

**ORGANIZATIONAL CAPACITY AND SUSTAINABILITY OF WATER DEVELOPMENT
PROJECTS IN MAVOKO SUB COUNTY, MACHAKOS COUNTY**

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Text

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT OF THE AWARD OF MASTER OF ARTS DEGREE IN PROJECT
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DECLARATION

I declare that this project is my original work and has not been presented in any University for the award of any certificate

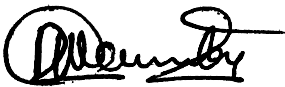
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This research has been presented for examination with my approval as the University lecturer.



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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Water scarcity and its related implications is a global challenge affecting every continent. Even without global water scarcity being such a significant problem, a huge number of regions are reporting chronic shortage of water. Additionally, projects implemented to help eradicate water problems have not been sustainable. Rodriguez (2019) observes that the Sub-Saharan Africa suffers most due to unavailability of clean and safe drinking water, poor sanitation and hygiene compared to other regions in the world. Due to this reason, the UN assembly 2010 classified this issue and included it in the UN development agenda. WHO (2015) also indicates that the situation is worse for the 768 million people who use unhygienic and unsafe drinking water for lack of any alternative sources of water.

Water is paramount to survival of humanity and therefore access to safe water is a key driver to wellbeing as well as economic development. Various interventions and strategies to help combat the water scarcity problem. Nevertheless, achieving the expected access to water has been a challenge over the years. Kwena (2021), observed that despite concerted efforts and deployment of resources to solve water problem, there is still acute water shortage across the globe.

Water scarcity has been perennial, causing dire stress to communities particularly those in semi-arid regions. Mavoko is the commercial and industrial hub of the county and falls within the semi-arid region. The area is largely affected by recurring dry spell and sometimes drought making the county rivers seasonal and incapable of sustaining the community water needs. Athi river has been polluted hence its water is not reliable for human consumption. As such, the county government has sunk boreholes to supply water to the residents especially in Athi River town, Syokimau and Mlolongo. This is the main source of water which is seasonal making supply of water for domestic and agricultural use a big challenge (Munyui 2015). This assertion is in line with the KNBS (2019) statistics that indicates that majority of the population from rivers at 42.3% while 13.2% access water from boreholes with a

very small percentage of the populace enjoying tap water at 9.3% and access of water from dams 5.5%,

Sustainability is the basis for the international 2030 development agenda and the Sustainable Development Goals with an overall vision of poverty eradication, protection of the planet and peace and prosperity amongst people. Ruiz, et al. (2019) in a study on sustainability social indicators indicates that projects are likely to continue if the community members or project beneficiaries or their families have ownership over the project. Development practitioners' focus has been on sustainability of water development projects. However, a befitting model of implementing such projects is not firmly tested making sustainability of water development projects a mirage.

1.2 Statement of the Problem

Concerted efforts are evident towards achieving this noble course and often done through implementation of water development projects. Nevertheless, water problem seems to be chronic and never ending thus questioning the sustainability of these projects. Lack of persistent concern drives mass failure of water development projects in communities. Studies have pointed out reasons why projects fail or succeed and eventually become sustainable but the concern with sustainability is never ending. Chen et al, (2018), observes that water once considered being a renewable resource, is gradually becoming non-renewable. A study by Zamo (2016) examined project completion rates, project cost overruns and project quality as the main variables and drivers for project sustainability. The study found a direct relationship of this variable with project sustainability. Mwamachi, (2017) investigated the use of water management committee as a practice for project sustainability. The study established that many of the committees lacked financial, technical and leadership capacity. The study suggested further studies on resource mobilization and performance of water development management committees in their pursuit to enhance the sustainability of these projects. These studies have provided useful information on performance and sustainability of water development project. They made clear conclusions and recommendation to enhance sustainability drivers such as project leadership, organizational culture, monitoring and evaluation, capacity among others. However, there seems to be a gap as none of the studies answered the question of organizational capacity and sustainability of water development projects.

