability of projects managed by Ruwasa

*Alternative Hypothesis: ( $HA_3$ ):* There is the influence of stakeholders' involvement on financial sustainability of projects managed by Ruwasa

*Null Hypothesis: ( $Ho_4$ ):* There is no relationship between financial control systems and financial sustainability of projects managed by Ruwasa

*Alternative Hypothesis: ( $HA_4$ ):* There is a relationship between financial control systems and financial sustainability of projects managed by Ruwasa

## **1.6 Significance of the Study**

The findings of this study add significantly to the sparse body of literature that is currently available on the variables affecting the financial viability of water agency projects in Tanzania. Consequently, this study represents a significant improvement in knowledge. By include a look at financial control systems and their effect on the financial viability of water agencies in Tanzania, it also advances earlier research in the topic. This expansion lays the stage for future research projects to investigate additional crucial agency operations processes that can endanger their continuity. The study's conclusions also provide managers and policymakers in the water sector with insightful information about the elements that endanger agency viability and offer suggestions for how to handle these issues successfully to ensure financial sustainability. The paper provides recommendations for future policy measures to ensure the long-term viability of these agencies for policymakers. The findings of this study can serve as a point of reference for the researcher during their pursuit of a Master's degree in project management at the Open University of Tanzania

### **Scope of the Study**

This research concentrated on the activities of the Rural Water Supply and Sanitation Agency (RUWASA) situated within the Muheza District Council (MDC) of the Tanga Region, located in the northeastern corner of Tanzania. The selection of Muheza District Council as the study area was deliberate due to the presence of two distinct community management models, namely, the Community Owned Water Supply Organizations (COWSOs) and the Community Based Water Supply Organizations (CBWSOs). These two entities

were chosen as the focus of data collection based on their differing management approaches.

### **1.7 Study Structure**

This study has been structured into five chapters. In the first chapter, background information is presented. The second chapter encompasses a thorough review of relevant literature associated with the research topic. Chapter three outlines the research methodology employed in this study. The fourth chapter entails the presentation of research findings and their subsequent discussion. Finally, the fifth chapter comprises the conclusions drawn from the study's findings and the recommendations that emerge as a result.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Chapter Overview**

This chapter discusses the definition of key concepts, theoretical and empirical review; and conceptual framework of the study.

#### **2.2 Key Concepts**

##### **2.2.1 Financial Sustainability**

Financial sustainability pertains to an organization's capability to establish a robust resource foundation, enabling it to maintain its structural integrity and continuously deliver benefits to its intended beneficiaries, even without relying on financial support from donors or governmental sources (Ashoka & Maingo, 2015). At its core, the concept of financial sustainability represents an imperative for the persistence, resilience, or advancement of a process, organism, or resource, encompassing vital natural resources like water (Wang Hua et al., 2010). Within the context of this study, financial sustainability refers to the organization's capacity to enhance budgeting strategies, financial control systems, and stakeholder engagement to ensure the perpetuation of projects while simultaneously enhancing the quality and quantity of rural water supply initiatives. This is aimed at meeting the existing and future water requirements of rural areas as envisaged.

##### **2.2.2 Project**

This is an example of a short-term project that is started to achieve goals through

providing deliverables in order to provide a distinctive product, service, or outcome. Projects' transient nature suggests that they have a clear start and finish (PMBOK, 2017).

### **2.2.3 Rural Water Supply and Sanitation Agency (RUWASA)**

This newly established agency is in charge of planning and managing water supply and sanitation projects, as well as providing water services in rural areas. The 2019 Water Supply and Sanitation Act No. 5 gave permission for the creation of this agency. The Rural Water Supply and Sanitation Agency (RUWASA) was established as a result of this Act's various provisions, taking over duties that had previously been handled by the PO-RALG (President's Office - Regional Administration and Local Government), regional secretariats, and local government authorities (LGAs). The majority of these delegated duties center on making sure that water services are available to small towns, rural areas, and district offices.

Additionally, the Water Supply and Sanitation Act No. 5 of 2019 moved the Ministry of Water's accountability for authorities in charge of providing water services away from PO-RALG, RSs, and LGAs. Unlike the former organization, which had offices at the LGA level and RSs, the newly constituted RUWASA functions with offices at the headquarters, regional, and district levels. On July 1st, 2019, RUWASA began operating across mainland Tanzania, excluding Dar Es Salaam, and has its headquarters in Dodoma, the capital of Tanzania.

There are numerous goals behind the creation of RUWASA, a new regulating body

for rural water services. These include centralizing and improving accountability for the provision of services in rural areas as well as increasing capability and professionalism in the management and operation of rural water supplies. In addition, organizations like the Association of Tanzanian Water Suppliers (ATAWAS), an umbrella organization, and the Water Institute at Ubungo both contribute to assisting Urban Water Supply and Sanitation Authorities (UWSSAs) in addressing urgent issues like high non-revenue water (NRW) and financial sustainability.

### **2.3 Theoretical Literature Review**

This study was guided by two theories namely; accounting process theory and resource dependency theory as hereunder.

#### **2.3.1 Accounting Process Theory**

This philosophy covers a range of guidelines, prescriptions, strategies, tactics, and customs. There is a need for adaptability in the field of accounting as our economic system continues to grow in both breadth and complexity. To ensure that significant information about economic activity may be reliably captured, this adaption is essential. The framework established by accounting theory, according to Kershaw and Harrell (2009), ensures that financial and accounting procedures comply with the demands of consistency and consistency. It is crucial that those working in accounting understand this adaption process. Furthermore, having a solid understanding of both the foundational structure and the accounting theory is necessary for such comprehension.

The foundation of accounting theory is a set of dual-natured economic fundamentals. The foundation of accounting theory is first and foremost found in ideas that are widely held within a society's economic system. These underlying economic principles are similar to natural laws in that specific causes have precise effects. A person's net worth, or wealth, will have increased by the surplus amount if they receive more value from a deal than they invested in it. This is also a basic economic truth. Concepts and postulates are used to express these economic facts (Damerji et al., 2020). Concepts and postulates are formulations of the fundamental truths or assertions upon which the theory is built, according to a study on the development of accounting theory by Do et al. (2020). Instead of trying to dictate how the accounting process should operate, they act as the guiding principles for building the financial control system's framework. This theory adds to the study by highlighting how an organization can attain financial sustainability as particular causes result in specific effects by putting an emphasis on strategic budgeting and financial management systems.

### **2.3.2 Resource-dependency Theory**

A strategic management concept called resource-based theory (RBT) places a focus on a company's internal resources and capabilities as the sources of its competitive advantage. This theory's foundational assumptions and guiding principles form the basis of its insights. RBT assumes that businesses in a particular industry have unique sets of resources and competencies. These resources can include material possessions (like buildings and other physical infrastructure), immaterial possessions

(like patents and brand recognition), and organizational capabilities (like effective systems and a knowledgeable personnel). These resources' diversity offers the chance to establish a competitive advantage.

On the other side, Pfeffer and Salancik (1978) created the resource dependency theory (RDT). RDT asserts that because resources are few, organizations must seek out and maintain resources from their surrounding environment, according to Kumar et al. (2020). The theoretical framework "The External Control of Organizations: A Resource Dependence Perspective" also looks at how organizations are affected by their environment, particularly their reliance on outside resources. This idea emphasizes how crucial it is to manage and restrain these dependencies in order to maintain organizational autonomy and accomplish desired results.

According to the Resource-Based View (RBV), a firm is just a collection of resources, and this perspective emphasizes that what sets one firm apart from another is the combination of these resources. In essence, this method analyzes the organization from the inside out. It starts by looking at the organization's internal environment.

In contrast, the RDT theory explores the internal characteristics of businesses to clarify the variations in their performance and strategy. From this perspective, a company can be seen as an ordered and unique collection of elements, or resources and skills. Resources are the total assets that a company has amassed and include everything that it can use to create, produce, or sell its products. Resources can



function independently of business members, can be protected legally (enabling enterprises to exercise property rights over them), and can contribute to production by transforming inputs into outputs that meet market demands, as Anderson et al. (2020) emphasize. According to Ibrahim et al. (2020), resources can include money, tools, the expertise of certain personnel, patents, financial assets, and knowledgeable management.

#### **2.4 Empirical Literature Review**

Do et al. (2020) carried out a study with the goal of offering recommendations for an all-encompassing strategy. In the context of Ethiopian rural water projects administered by the community, their research examined alternative interpretations of sustainability. The respondents' various viewpoints on sustainability were evident. Some stressed economic factors like cost recovery and financial self-sufficiency in particular. Others considered institutional concerns, such as the ability of the government or outside organizations to offer continuous managerial support after the project is completed. Others still gave the environmental aspect some thought, taking into account the ecological sustainability of water supply and the natural processes that preserve water sources. The study then incorporated these elements and operationalized them in a sustainability study in two ways: through pre-project and post-project analyses as well as by looking at elements inside the community (like capacity and education, social cohesion, and fee collection) and outside the community (involving follow-up support, skilled technicians, support from policy

environments, and ensuring a consistent supply of clean water). The study came to the conclusion that the consequences of financial sustainability are influenced by one's view of sustainability and the elements that influence it, including when and where these aspects are applied during a project's lifespan.

A review of the variables affecting non-governmental organizations (NGOs) in Africa was done in a study by Anderson et al. (2020). They discovered that the financial viability of organizations in Africa was influenced by governmental policies, organizational management, and funding sources. Additionally, Thottoli et al. (2019) investigated the methods used by NGOs in Africa to improve their financial sustainability, emphasizing the significance of organizational structure, internal financial funding, strategic alliances, and strategic financial management.

The process of defining, costing, and allocating resources and activities required for accomplishing an organization's goals is known as budgeting, according to study by Bashorun et al. (2020). Creating an organizational chart outlining functional responsibilities, setting up budget centers, putting in place sufficient accounting records for transaction recording and analysis, forming budget committees, defining a budget timetable for timely information flow, and developing a budget manual with specifics on budgetary procedures, including budget centers and timetables, were found to be crucial preliminary steps. In their conclusion, they stressed the need to reforecast and redistribute resources in

order to maximize the available financial resources for the fiscal year under consideration.

On the other hand, Bakr (2020) carried out a study to comprehend budgeting strategies and their effect on the monetary performance of courier services in Kenya. The results of the study showed a strong correlation between these organizations' financial performance and budgeting strategies. In a similar vein, Thottoli et al. (2020) proposed that, when embraced by businesses, budgetary involvement plays a critical role in enhancing information sharing and interchange among different management levels, helping to better target achievement.

A study conducted in 2019 by Mwangi and Wanyoike evaluated the variables influencing the sustainability of rural water schemes. They emphasized that whilst an ecological model takes into account biological variety and ecological integrity, an economic model attempts to sustain natural and financial capital. Political models emphasize societal structures that uphold human dignity. According to their conclusions, water resources are sustainable when different activities do not deplete the material resources on which they depend.

Carter (2021) focused on water users and pricing in his research in low-income nations like Tanzania. The report brought attention to Tanzania's and other developing nations' many rural communities with artificially cheap water pricing.

Due to the low prices, there were insufficient water finances and unsustainable water supply services, which created problems including a lack of spare parts and the inability to expand and renovate water supply systems past their intended lifespans. Customer desire to pay was also impacted by poor water quality and inadequate service. The study came to the conclusion that one of the main problems with water pricing was the divergent expectations of water rates among water users and operators.

A World Bank report from 2020 claims that in order to increase community members' willingness to pay (WTP) for water, it is necessary for them to first comprehend the value of water and its accompanying expenses. When the price of water is connected to the delivery of services, this understanding can be strengthened because services tend to get better when payments are made. This can be accomplished by involving the community more deeply in tariff setting and cost-benefit analyses of the entire project's costs, including both direct and indirect costs.

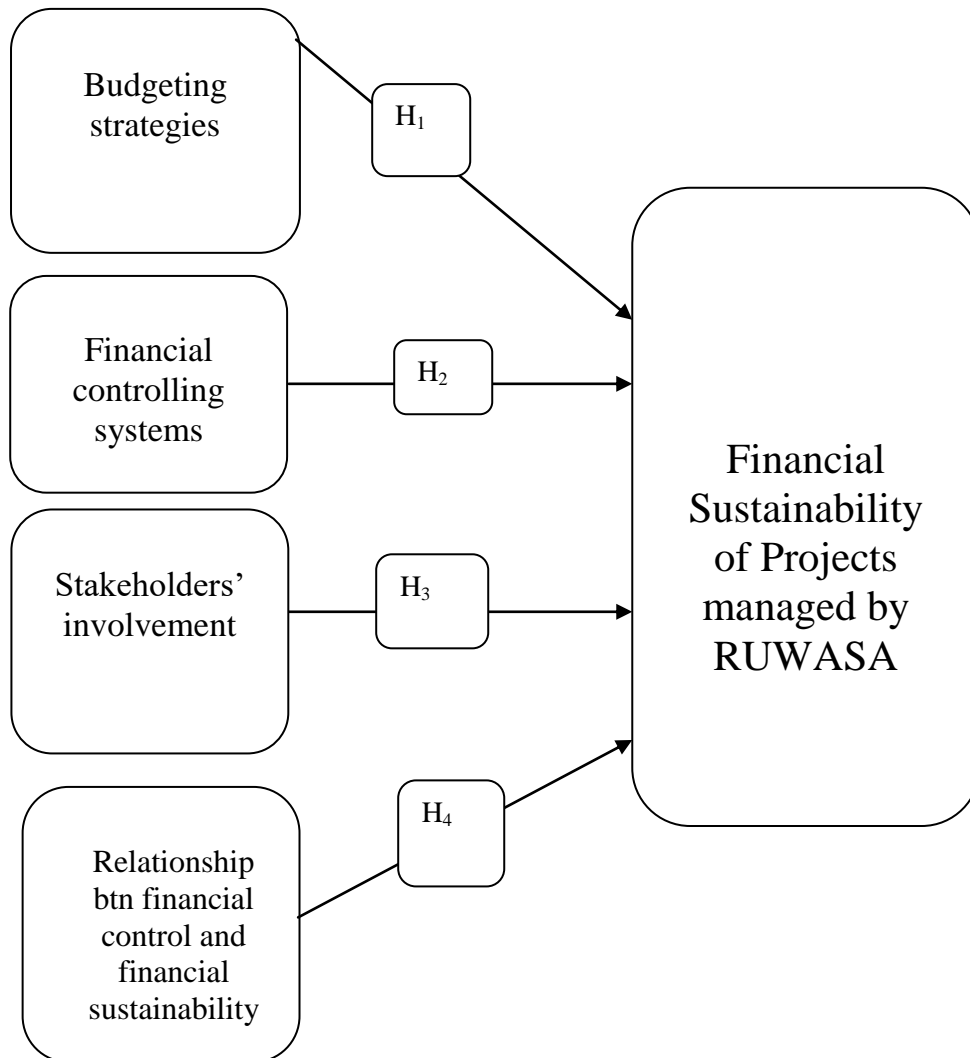
## **2.5 Research Gap**

Despite the growing body of literature on financial sustainability in rural water supply and sanitation projects, there is a notable research gap when it comes to understanding the factors influencing financial sustainability in the specific context of Muheza District Council. Existing studies have primarily focused on broader rural settings or urban areas, neglecting the unique challenges and opportunities that Muheza presents. Furthermore, there is a scarcity of in-depth case studies and recent empirical research that specifically investigates

the financial sustainability of projects managed by the Rural Water Supply and Sanitation Agency in Muheza District Council. By addressing this research gap, our study aims to shed light on the nuanced factors that impact financial sustainability in this specific locale, thereby providing valuable insights for policy formulation and project management in rural water supply and sanitation initiatives.

## **2.6 Conceptual Framework**

According to Yin (2003), the conceptual framework is an abstract notion or theory used to create new concepts or reinterpret ones that already exist. It is shown in Figure 2.1. It clarifies how dependent and independent variables are related to one another. The financial sustainability of projects is the dependent variable in this study, and the independent variables are everything that affects it. This conceptual framework's main goal is to evaluate how financial sustainability concerns affect the projects that RUWASA manages. The conceptual framework described below serves as an example.



**Figure 2.1: Conceptual Framework**

**Source:** Researcher's Model (2022)

## **2.7 Theoretical Framework**

### **2.7.1 The Relationship Effect of Budgeting Strategies on Financial Sustainability of Projects Managed by Ruwasa**

The theoretical relationship between budgeting strategies and the financial sustainability of projects managed by Ruwasa suggests that effective budgeting practices are likely to have a positive impact on the organization's ability to secure

funding, control costs, and ensure the long-term viability of its projects. However, empirical research and data analysis would be necessary to confirm the actual impact of specific budgeting strategies on Ruwasa's project financial sustainability.

*H<sub>1</sub> Effective budgeting strategies have a significant positive effect on the financial sustainability of projects managed by Ruwasa.*

### **2.7.2 The Relationship Effect Financial Controlling Systems Budgeting Strategies on Financial Sustainability of Projects Managed by Ruwasa**

the theoretical relationship between financial controlling systems and budgeting strategies on the financial sustainability of projects managed by Ruwasa suggests that the integration of these elements is likely to lead to improved financial management, reduced risks, and enhanced long-term project viability. Empirical research and data analysis would be needed to validate the actual impact of these practices on Ruwasa's project financial sustainability.

*H<sub>2</sub> Effective financial controlling systems, when integrated with sound budgeting strategies, have a positive and significant effect on the financial sustainability of projects managed by Ruwasa.*

### **2.7.3 The Relationship Effect of Stakeholders' involvement on Budgeting Strategies on Financial Sustainability of Projects Managed by Ruwasa**

The theoretical relationship between stakeholders' involvement and budgeting strategies on the financial sustainability of projects managed by Ruwasa suggests that active engagement of stakeholders can lead to improved resource allocation, regulatory compliance, funding partnerships, and overall project success. Empirical

research and data analysis would be necessary to validate the actual impact of stakeholder involvement on Ruwasa's project financial sustainability.