1.3. Purpose of the Study

This study aimed to examine the correlation between organizational capacity and the sustainability of water projects in Mavoko Sub County, Kenya.

1.4. Objectives of the Study

- i. To establish the influence of financial management capacity on sustainability of water development projects in Mavoko Sub County; Kenya
- ii. To investigate the influence of Human resource management plan capacity on sustainability of water development projects in Mavoko Sub County; Kenya
- iii. To establish the influence of Monitoring and evaluation capacity on sustainability of water development projects in Mavoko Sub County; Kenya

1.5. Research Questions

- i. How does financial management influence sustainability of community water projects in Mavoko Sub-County, Machakos County, Kenya?
- ii. How does human resource management plan influence sustainability of community water projects in Mavoko Sub-County, Machakos County, Kenya?
- iii. How does monitoring and evaluation influence sustainability of community water projects in Mavoko Sub-County, Machakos County, Kenya?

1.6 Research Hypothesis

H₀₁: There is no significance influence of financial management on sustainability of water projects in Mavoko Sub County; Kenya

H₀₂: There is no significance influence of human resource management plan sustainability of water projects in Mavoko Sub County; Kenya

H₀₃: There is no significance influence of monitoring and evaluation on sustainability of water projects in Mavoko Sub County; Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Framework

Lucia and Lepsigner (2009) state that a theoretical review consists of recognizing a collection of statements or principles that have been repeatedly tested or widely accepted.

2.1.1 Institutional Theory

Institutional theory is a sociological theory that examines the processes through which organizations become socially legitimized and acquire legitimacy. Institutional theory is based on the idea that organizations are not independent actors but are embedded in a larger social and institutional context. Organizations are subject to institutional pressures and norms that affect their behavior, strategies, and practices. Institutional pressures can be classified into three categories: coercive, mimetic, and normative.

Coercive pressures refer to the influence that formal and informal regulations, laws, and rules have on an organization. For example, an organization may comply with regulations and standards set by government agencies or industry associations to avoid penalties, fines, or reputational damage. Mimetic pressures refer to the tendency of organizations to imitate or copy the practices of other organizations in their environment. Organizations may adopt practices of other successful organizations in their industry or region, believing that these practices are effective and legitimate.

2.1.2 Technology Innovation Adaptation Theory

Researchers Hoening (1995), Lai, (2016) realised that the speed of development of payment systems depended on struggle between certain technological change and barriers to emergent technologies. The emergence of several theories aimed at explaining acceptance of new technologies and use is aimed at conviction towards these technologies and sustainable development. The proponent of the theory of diffusion of innovation focused at embracing of innovations by organization. It is a system through which members of a social system are communicated to via channels over time.

Parasuraman and Colby, (2001), observe that the technology readiness is the propensity of readiness to embrace and make use of new technologies which was the resultant of the classification forming the S shape. The definition of sustainability can be made in the background of sustainable supply of water which is; the unaltered flow of water for a period above the first investment; with the capacity of the continuous water flow and adequate provision of clean and safe water throughout a project lifetime (Brikké, 2001). This theory best informs sustainability of water supply systems.

2.2 Concept of Sustainability

There are many different definitions and frameworks for sustainability, reflecting the diverse range of perspectives and fields that have adopted this concept. Sustainability has been applied in a wide range of fields, from architecture and urban planning to agriculture and manufacturing. In architecture and urban planning, sustainable design principles emphasize efficient building materials, and the creation of green spaces to promote biodiversity and mitigate urban heat island effects (Glaeser, 2011). In agriculture, sustainable practices focus on minimizing the use of pesticides and fertilizers, promoting soil health, and protecting water resources (FAO, 2018).

The level of productivity of fish farming should be able to grow or increase if fish farming is to be sustainable. According to Piero (2018), levels of productivity are a determinant of sustainability. Low productivity levels are an indicator of a struggling sector and appropriate measures should be put in place to avert a reduction in productivity levels in fish farming (Adedeji, Olapade-Ogunwole, Farayola & Ogunjinmi, 2011). Production of large number of fish amongst farmers not only does it increase income among farmers but it also contributes to economic growth of a given region and/or country as well (Anokyewaa & Asiedu, 2019). In Ghana, Anokyewaa and Asiedu (2019) opine that the levels of fish production have increased in the last one decade. The increase has been attributed to favorable environmental conditions as well as proper management of fish ponds. In the lake region and other regions in Kenya, fish production has slightly increased in the last seven years (Chepng'etich, Nyamwaro, Bett & Kizito, 2015). This sub-construct has been adopted in a bid to assess the sustainability of fish farming in Chesumei Sub County.

The number of communities that benefit from fish farming activities is also an indicator of sustainability. The more the number of beneficiaries the high the chances of achieving sustainable fish farming (Huka, Ruoja & Mchopa, 2017). According to Kissoly, Faße, and Grote (2018), fish farming activities that have managed to serve many people in a society or region are able to generate enough income as well as create more job opportunities thus uplifting the entire society. Besides the number of communities that benefits from fish farming, levels of income generated is also an indicator of sustainability. Money is important when it comes to sustaining fish farming. Maniriho, and Bizoza, (2015), opine that viable fish farming should be able to generate enough income failure to which it is a recipe for a struggling sector. The indicator is also adapted to measure sustainability of fish farming in Cheshire Sub County.

2.2 Project Financial Management and Sustainability of water development Projects

Effective financial management is crucial for the sustainability of water development projects (Khaleel et al., 2021). The efficient utilization of financial resources and the timely allocation of funds are essential for project success. Financial management includes budgeting, accounting, financial reporting, and cash flow management. In water development projects, financial management also involves the coordination of funding from multiple sources, such as government grants, donor funds, and private sector investments.

Project managers play a critical role in financial management. They are responsible for ensuring that financial resources are used efficiently and effectively to achieve project objectives (Singer et al., 2020). Project managers must also ensure that financial risks are identified and managed effectively to ensure project success. Water development projects face several financial management challenges, including budget constraints, inadequate financial planning, and lack of transparency in financial reporting (Cruz et al., 2021). Other challenges include the complexity of funding arrangements and difficulty in accessing funding from different sources. The lack of financial expertise among project team members can also be a significant challenge.

To overcome financial management challenges in water development projects, project managers should adopt best practices such as accurate budgeting, cash flow management, and effective financial

reporting (Al-Khatib et al., 2021). Project managers should also establish financial controls to ensure compliance with financial regulations and ensure transparency in financial reporting. Additionally, they should ensure that project team members have the necessary financial expertise to manage project finances effectively. The sustainability of water development projects depends largely on the effective management of financial resources. Financial mismanagement can result in cost overruns, delays, and poor project performance, which can ultimately lead to project failure (Molapo & Makhetha, 2020).

Effective financial management is crucial for the sustainability of water development projects. Project managers play a critical role in financial management, and they must adopt best practices such as accurate budgeting, cash flow management, and effective financial reporting to overcome financial management challenges. The impact of financial management on project sustainability cannot be overstated, and project managers must ensure that financial resources are used efficiently and effectively to achieve project objectives and ensure long-term sustainability.

2.3 Human Resource Management Plan and Implementation of Development Projects

Project managers must also ensure that team members are motivated, engaged, and committed to project objectives. Development projects face several human resource management challenges, including the shortage of skilled personnel, poor workforce planning, and lack of motivation among team members (Barnard & Cloete, 2020). Other challenges include the difficulty in managing diverse teams and the need to balance project objectives with the needs of team members.

Development projects face several human resource management challenges, which can hinder the effective project implementation. Some of the challenges include the shortage of skilled personnel, poor workforce planning, and lack of motivation among team members, as identified by Barnard and Cloete (2020). It is therefore essential for project managers to address these challenges by employing effective human resource management practices.

Managing diverse teams is one of the significant challenges faced by project managers. This challenge arises from differences in cultural backgrounds, values, and beliefs. Project managers must be able to

manage diverse teams effectively by creating a collaborative and inclusive environment where team members can work together productively.