*H<sub>3</sub> Increased stakeholders' involvement in budgeting strategies positively influences the financial sustainability of projects managed by Ruwasa.*

The Relationship Effect between financial control systems and Budgeting Strategies on Financial Sustainability of Projects Managed by Ruwasa

the theoretical relationship between financial control systems and budgeting strategies on the financial sustainability of projects managed by Ruwasa suggests that the integration of these elements can lead to improved financial management, reduced risks, and enhanced long-term project viability. Empirical research and data analysis would be necessary to validate the actual impact of these practices on Ruwasa's project financial sustainability.

*H<sub>4</sub>; The integration of effective financial control systems with budgeting strategies positively influences the financial sustainability of projects managed by Ruwasa.*



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Chapter Overview**

The methodical technique used to perform this research is presented in this chapter. It consists of the research philosophy, the study design, the population and sample size, the sampling techniques, the types of data, the tools used for data collecting, the types of measurements, the reliability and validity, the management and analysis of the data, and the ethical issues.

#### **3.2 Research Philosophy**

A research philosophy is a set of ideas about how information about a topic should be gathered, examined, and used. The various ideologies directing the research process are referred to as epistemologies, which are concerned with what is known to be true rather than what is thought to be true (referred to as doxology). Research philosophy essentially forms the basis for a number of research-related activities, such as issue formulation, data collecting, processing, and analysis (Greene et al., 2010).

The positivist, interpretivist, pragmatist, and realistic research theories have all been identified and studied by several academics. According to positivist research philosophy, it is possible to understand society objectively. This method places the researcher in the position of an objective analyst who is free from bias and works independently. Contrarily, the interpretivist research theory contends that

comprehension of the social environment is complex and prone to human interpretation. Here, the emphasis switches to comprehending how people interact with the social world, and the researcher takes on a new role in monitoring and analyzing it. This theory contends that the researcher's personal interests have an impact on their research.

The pragmatist research philosophy emphasizes the importance of real-world data and contends that the choice of research philosophy is mostly influenced by the research question. In this approach, practical outcomes are highly valued, giving researchers the freedom to choose the methodologies, strategies, and procedures that best suit their unique needs and study goals. The world is not seen by pragmatics as a perfect unity.

The realistic research philosophy also incorporates ideas from interpretivism and positivism. It admits that acknowledging the subjectivity of human experience is necessary (Greene et al., 2010).

A pragmatic research philosophy was used in this study because of its emphasis on adaptability and the freedom to select research methodologies. Triangulation was additionally used, combining quantitative and qualitative approaches. It's vital to remember that this study only used a quantitative methodology.

### **3.3 Research Design**

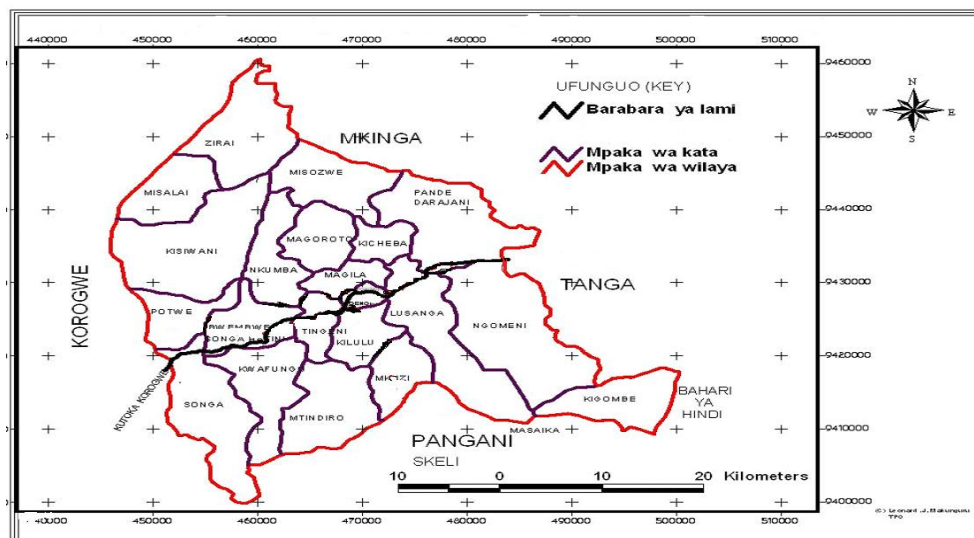
A research design, according to Kothari (2009), is the conceptual framework through

which the research is carried out. It serves as the manual for gathering, measuring, and analyzing data. A cross-sectional approach to research will be used in this study. This cross-sectional approach uses a questionnaire or interviewing plan to gather data. When using a cross-sectional technique, the components of the sample being surveyed are frequently chosen at random or on purpose in order to draw conclusions about the population as a whole. Cross-sectional research strategy, according to Zheng (2015), is a research methodology in which the researcher examines the situation in a population at a certain moment.

The cross-sectional approach is especially useful when the context of the research event is crucial and the researcher has little control over how these context-dependent events play out. Given the interpretive attitude taken in this research and the nature of the research enquiries, this design is thought to be the best option. It offers a methodical approach to data gathering, information analysis, and result reporting, providing a thorough understanding of a particular issue or circumstance. An empirical inquiry that analyzes a contemporary phenomenon within its actual setting, particularly when the lines separating the phenomenon and its context are blurred, is described as a cross-sectional design or approach by Yin (2003). As a result, this study explores the elements that affect sustainability, taking into account four independent variables: budgeting techniques, financial control frameworks, stakeholder engagement, and the connection between financial control and financial sustainability.

### 3.4 Study Area

The Tanga Region's Muheza District Council (MDC), where the research was conducted, provided the setting. Muheza District is bordered to the north by Mkinga District, to the east by Tanga and the Indian Ocean, and to the south by Pangani and Handeni Districts. Muheza town serves as the district's administrative hub. Figure 3.1 provides a graphic representation of the map of the Muheza District.



**Figure 3.1: Map of Muheza District**

Due to the existence of the two types of management models, Community Owned Water Supply Organization and Community Based Water Supply Organization, Muheza District Council was chosen as the study area in order to collect a sample of communities with a representative range of systems and analyze their financial sustainability at the same time.

### 3.5 Population and Sample Size

#### 3.5.1 Population

According to Cooper and Schindler (2014), the study population consists of the individuals, occasions, or records that have the necessary data and can provide answers to the research questions. This study was carried out at Ruwasa, Muheza, where there are approximately 372 residents, including both community-based and community-owned water supply organization officers.

#### 3.5.2 Sample Size

Any empirical study with the intention of drawing conclusions about the population from a sample must consider the sample size as a key component. In actuality, the sample size is determined by the costs of data collection and the requirement for adequate statistical power. According to empirical research, a sample or sub-sample of 30 cases is the absolute minimum for investigations, regardless of the size of the population (Bailey, 2004).

**Table 3.1: Sample Size**

No.	Respondents	Population	Sample
1	COWSOs officers	120	55
2	CBWSOs officers	250	75
3	Project managers	02	02
<b>Total</b>		<b>372</b>	<b>132</b>

### 3.6 Sampling Procedures

Because the researcher might choose people who have the necessary information based on the nature of the problem, a purposive sampling approach was adopted. By

concentrating on individuals with strong knowledge and comprehension of the variables influencing the financial sustainability of projects handled by RUWASA, the purposive technique was applied. As a result, project managers, COWSOs officers, and CBWSOs officers were employed.

### **3.7 Types of Data**

Data are actual facts, figures, and other basic elements from the past or present that are used as the foundation for research and analysis (Saunders et al., 2012). The researcher employed primary data to amass ample and practical data. Primary data are those that are gathered from scratch and for the first time, making them unique. Questionnaires were used to collect the primary data (Kothari, 2009). The information gathered covered examining the impact of budgeting strategies on the financial viability of projects managed by Ruwasa, the impact of financial controlling systems on the financial viability of projects managed by Ruwasa, determining the impact of stakeholder involvement on the financial viability of projects managed by Ruwasa, and examining the relationship between financial control systems and financial viability of projects managed by Ruwasa.

### **3.8 Data Collection Tools**

The study relied on a well-designed questionnaire as its primary technique of data collection in order to achieve its aims. Closed-ended questions were included in questionnaires that were created and distributed to respondents at different levels. Respondents were answered closed-ended questions using a Likert scale, and they

were instructed to check the response that best fit their preferences. As a result, respondents completed a number of surveys.

Because they are effective, affordable, and simple to administer, questionnaires are chosen (Mugenda & Mugenda, 2003). The researcher personally distributed the questionnaires and patiently awaited the responses from the participants. Depending on the level of education and experience of the staff inside the company in question, a closed-ended questionnaire was employed in this study. This approach has the advantage of allowing the researcher to assess the entire organization over the subject of interest. It is practical since it collects data at a low cost from a big number of people (Kothari, 2009).