2.4 Project monitoring and evaluation and Sustainability of Water development projects

Project managers must also ensure that M&E data is used to inform project decision-making. Water development projects face several challenges in project monitoring and evaluation, including the lack of reliable data, inadequate funding, and inadequate technical expertise (Abubakar et al., 2019). Other challenges include the lack of stakeholder involvement and inadequate capacity building for M&E.

To overcome challenges in project monitoring and evaluation, project managers should adopt best practices such as using reliable data sources, involving stakeholders in M&E activities, and ensuring that project objectives are aligned with stakeholder needs (Makinde, 2020). Project managers should also ensure that M&E activities are conducted regularly and that project data is used to inform project. Effective M&E can help to identify potential problems early and ensure that resources are used effectively (Abubakar et al., 2019). It can also ensure that project objectives are met and that the project is aligned with stakeholder needs. The lack of effective M&E can result in project failure, poor project performance, and resource wastage.

Project monitoring and evaluation are critical for sustainability of water development. Project managers play a critical role in M&E, and they must adopt best practices such as using reliable data sources, involving stakeholders in M&E activities, and ensuring that project objectives are aligned with stakeholder needs. The impact of M&E on project sustainability cannot be overstated, and project managers must ensure that M&E activities are conducted regularly and that project data is used to inform project decision-making.