### **3.9 Type of Measurements**

According to some rule of correspondence, measurement is the process of mapping domain-specific characteristics onto range-specific characteristics (Kothari, 2009). The nominal, ordinal, interval, and ratio scales are the categories of measurement scales that are most frequently employed. A nominal scale is a method of labeling events with numbers, such as Male-1 and Female-2. Events are arranged according to ordinal scale, but no attempt is made to equalize the intervals of the scale in accordance with some law. As a result, this is the bottom level of the generally used ordered scale. In order to make the unit equal, interval scales are typically changed in accordance with a rule that has been defined. Comparatively speaking, this scale offers a stronger measurement than the ordinal scale. Ratio scale: This scale has a

genuine or outdated zero. It displayed the variables' actual values.

A nominal scale was utilized by the researcher. The researcher was able to describe distinctions between variables like male and female, and other sections, by using a nominal scale.

### **3.10 Reliability and Validity of Data**

#### **3.10.1 Reliability**

The consistency of a research study, a measuring test, or the reproducibility of findings are all examples of reliability. The reliability of research findings depends on their ability to be regularly replicated (Cresswell, 2009). According to Mohajan (2017), reliability refers to the consistency of a test's or measuring instrument's results, or the consistency with which a test measures what it is intended to measure. It is the capacity for measurements or the extent to which an instrument measures consistently each time it is used with the same subjects and environmental conditions. There is no question regarding the researcher's conclusions because they were achieved using a scientific research approach. Anyone who followed the same steps would certainly have the same or even better outcomes (Mohajan, 2017).

In this investigation, a pilot study was conducted to assess the reliability of the questionnaire in the relevant study area; following this, changes were made in order to acquire accurate data for the study. The researcher was then able to examine the characteristics of measurement scales and the components that go into making them. Since the accuracy or precision of a measuring device affects the dependability of



data, in this research study, reliability was focused on the consistency of responses to the questions in repeated measurements (Carmines and Zeller, 2006).

### **3.10.2 Validity**

According to Cresswell (2009), an instrument's validity is determined by its capacity to accurately measure the notion that it is intended to measure. It also describes the research's legitimacy or plausibility. The researcher asked the experts to endorse the representativeness and suitability of the data and instruments (questionnaires) utilized in the research in order to validate them. In addition, the researcher permitted modifications to be made to the question structure, as claimed by Cooper and Schindler (2008). By selecting a sample that was a real representative of the population, creating an effective research tool, using the right techniques for data collecting, pre-testing the research instruments, and properly recording the data, the validity of the results in this study was ensured (Mohajan, 2017).

## **3.11 Management and Analysis of Data**

### **3.11.1 Data Management**

Following data editing, coding, and analysis, flaws and biases in the ratings given by respondents were found and eliminated. The elements were then coded, and data analysis software was used to examine the data. In this section, it is made very explicit how the data was checked, corrected, cleansed of errors, and analyzed, along with the program that was utilized (Kothari, 2004). It required methodically arranging large amounts of raw data that were gathered in a way that made data analysis easy. The researcher immediately assigned numbers to the closed-ended

questions. Using SPSS software version 20 with multiple regression analysis, data were coded, classified, and edited to guarantee their completeness, accuracy, clarity, and meaning before being interpreted.

### **3.11.2 Data Analysis**

Every field data collecting day's completed questionnaires were reviewed for accuracy and consistency of data before being stored. Statistical software for Social Sciences (SPSS) were used to clean, code, and enter the data from the completed questionnaires for analysis. The software packages allowed the researcher to do percentage, mean, and standard deviation analyses on the data.

Additionally, the influence of the proposed collection of determinants on financial sustainability was examined using multiple regression analysis. When more than one independent variable and one dependent variable were employed, multiple regression analysis was used to predict the relationship that existed between the variables (Hair et al., 2014). Because there are four independent variables—budgeting strategy, financial controlling systems, stakeholder involvement, and the relationship between financial control and financial sustainability—and one dependent variable—financial sustainability—in this study, multiple regression analysis was used to analyze the data. The contribution of each independent variable to the dependent variable was of interest to the researcher.

The following regression model was used

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Whereby:

$Y$  = Dependent Variable (financial sustainability)

$\beta_0$  = y intercept (Constant)

$\beta_1$  = regression coefficient for budgeting strategy

$\beta_2$  = regression coefficient for financial controlling systems

$\beta_3$  = regression coefficient stakeholders' involvement

$\beta_4$  = regression coefficient for relationship between financial control  
and financial sustainability

$X_1$  = budgeting strategy

$X_2$  = financial controlling systems

$X_3$  = stakeholders' involvement

$X_4$  = relationship between financial control and financial sustainability

$\varepsilon$  = error term

### **Assumptions of Multiple Regression**

When conducting a multiple regression analysis, numerous assumptions are made about the gathered data (Pallant, 2005). Linearity, normality, autocorrelations, multicollinearity, and multiple linear regression analysis are only a few of the assumptions.

i) The assumption of linearity

This presumption demands that there be a linear relationship between the dependent and independent variables. In order to evaluate this assumption, Pearson correlation was used.

#### ii) Assumption of Normality

This presumption necessitates that the independent variable-related errors have a normal distribution. Skewness and kurtosis were used to assess this. Additionally, a guideline level for skewness-kurtosis of 2.58 was used to ensure that all variable errors met the requirements of a normal distribution.

#### iv) Assumption of Autocorrelations

According to Osborne and Waters (2002), autocorrelations describe the independence of errors among independent variables. This assumption was tested using the Durbin-Watson statistic. Additionally, Field (2009) points out that a Durbin-Watson coefficient between 1.5 and 2.5 ensures negligible autocorrelations.

#### iv) Assumption of Multicollinearity

The Variance Inflation Factor (VIF) and Tolerance Rate were calculated to assess this presumption. The general rule recommending a minimum amount of collinearity among independent variables is followed by both VIF and tolerance. According to Stevens' (2009) theory, low multicollinearity is indicated by a large tolerance and low VIF. While the VIF spans from 1 to 10, the tolerance rate coefficient ranges from 0 to 1.

#### v) Analysis of Multiple Linear Regression

The R-squared variable, which measures how much variance in the model is explained by independent variables, should show the regression analysis's results. The results showed that the model's statistical significance level was (p.000).

### **3.12 Ethics-Related Matters**

Every step of this investigation was rigorously conducted in accordance with ethical research guidelines. The necessary licenses were secured from the appropriate authorities before the research could begin. Respondents were assured of the anonymity of the information they supplied, and the study team only used the data collected for academic purposes. Additionally, privacy was maintained, and study data continued to be available in accordance with data management protocol. The following ethical issues were also taken into account:

#### **i) Acknowledged Consent**

Participants received a detailed written statement outlining every aspect of the trial. Before the study began, they had to formally consent to take part by signing the consent form.

#### **ii) Disguise**

Without any type of compulsion or false information, participants had the choice to voluntarily engage in the study. To protect the welfare of participants throughout the study, transparency and voluntary engagement were highly encouraged.

#### **iv) Anonymity and Confidentiality**

Participants' information was managed with the strictest confidentiality, ensuring that no one other than the researcher had access to any individual data or participant names (Cresswell, 2009). Participants were also informed that their names and addresses, as well as other private information, would not be shared without their express consent.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

#### **4.1 Introduction**

The findings from the investigation into the variables influencing the financial viability of projects handled by Ruwasa with reference to Muheza District Council are presented in this chapter. The demographic data are examined in the first section. The effects of budgeting strategies and financial controlling systems on the financial viability of projects are both examined in the second and third parts, respectively. Additionally, the fourth part identifies the impact of stakeholders' involvement on the financial viability of projects, and the final part investigates the connection between financial control systems and the financial viability of projects under Ruwasa's management. First, the next section presents and discusses the demographic data.

#### **4.2 Demographic Information**

The demographic information include; gender, age, length of service with the organisation and employment status. Table 4.1 shows the results.

**Table 4.1: Demographic Information**

<b>Category</b>	<b>Frequency</b>	<b>Percentage %</b>
<b>Gender</b>		
Male	82	62.2
Female	50	37.8
<b>Age (in years)</b>		
< 20	04	3.0
21-30	32	24.3
31-40	54	40.9
41-50	18	13.6
51 and above	24	18.2
<b>Employment Status</b>		
Permanent	38	28.8
Casual	94	71.2
<b>Length in service (in Years)</b>		
1-2	8	6.1
3-4	44	33.3
5-7	56	42.4
8 and above	24	18.2

**Source: Research data, 2022**

#### **4.2.1 Gender**

As depicted in Table 4.1, the study's gender composition revealed that 62.2% of the respondents were males, while 37.8% were females. The predominance of males in the study can be attributed to their more extensive involvement in leadership roles within projects managed by Ruwasa. Nevertheless, it is noteworthy that the contribution of females to projects overseen by Ruwasa was significant and played a substantial role in the study.