2.6 Conceptual framework

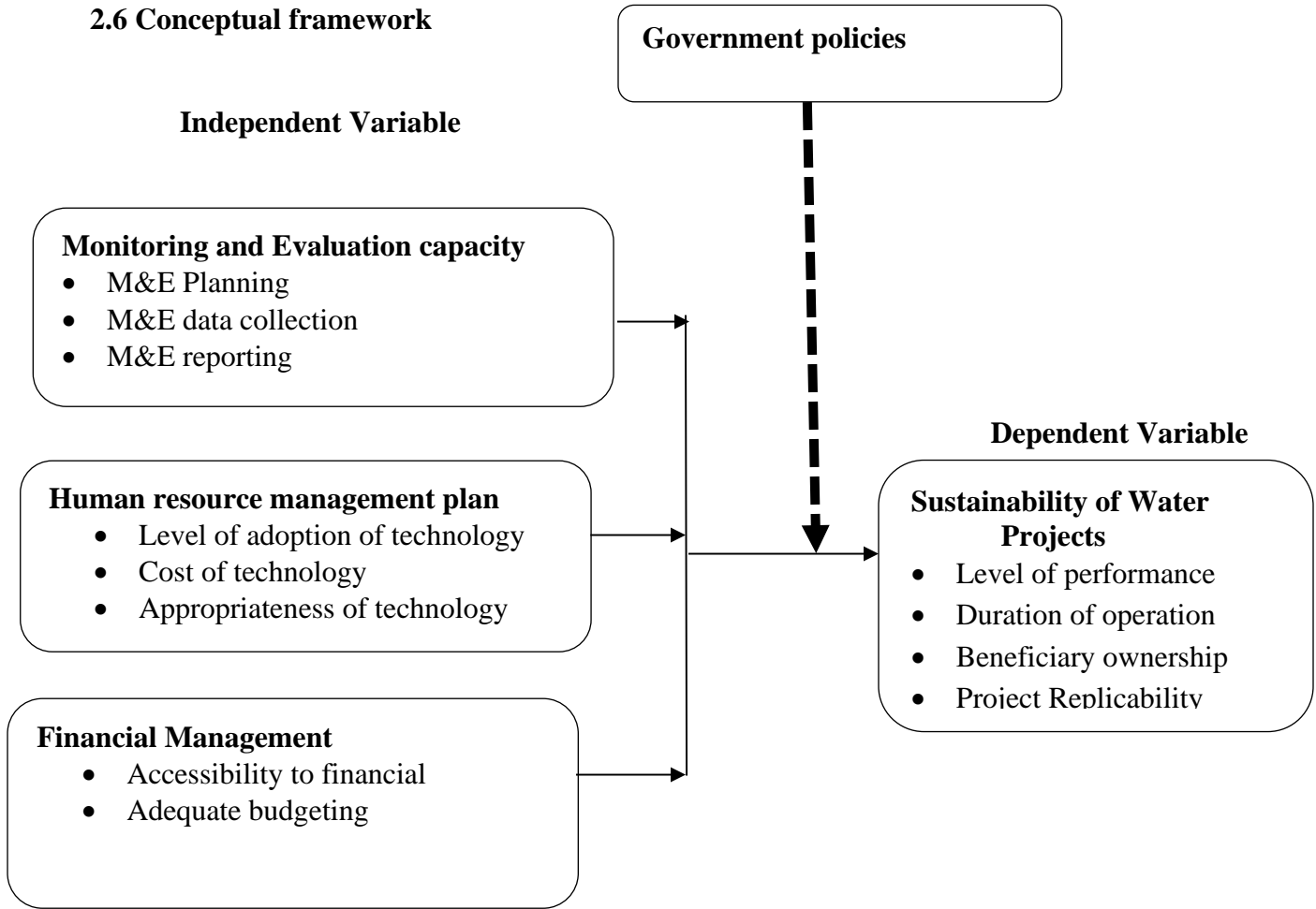


Figure 2.1: Conceptual framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The present chapter describes the research methods to be utilized when conducting the present study. In particular, the research design is explained followed by the targeted population. Also described is the sizes of the sample, procedures for sampling together with the tools for gathering the data.

3.2 Research Design

The study adopted a descriptive survey design with cross sectional approach. While descriptive survey allows for collection of large facts and testing of hypothesis in order to understand the phenomenon at hand, cross sectional approach ensures that data is collected at the same time and spot so as to provide in depth characteristics of the population. The cross-sectional approach to the descriptive survey is not only cost effective but allows for interrogation of multiple variables while controlling the measurement process thus enhancing validity.

3.3 Target Population

The targeted population was 152 which included 6 officers from the County Government of Machakos who oversee implementation of Water Project, 1 manager of Water Project and 145 beneficiaries of water projects (registered members) of Water Project (Water Group, 2021). Who will be: 1 Chief Executive Committee Member, 2 Chief Officers and 3 Directors. Table 3.1 gives the targeted population

Table 3.1: Targeted Population

Groups	Sub total
Chief Executive Committee Member	1
Chief Officers	2
Directors	3
Manager	1
Beneficiaries of water projects	145
Total	152

(County Government of Machakos, 2021: Water Group, 2021)

3.4 Sample Size and Sampling Procedure

3.4.1 Sample Size

The sample size of 108 was arrived at using Morgan and Krejcie table for selecting sample sizes for a given population. The 108 respondents were picked through systematic random sampling (101 beneficiaries) and census (6 County Government officers and 1 manager). Table 3.2: summarizes the sample sizes.

Table 3.2: Target Population

Respondents	Sub total	Sampling Method
Chief Executive Committee Member	1	Census
Chief Officers	2	Census
Directors	3	Census
Manager	1	Census
Beneficiaries of water projects	101	Systematic random sampling
Total	108	

As shown in Table 3.2, the Chief Executive Committee Member, Chief Officers, Directors and Manager were picked through purposive sampling. Since their numbers are small, all of them were picked as

respondents by census. However, beneficiaries of water projects were picked through systematic random sampling so as to ensure representativeness.

3.4.2 Sampling Procedure

The Chief Executive Committee Member (1), Chief Officers (2), Directors (3) and (1) manager were then picked. The beneficiaries of water projects were coded and transferred to an excel page before and random numbers was assigned to the coded name. Then random numbers were sorted in a decreasing order. The first 102 coded names were selected as respondents.

3.5 Research Instruments

The questionnaires were administered to the beneficiaries of water projects so as to gather their numerical views, attitudes, opinions and perspectives on the phenomenon at hand. Structured questionnaires are not only easier to administer and code but also easy to analyze (Saunders, Lewis & Thornhill, 2009). The content of the questionnaire included: introduction and instructions, respondents` profile and the questions related to the study themes. The questionnaires were administered face to face so as to ensure high quality data and good response rate.