#### **4.2.2 Age**

The data in Table 4.1 pertaining to age distribution indicates that 3% of respondents were below the age of 20. Respondents between the ages of 21 to 30 constituted 24.3% of the sample, while those aged 31 to 40 accounted for 40.9%. Additionally,

individuals falling within the 41 to 50 age group represented 13.6%, while those aged 51 and above comprised 18.2% of the respondents. Notably, the high representation of respondents aged 31 to 40 can be attributed to their significant job experience.

#### **4.2.3 Employment Status**

As indicated in Table 4.1, 28.8% of the respondents held permanent employment positions, while the remaining 71.2% were categorized as casual workers who engaged in project-related work for a limited duration.

#### **4.2.4 Length in Service**

The data in Table 4.1 reveals that 6.1% of respondents had a work experience ranging from 1 to 2 years, 33.3% possessed 3 to 4 years of experience, 42.4% had accumulated 5 to 7 years of experience, and 18.2% boasted work experience exceeding 8 years. Those with over 5 years of experience were noted for their ability to perform their duties with less supervision compared to their counterparts.

### **4.3 Impact of Budgeting Strategies on the Financial Sustainability of Ruwasa-Managed Projects**

The primary objective of this study was to assess the influence of budgeting strategies on the financial sustainability of projects under Ruwasa's management. Questionnaires were administered to solicit respondents' opinions and gauge whether the study's hypotheses were validated or rejected. The perspectives of the respondents are presented in Table 4.2 as follows



**Table 4.2: Effects of Budgeting Strategies**

Statements	% strongly agree	% agree	% uncertain	% disagree	% strongly disagree	X <sup>2</sup>
Ruwasa consistently use periodic budgets to enable its financial sustainability	80	20	0	0	0	0.129 <sup>NS</sup>
Ruwasa periodically reviews budgets and other financial plans in line with its mission to improve its financial outlook	90	10	0	0	0	0.109 <sup>NS</sup>
Ruwasa staff involvement in budgeting and strategic designing of financial tools has improved the prudent use of resources	85	15	0	0	0	0.013 <sup>NS</sup>
The budgeting methods used in Ruwasa ensure that all funding of operations and projects are within the specified limits	75	25	0	0	0	0.123 <sup>NS</sup>
There is effective communication of the budgets and other strategic financial plans at Ruwasa	70	0	30	0	0	0.134 <sup>NS</sup>
Ruwasa has a comprehensive annual budget which includes sources and use of funds	75	25	0	0	0	0.210 <sup>NS</sup>

NS=Non Significant P> 0.05

Source: Research data, 2022

The null hypothesis is (Ho1): Budgeting procedures have no impact on the ability of projects managed by Ruwasa to remain financially solvent. The effect of budgeting procedures on the financial viability of projects under Ruwasa's management is an alternative hypothesis (HA1). As a result, the alternative hypothesis is accepted and the null hypothesis is rejected.

The study's primary goal was to determine how budgeting techniques affected the financial viability of the projects that Ruwasa was in charge of managing. According to Table 4.2's findings, most respondents (on average, 79%) agreed that budgeting strategies did not generally have a statistically significant impact (P>0.05) on the

financial sustainability of projects supervised by RUWASA. This suggests that respondents agreed with how the projects should be managed to get high-quality service.

According to Table 4.2's findings, 80% of respondents strongly agreed and 20% agreed that Ruwasa regularly employed periodic budgets to ensure its financial sustainability. This suggests that Ruwasa was able to manage and utilise monies collected from user fees and donor-related funding to support the initiatives by being able to divide its annual budget into smaller timeframes. These pay periods were considered to be helpful since all of the money coming in and going out was concentrated in one well-managed basket. Furthermore, it was discovered that recurring expenses were far less frequent and were reported in a quarterly fashion, but they did occur in predictable quantities and intervals. This is consistent with Bartle's (2008) assertion that businesses with budget strategies use them to maintain their resource levels. The strategies serve as instruments for planning and regulating the use of limited financial resources with the goal of establishing a firm's financial sustainability since they are crucial for the management of finances in organizations.

Contrarily, according to Table 4.2's results, 90% of respondents strongly agreed and 10% agreed that Ruwasa should routinely examine its budgets and other financial strategies in order to better serve its objective. This suggests that Ruwasa periodically reviewed the budgets at the end of each month and used the data to prepare the following budget. Additionally, the organization was able to evaluate the whole budget at least once a year to ensure that the overall financial objectives were

met. Through increased revenue and an improved financial outlook, this strategy allowed Ruwasa to strengthen its financial viability. According to Little et al. (2012), budgets frequently set performance goals for the unit in terms of expenses, revenues, and/or production in order to achieve sustainability. The aforementioned claims are consistent with their findings.

Additionally, according to Table 4.2's findings, 85% of respondents strongly agreed, while 15% of respondents agreed, that the judicious use of resources was improved by Ruwasa staff participation in budgeting and the strategic design of financial instruments. This suggests that Ruwasa employees took part in budget creation, giving them ownership of it. It was also discovered that the participation of the staff produced participatory budgets that enabled the management and employees to share useful information, support the adoption of accurate and realistic budgets, inspire workers, and boost confidence in superiors, budgets, and procedures. This subordinate participation gave people a chance to freely participate in the budget-setting process. Lewis (2011) stated that rural water programs are not financially feasible if they just rely on user fees to cover all (life-cycle) costs; they should go beyond staff participation in the budgeting process. The points above are in agreement with that remark.

Additionally, according to Table 4.2's data, 75% of respondents strongly agreed and 25% agreed that Ruwasa's budgeting techniques made sure that all financing for operations and projects stayed within the predetermined limitations. When discussing

the completed periodic budgeting reviews, this was clear. It was discovered that the evaluated budget stayed within the set boundaries. This is in line with Bartle's (2008) assertion that benefit/cost ratios of access to better water show that the societal benefit of investments in improved drinking water typically outweighed the expenses involved when the budgets set in place could not go beyond the boundaries.

In a similar vein, Table 4.2's findings demonstrate that 70% of respondents strongly agreed, while 30% were hesitant, that budgets and other strategic financial plans are effectively communicated at Ruwasa in a way that allows water supply to be in line with the budget proposed. It was discovered that distributing a budget to all parties involved gave rise to a structured method for organizing, monitoring, and evaluating the results of expectations that helped promote the company.

Nevertheless, Table 4.2's findings reveal that 25% of respondents and 75% of strongly agreed respondents believed that Ruwasa has a thorough annual budget that details the sources and usage of cash. This suggests that when everyone contributes, the budget accomplishes the objectives as intended. The aforementioned claim is in agreement with Little et al. (2012), who argued that financial sustainability is reached with a thorough budget that is periodically evaluated by stakeholders.

The findings generally indicate that Ruwasa regularly employed periodic budgets to enable its financial sustainability and that it used periodic reviews budgets and other financial plans in keeping with its objective to improve its financial outlooks.

Ruwasa did, however, include its workers in resource management through budgeting and strategic financial instrument creation. By effectively communicating budgets and other strategic financial plans, it also made sure that all funding activities and projects stayed within the allotted parameters, allowing for the delivery of water to match the set budget. This was accomplished through the careful management of resources and the creation of an extensive annual budget.

#### **4.3 Effect of Financial Controlling Systems on financial sustainability of projects managed by Ruwasa**

The second objective of the study examined the effects of financial controlling systems on financial sustainability of projects managed by RUWASA. Questionnaires were self-administered among respondents in order to know if the goals achieved the desired results while testing the hypothesis for acceptance or rejection. The respondents' views are presented as in Table 4.3 as follows;

**Table 4.3: Effects of Financial Controlling Systems**

Statements	% strongly agree	% agree	% uncertain	% disagree	% strongly disagree	X <sup>2</sup>
The accounting policies and recording procedures are clearly documented in written policies	80	10	10	0	0	0.132 <sup>NS</sup>
Ruwasa ensures separation of responsibility in the receipt, payment and recording of cash	90	10	0	0	0	0.123 <sup>NS</sup>
Ruwasa has accounting entries supported by appropriate documentation	85	15	0	0	0	0.214 <sup>NS</sup>
Maintains up-to-date annual accounting records	80	20	0	0	0	0.209 <sup>NS</sup>
Ruwasa carries out annual audits	95	05	0	0	0	0.155 <sup>NS</sup>
Poor financial management has hindered the full achievement of the organization's mission	0	0	0	10	90	0.090 <sup>NS</sup>
There are proper and timely financial reports	70	30	0	0	0	0.078 <sup>NS</sup>

NS=Non Significant P> 0.05

Source: Research data, 2022

The null hypothesis is that financial regulating systems have no impact on the financial sustainability of the projects that Ruwasa manages (Ho2). Alternative Hypothesis: (HA2) Financial controlling mechanisms have an impact on the financial viability of projects under Ruwasa's management. As a result, the alternative hypothesis is accepted and the null hypothesis is rejected.

The study's second goal looked at how financial controlling mechanisms affected the financial viability of the projects that RUWASA controlled. According to Table 4.3's findings, in general, most respondents (71.4%) agreed that financial regulating systems did not generally have statistically significant effects on the financial sustainability of projects supervised by Ruwasa (P>0.05). This suggests that

respondents supported what users required to obtain high-quality service.

According to Table 4.3's findings, eighty percent of respondents strongly agreed and ten percent agreed that the accounting policies and recording methods were adequately described in written policies. This suggests that Ruwasa followed its policies in a way that made it possible for it to maintain its financial stability. Accounting policies encompass the tenets, foundations, customs, regulations, and procedures that a company employs in the preparation and presentation of financial statements, with other circumstances or events applying the same standard. Furthermore, 10% of respondents were unsure about the issue due to the fact that not all policies are always followed.

Additionally, Table 4.3's findings reveal that 90% of respondents strongly agreed, while only 10% agreed, that Ruwasa ensures the division of labor in the receiving, payment, and recording of cash. This suggests that responsibility separation improved financial sustainability. As a result, each stakeholder was able to work together to manage the projects at Ruwasa. The aforementioned claims are consistent with those made by Kumar (2011), who discovered that financial control systems are policies and practices, whether financial or not, put in place to make sure an organization's operations are carried out effectively and efficiently in order to protect its assets. Ruwasa was able to improve its services by managing finances as needed.

Similar findings are shown in table 4.3, where 15% of respondents and 85% of

respondents strongly agreed that Ruwasa had accounting entries that are well backed by documentation. This means that whatever is used must be accompanied by the paperwork to prove the cost. Additionally, it was highlighted that the organization was able to get value for money by clearly tracing every dollar with documentation. But in order to guarantee correctness and comprehensiveness of transactions, documents at Ruwasa have supplied a financial record for each activity. The aforementioned assertions accord with OECD (2009) that documentations that demonstrate expenses, revenues, inventories, personal, and other sorts of transactions made in the project are necessary to provide financial control. When such documentation is completed, the finance department takes over the role of the regulating department, which improves value for money.

Additionally, Table 4.3's findings reveal that 80% of respondents strongly agreed, while 20% agreed, that Ruwasa keeps current annual accounting records, ensuring that all expenditures and funds were taken into account. This suggests that keeping accounting records allowed the organization to effectively manage its resources. Lewis (2011) reported that with correct accounting records, the firm is able to fully manage finance through the information and evidence it utilizes to compile, verify, and/or audit the financial statements. The comments made above are consistent with that report. For the purpose of creating liabilities and providing evidence of monetary and non-monetary transactions, documentation is employed to demonstrate asset ownership. This has been a common controlling tactic in businesses.



Nevertheless, Table 4.3's findings reveal that 95% of respondents strongly agreed, while just 5% disagreed, that Ruwasa conducts annual audits. This is a necessary problem, and it has always been solved. The pursuit of value for money in its interactions is what matters. Additionally, Ruwasa has been able to analyze its financial statements by comparing performance to prior years thanks to the annual audits it conducts. The aforementioned assertion is in line with Kisinga's (2014) report, according to which the organization assures its performance and profitability by conducting annual audits. External auditors always carry out this task.

On the other hand, according to Table 4.3's data, 10% of respondents disagreed and 90% strongly disagreed that the organization's goal has been hampered by inadequate financial management. The outcomes are different from what Ruwasa had hoped for because it was successful in achieving its financial management objectives. Finally, Table 4.3's findings reveal that 30% of respondents and 70% of respondents strongly agreed that there are accurate and timely financial reports. This suggests that Ruwasa was successful in making its financial reports available to its stakeholders in the way that was required. To further help the financing team, the executive team, and other stakeholders understand how the operations were conducted, Ruwasa was able to share its financial records as a critical issue. The aforementioned assertions are in line with Anderson et al's (2020) report, which stated that evidence-based reporting must be done properly in order to assist organizations through the enhancement of financial information's quality and timeliness, which enables an organization to make major changes, if any. Furthermore, fast financial information enables decision-

makers to start working right away. Therefore, after the conclusion of the reporting period, financial reports should be released as quickly as possible.

Overall, the findings demonstrate that Ruwasa consistently used periodic budgets to enable its financial sustainability, ensured responsibility separation in the receipt, payment, and recording of cash, had accounting entries supported by appropriate documentations, and maintained up-to-date annual accounting records, something that ensured that all expenditures and funds were taken into consideration. Ruwasa does, however, improve accurate and timely financial reports.

#### 4.4 The impact of stakeholders' involvement on the projects managed by Ruwasa's ability to sustain their financial viability

The final goal of the study was to determine how stakeholder involvement affected the financial viability of the projects that RUWASA administered. Respondents self-administered questionnaires to determine whether the aims were met while assessing the validity of the hypothesis. The opinions of the respondents are shown in Table 4.4 as follows;

**Table 4.4: Influence of Stakeholders' involvement**

Statements	% strongly agree	% agree	% uncertain	% disagree	% strongly disagree	X <sup>2</sup>
Involvement of stakeholders in operational and water user fee payment	90	10	0	0	0	0.119 <sup>NS</sup>
Involvement of stakeholders in maintenance through user fee payment	85	15	0	0	0	0.100 <sup>NS</sup>
Involvement of stakeholders in making sure that water is affordable for all	80	20	0	0	0	0.122 <sup>NS</sup>
Involvement of stakeholders in making sure that water is accessible for all	80	20	0	0	0	0.132 <sup>NS</sup>
Involvement of stakeholders with a wider benefit on financial viability of water supply	70	30	0	0	0	0.119 <sup>NS</sup>

NS=Non Significant P> 0.05

Source: Research data, 2022

The null hypothesis (Ho3) states that the involvement of stakeholders has no impact on the ability of projects managed by Ruwasa to remain financially viable. The involvement of stakeholders in projects administered by Ruwasa has an impact on their financial sustainability, according to a different hypothesis (HA3). As a result, the alternative hypothesis is accepted and the null hypothesis is rejected.

The final goal of the study was to determine how stakeholders' involvement affected the financial viability of the projects that RUWASA administered. The findings in Table 4.4 demonstrate that, on average, most respondents (81%) agreed that the involvement of stakeholders had an impact on the financial sustainability of the projects handled by RUWASA, but this agreement was not statistically significant at P>0.05 in most cases. This suggests that respondents approved of the existing

stakeholder influence's contribution to achieving high-quality service.

According to Table 4.4's results, 90% of respondents strongly agreed, while 10% agreed, that incorporating stakeholders in operational and water user fee payment had an impact on Ruwasa's ability to sustain its financial position. This suggests that including stakeholders enhanced the likelihood of incorporating appropriate feedback from them, increasing the likelihood that they would own the project. Due to the involvement of all significant stakeholders, the payment of the water user charge also appeared to increase. Contrary to what the UN asserted in 2009, the statements made above show that most organizations that depend on governments and donors find it difficult to fund their projects and programs because of the strict financial and accounting standards set by the donors and governments. According to the findings made in Ruwasa, stakeholders contributed more to making projects sustainable.

In addition, Table 4.4's findings indicate that 85% of respondents strongly agreed, while 15% agreed, that the participation of stakeholders in maintenance through user fee payment had an impact on the sustainability of financial operations. It was discovered that more stakeholders may participate in project management the more user fees were used to maintain the projects' infrastructures. The aforementioned assertion is in line with OECD's 2009 research, which found that user fee participation from stakeholders is crucial for ensuring the organization's financial viability.

In a similar vein, Table 4.4's findings demonstrate that 80% of respondents strongly agreed, while 20% agreed, that Ruwasa's ability to be financially viable was

influenced by stakeholders' efforts to ensure that water is affordable for all. It was discovered that with such participation, stakeholders were able to contribute important data that aided in achieving the objectives that Ruwasa had set. This is in line with Lewis' assertion from 20110 that when stakeholders are effectively involved in a project's implementation, the organization has the chance to use its resources effectively, which inspires and shapes everyone involved in the project's success.

Nevertheless, Table 4.4's findings indicate that although 20% disagreed and 80% strongly agreed that stakeholders' efforts to provide universal access to water had an impact on financial sustainability. It was discovered that stakeholders were urged to preserve the water sources, which aided in easy access to water. The findings corroborate the claim made by Do et al. (2020) that including stakeholders might ultimately save time and money while maintaining initiatives that are funded by different contributors. According to data, organizations that involve stakeholders have a better probability of completing a project on schedule and within their projected budget. The reduction of obstacles and surprises that could hinder the organization's process can result in those savings.

The results in Table 4.4 also reveal that 30% of respondents and 70% of respondents strongly agreed that Ruwasa's financial sustainability was influenced by the involvement of stakeholders who had a wider impact on the financial viability of the water supply. It was discovered that involving stakeholders increases end users'

commitment to the new system's success. When end users have contributed to the development of the change and have come to share some of the responsibility for its success, engagement becomes crucial and commitment is developed. The aforementioned assertion supports Kisinga's (2014) argument that projects' poor financial viability results in money being spent on repairs rather than expanding water systems. The project fails if something is done without involving stakeholders.

Overall, the findings indicate that Ruwasa's financial viability was influenced by incorporating stakeholders in the payment of operating and water user fees. However, the participation of stakeholders in upkeep through the payment of user fees and ensuring that water is accessible to all had an impact on Ruwasa's financial sustainability. The financial sustainability of Ruwasa was also influenced by the participation of stakeholders who had a wider impact on the financial viability of water supply.

#### 4.4 The connection between financial control systems and the long-term financial viability of projects under Ruwasa's management

The study's fourth goal looked at the connection between financial control mechanisms and the long-term financial viability of the projects that RUWASA manages. Respondents self-administered questionnaires to determine whether a relationship existed while assessing the validity of the hypothesis. The opinions of the respondents are shown in Table 4.5 as follows;

**Table 4.5: Relationship between financial control systems and financial sustainability of projects**

Statements	% strongly agree	% agree	% uncertain	% disagree	% strongly disagree	X <sup>2</sup>
Elimination of debt level	90	10	0	0	0	0.09 <sup>NS</sup>
Enhancement of project completion rate	85	15	0	0	0	0.119 <sup>NS</sup>
Management of general resources	80	20	0	0	0	0.122 <sup>NS</sup>
Enhancing the adequacy of resources	90	10	0	0	0	0.131 <sup>NS</sup>

NS=Non Significant P> 0.05

Source: Research data, 2022

The null hypothesis (Ho4) states that there is no connection between financial control procedures and the long-term financial viability of the projects that Ruwasa manages. Alternative Hypothesis (HA4): Financial sustainability of projects managed by Ruwasa and financial control systems are related. As a result, the alternative hypothesis is accepted and the null hypothesis is rejected.

The study's fourth goal looked at the connection between financial control mechanisms and the long-term financial viability of the projects that RUWASA manages. According to Table 4.5's findings, in general, 86 percent of respondents agreed that financial control systems and the financial viability of projects handled by RUWASA were related, however this association was not statistically significant at P>0.05. This suggests that respondents supported the partnership in order to obtain quality service.

According to Table 4.5's findings, 90% of respondents strongly agreed, while 10%

agreed, that reducing debt levels has a direct impact on a project's ability to be financially sustainable. User fee payments that appeared to be made on time allowed for this to be accomplished. In addition, Table 4.5's findings indicate that 85% of respondents strongly agreed and 15% agreed that there is a positive correlation between financial control systems and project sustainability in terms of advancing on-time project completion. The aforementioned claims are in line with those made by OECD (2009), who argued that a service's need for financial sustainability serves as its fuel. Thus, the reduction of debt and timely project completion reveals that public service revenues, or the "3-Ts," may come from general taxation (which funds national budgets), tariffs (payments made by consumers), and transfers (funds provided by donors through official development assistance).

In contrast, Table 4.5's findings indicate that 20% of respondents and 80% of respondents strongly agreed that the management of general resources accounts for the relationship between financial control systems and the financial sustainability of a project. It was discovered that RUWASA was capable of managing the resources to the point where the projects could continue. Similar findings are shown in Table 4.5, where 90% of respondents strongly agreed and 10% agreed that improving the adequacy of resources is the relationship between financial control systems and the financial sustainability of a project. This was made possible by the fact that every resource used and required for the project was carefully cared for and put to use. The aforementioned assertion is in line with the claim made by Do et al. (2020), who contend that resource management makes sure resource managers have on-demand,



real-time visibility into people and other resources so they can exert more control over delivery. When resources are used effectively, a business can minimize expenses, increase efficiency, and increase productivity.

In general, the findings indicate that the relationship between financial control systems and the project's financial sustainability was that of lowering the level of debt, accelerating project completion, managing general resources, and improving the sufficiency of resources.

## **4.7 Inferential Statistics on Variables**

### **4.7.1 Assumptions of Multiple Regression**

Multiple regression analysis assumes a number of assumptions about the collected data (Pallant, 2005). Some of the assumptions include; linearity assumption, normality assumption, Autocorrelation's assumption, Multicollinearity assumption and Multiple linear regression analysis.

#### **a) Linearity Assumption**

This assumption necessitates that the connection between dependent and independent variables demonstrates linearity. To examine this assumption, Pearson correlation analysis was employed. The findings reveal that there exists a statistically significant positive linear relationship between financial sustainability of projects and the independent variables ( $p < 0.001$ ) [one-tailed]. Furthermore, the relationships between these variables exhibit notably strong positive or negative values. For instance, budgeting strategies displayed a negative correlation, with  $r(132) = -0.173$ , financial

controlling systems exhibited a negative correlation, with  $r(132) = -0.145$ , stakeholders' involvement showed a negligible correlation, with  $r(132) = -0.002$ , and the association between financial control systems and financial sustainability was negatively correlated, with  $r(132) = -0.098$ , as illustrated in Table 4.6.

**Table 4.6: Linearity Assumption**

		<b>Correlations</b>				
		Financial Sustainability	Budgeting strategies	Financial controlling systems	Stakeholders' involvement	Relationship btn financial control and financial sustainability
Pearson Correlation	Financial Sustainability	1.000	-.173	-.145	-.002	-.098
	Budgeting strategies	-.173	1.000	.826	.277	.229
	Financial controlling systems	-.145	.826	1.000	.311	.161
	Stakeholders' involvement	-.002	.277	.311	1.000	.708
	Relationship btn financial control and financial sustainability	-.098	.229	.161	.708	1.000
Sig. (1-tailed)	Financial Sustainability	.	.024	.048	.492	.131
	Budgeting strategies	.024	.	.000	.001	.004
	Financial controlling systems	.048	.000	.	.000	.032
	Stakeholders' involvement	.492	.001	.000	.	.000
	Relationship btn financial control and financial sustainability	.131	.004	.032	.000	.
N	Financial Sustainability	132	132	132	132	132
	Budgeting strategies	132	132	132	132	132
	Financial controlling systems	132	132	132	132	132
	Stakeholders' involvement	132	132	132	132	132
	Relationship btn financial control and financial sustainability	132	132	132	132	132

**b) Normality Assumption**

This presumption requires errors to have regularly distributed independent variables. Kurtosis and Skewness were used to test for normalcy. Additionally, all variables' errors are presumed to have a normal distribution in accordance with the Skewness-

Kurtosis rule of thumb of 2.58. Table 4.7 provides a picture of the test.

**Table 4.7: Skewness and Kurtosis coefficients**

Variable	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Budgeting strategies	132	<b>-.510</b>	.717	<b>.114</b>	.225
Financial controlling systems	132	<b>-1.100</b>	.717	<b>1.001</b>	.225
Stakeholders' involvement	132	<b>-.324</b>	.717	<b>-.120</b>	.225
Relationship btn FC & FS	132	<b>.305</b>	.717	<b>-.650</b>	.225

#### c) Autocorrelations Assumption

According to Osborne and Waters (2002), autocorrelations indicate that errors between independent variables continue to be independent. This assumption was tested using Durbin-Watson. Furthermore, Field (2009) points out that when Durbin-Watson's coefficient is between 1.5 and 2.5, it ensures low autocorrelations. Results are shown in Table 4.8.

**Table 4.8: Durbin-Watson Test**

Model	R	R Square	Model Summary <sup>b</sup>							Durbin-Watson
			Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics F	df1	df2	Sig. F Change	
1	.224 <sup>a</sup>	.050	.020	.823	.050	1.685	4	127	.157	.191

a. Predictors: (Constant), Relationship btn financial control and financial sustainability, Financial controlling systems, Stakeholders' involvement, Budgeting strategies

#### d) Multicollinearity Assumption

The Variance Inflation Factor (VIF) and Tolerance Rate were calculated to verify this presumption. The thumb rule, which assumes very little collinearity between

independent variables, is followed by VIF and tolerance. According to Stevens (2009), the presence of low multicollinearity is implied by low VIF and substantial tolerance. VIF ranges from 1 to 10, whereas the tolerance rate coefficient spans from 0 to 1. Table 4.9 displays the outcomes.

**Table 4.9: Multicollinearity Assumption**

Model	Collinearity Statistics		
	Tolerance	VIF	
	(Constant)		
1	Budgeting strategies	.303	3.299
	Financial controlling systems	.295	3.391
	Stakeholders' involvement	.452	2.210
	Relationship btn financial control and financial sustainability	.474	2.110

**e) Multiple Linear Regression Analysis**

The results of the regression analysis should show a R Square value, which implies that independent variables account for a percentage of the fluctuations in the model. The findings show that the model had a ( $p < 0.000$ ) level of statistical significance. The analysis is shown in Table 4.10.

**Table 4.10: Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig
1	.992 <sup>a</sup>	.985	.985	.096	0.000

**Table 4.11: Regressions Coefficients**

Model	Unstandardized Coefficients		Standardized	t	Sig.
	B	Std. Error	Coefficients Beta		
(Constant)	1.379	.225		6.122	.000
Budgeting strategies	-.089	.117	-.120	-.761	.448
Financial controlling systems	-.069	.148	-.075	-.470	.639
1 Stakeholders' involvement	.359	.239	.193	1.501	.136
Relationship btn financial control and financial sustainability	-.181	.116	-.195	-1.556	.122

According to regression coefficients in Table 4.11, all variables were highly significant predictors of the model ( $p < 0.000$ ). This shows that an increase in budgeting techniques accounts for a decrease in financial sustainability of -0.089 units. A 0.069-unit drop in financial sustainability is explained by an increase in one unit of financial controlling systems. Additionally, a 0.359 unit increase in financial sustainability is explained by every unit increase in stakeholder involvement. Additionally, a single unit increase in the link between FC and FS accounts for a concomitant -0.081 decrease in financial sustainability.

The following regression model was used

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

**Then;**

$$Y = \beta_0 + BS \beta_1 + FC \beta_2 + SI \beta_3 + RFC \& FS \beta_4 + \varepsilon$$

Whereby:

$$Y = \text{Financial Sustainability (FS)}$$

$\beta_0 = \text{Constant}$

$\beta_1 = \text{regression coefficient of budgeting strategies}$

$\beta_2 = \text{regression coefficient of financial controlling systems}$

$\beta_3 = \text{regression coefficient of stakeholders' involvement}$

$\beta_4 = \text{regression coefficient of relationship between financial control and financial sustainability}$

BS = Budgeting strategies

FC = Financial controlling systems

SI = Stakeholders' involvement

RFC& FS = Relationship between financial control and financial sustainability

$\varepsilon = \text{error term}$

*Hence,*

$$Y = 1.379 + (-0.089) \beta_1 + (-0.069) \beta_2 + 0.359 \beta_3 + (-0.181) \beta_4 + \varepsilon$$

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the conclusion and recommendations arising from the study findings. It finally presents the areas for further research.

#### **5.2 Conclusion**

Access to continuous water supply is a key for improving health and economic outcomes in rural areas of low and middle-income countries, but the factors associated with financial sustainability of projects managed by water authorities and agencies in these areas have not been well considered. The general objective of the study to investigate the factors influencing financial sustainability of projects managed by Rural Water Supply and Sanitation Agency (Ruwasa) with reference to Muheza district council. It is concluded that Ruwasa consistently used periodic budgets to enable its financial sustainability, utilized periodic reviews budgets and other financial plans in line with its mission to improve its financial outlooks. Yet, it involved its staff in budgeting and strategic designing of financial tools something that improved the prudent use of resources. It also ensured that all funding operations and projects were within the specified limits through the use of effective communication of budgets and other strategic financial plans to the extent of enabling the supply of water to be in line with the budget put. This was achieved with a comprehensive annual budget that includes sources and prudent use of funds.

Further, Ruwasa consistently used periodic budgets to enable its financial

sustainability, ensured separation of responsibility in the receipt, payment and recording of cash, had accounting entries supported by appropriate documentations and maintained up to date annual accounting records something that ensured that all the expenditures and funds were taken into considerations for the enhancement of proper and timely financial reports. Similarly, Ruwasa involved stakeholders in its operational and water user fee payment something that influenced financial sustainability. Yet, the involvement of stakeholders in maintenance through user fee payment and making sure that water is affordable for all influenced financial sustainability with a wider benefit on financial viability of water supply. Additionally, the relationship between financial control systems and financial sustainability of project was that of eliminating debt level, enhancing the project completion in time, managing general resources and enhancing the adequacy of resources.

### **5.3 Recommendations**

The subsequent recommendations are put forward based on conclusion as follows;

- (i) It is recommended that, budgeting strategies need to be enhanced while involving projections that are attainable.
- (ii) It is also recommended that financial controlling systems need to be enhanced for the purpose of enabling all projects managed by Ruwasa to attain their goals
- (iii) It is recommended that stakeholders need to be involved in all stages of project planning and implementation to help projects in achieving the participatory benefits



- (iv) It is recommended that financial control systems need to attain financial sustainability when proper means are used to get rid of unnecessary debt, managing resources and completing projects in time

#### **5.4 Areas for Further Studies**

The study investigated the factors influencing financial sustainability of projects managed by Ruwasa with reference to Muheza district. It is advised that further studies be done on the following issues.

- i) The factors influencing social sustainability of projects managed by Ruwasa in other districts in Tanzania.

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## APPENDICES

### Appendix 1: Research Budget

The following is the budget that will support the execution of the study. The whole budget will come from the researcher's pocket money.

<b>Budget Items</b>	<b>Details</b>	<b>Cost (Tshs)</b>
Research proposal preparation and submission	-Proposal preparations and stationeries	350,000/=
	-Tools preparation	150,000/=
Sub-Total		500,000/=
Pilot study	-Transport	80,000/=
	-Training 3 research assistants @ 20,000/= per diem per person for 2 days	120,000/=
Sub-Total		200,000/=
Primary Data collection	-Transport to and from study area 30 days	1,500,000/=
	-Subsistence allowance for principal research @ 25,000/= * 30 days	750,000/=
	-Subsistence allowance for research assistant @ 15,000/= * 30 days	1,800,000/=
Sub-Total		4,050,000/=
Data processing and report writing	-Data entry, cleaning and editing	140,000/=
	-Correction of dissertation	80,000/=
	-Printing and photocopy	70,000/=
	-Soft binding 4 copies @ 12,000/=	48,000/=
	-Hard binding 5 copies @ 50,000/=	250,000/=
Sub-Total		588,000/=
<b>TOTAL</b>		<b>5,338,000/=</b>

## Appendix 2: Work Plan

The research will take seven months from November 2021 to May 2022 as hereunder;

Year	2021 & 2022						
Activity / Month	Nov	Dec	Jan	Feb	Mar	Apr	May
Proposal writing & submission							
Data collection & documentation							
Data analysis and organization							
Thesis development and referencing							
Thesis printing, submission, and correction							
Thesis final report printing and submission							
Publication of research journal							

### Appendix 3: Research Questionnaire

*Dear Prospective Respondent;*

This questionnaire is designed to solicit information from you. The purpose of this research is for the academic award of a Master's degree in project management from the Open University of Tanzania. Kindly fill in the required information as per the researcher's requirement.

Gender: Male ( ), Female ( )

Age: under 20 ( ), 21 to 30 ( ), 31 to 40 ( ), 41 to 50 ( ), over 50 ( )

Length of services with the organization (In years) -----,

Employment status: Permanent ( ), Casual ( )

*For each of the following aspects shown below rate your level of agreement using the following Likert type scale provided:*

Agreement: 1= strongly agree, 2= Agree, 3= Not sure, 4= Disagree, 5= strongly disagree

Na.	Budgeting Strategies	Level of agreement				
1.	Ruwasa consistently use periodic budgets to enable its financial sustainability	1	2	3	4	5
2.	Ruwasa periodically reviews budgets and other financial plans in line with its mission to improve its financial outlook	1	2	3	4	5
3.	Ruwasa staff involvement in budgeting and strategic designing of financial tools has improved the prudent use of resources	1	2	3	4	5
4.	The budgeting methods used in Ruwasa ensure that all funding of operations and projects are within the specified limits	1	2	3	4	5
5.	There is effective communication of the budgets and other strategic financial plans at Ruwasa	1	2	3	4	5
6	Ruwasa has a comprehensive annual budget	1	2	3	4	5



	which includes sources and use of funds					
	<b>Financial Control Systems</b>	<b>Level of agreement</b>				
7	The accounting policies and recording procedures are clearly documented in written policies	1	2	3	4	5
8	Ruwasa ensures separation of responsibility in the receipt, payment and recording of cash	1	2	3	4	5
9	Ruwasa has accounting entries supported by appropriate documentation	1	2	3	4	5
10	Maintains up-to-date annual accounting records	1	2	3	4	5
11	Ruwasa carries out annual audits	1	2	3	4	5
12	Poor financial management has hindered the full achievement of the organization's mission	1	2	3	4	5
13	There are proper and timely financial reports	1	2	3	4	5
	<b>Influence of Stakeholders' involvement on financial sustainability</b>	<b>Level of agreement</b>				
14	Involvement in operational and water user fee payment	1	2	3	4	5
15	Involvement in maintenance through user fee payment	1	2	3	4	5
16	Involvement of stakeholders in making sure that water is affordable for all	1	2	3	4	5
17	Involvement of stakeholders in making sure that water is accessible for all	1	2	3	4	5
18	Involvement of stakeholders with a wider benefit on financial viability of water supply	1	2	3	4	5
	<b>Relationship btm financial control system &amp; financial sustainability of projects</b>	<b>Level of agreement</b>				
19	Elimination of debt level	1	2	3	4	5
20	Enhancement of project completion rate	1	2	3	4	5
21	Management of general resources	1	2	3	4	5
22	Enhancing the adequacy of resources	1	2	3	4	5