Unstructured key informant interview guide was another tool used for data collection. Interviews were used to collect the views, opinions and perceptions of the manager of water project and county government officers about the phenomenon in question. Unstructured interviews were used so as to allow for in depth probing and obtainment of privileged information from the managers. The interview guide was structured to have an introduction about the study, recording of background information about the interviewee, probing on the main research questions and closing session. Matu et al. (2020) used unstructured interviews in a related study on financial management with project success and the results are upheld.

3.5.1 Pilot testing of the Data Collection Instruments

The study piloted the instruments using a sample size of 10% (of 73 respondents) actual sample size or 8 respondents (Saunders, 2017). The eight respondents were drawn using systematic random sampling but excluded in the actual sampling so as to avoid sample contamination and loss of validity. The

piloting was conducted to the subjects of the same project (water project) so as to test and improve the research design and practicality of the research methodology.

3.5.2 Validity of Research Instruments

Validity is basically the truthfulness of data collection tools in deriving the information expected. The study established criterion and content validity. Content validity of the data collection instruments was established by linking the indicators to the design of the questions in the questionnaires and interviews. The criterion validity was established through careful selection of data collection instruments that have reliably been used in past related studies.

3.5.3 Reliability of Instruments

The consistency (or reliability) of data collection tools was established by split half method. In this method, the instrument was first administered after which the instruments were randomly divided into 2 halves and correlation between the two halves conducted using Pearson Correlation Method. The instruments were considered reliable at Cronbach Alpha for $\alpha \geq 0.7$ (Kothari & Garg, 2014).

3.6 Data Collection Procedures

Data collection process started after acquiring approvals and permits from the authorized bodies. In preparation for data collection, all instruments together with the letters for transmittal of instrument were prepared and printed. The next step was to obtain sampling list from the county government. Beneficiaries of water projects were then contacted for questionnaire administration. The researcher visited the offices of the County Government of Machakos to book for appointment for the interviews and setting of the schedule. After data collection, all respondents were thanked. Data was analyzed and reported per the university guidelines.

3.7 Data Analysis Techniques

The data that was gathered by means of structured questionnaires was numerical in nature and thus was analyzed using quantitative techniques such as mean, frequency, percentage, and standard deviation (descriptive statistics). In doing so, the Likert type ordinal scale data was first transformed to interval scale data by allocating 0.8 equidistance using of Statistical Packages for Social Sciences version 25.0.

The narrative data collected by means of interviews was analyzed through content analysis whereby data was transcribed, coded, summarized and used to supplement the inferential data. The outputs from the SPSS analysis was further organized, presented and interpretation done for discussions. The model used for the analysis was as shown:

Dependent variables:

Y – Sustainability of Water Projects

Independent variables:

X₁: Monitoring and Evaluation

X₂: Financial management

X₃: Human resource management plan

ε: Error term

Sustainability of Water Projects = f (Monitoring and Evaluation, financial management and human resource management plan)

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

3.8 Ethical Considerations

Saunders, Lewis and Thornhill (2009) argue research ethics are referred to as the standards and norms of behavior that a researcher should observe while conducting a scientific inquiry. Ethics are important while conducting research study because they promote integrity of the research process so as to develop high quality research outcomes. In fulfilling ethical requirements, researcher adhered to the guidelines indicated in the research permit and university guidelines. Equally, the researcher respected the constitutional rights and freedom of research respondents like voluntary participation, privacy and not subjecting the respondent to any pain or injury. All cited materials were referenced. In addition, all data collected was handled with ultimate integrity without forgery or false manipulations.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the results of the study investigation. These results correspond to the study's objectives and encompass the demographic data of the participants as well as the information gathered from them.

4.2 Demographic data of the respondents

Included in this section are the respondents' gender, age range, educational history, and household status.

Table 4.1 Gender of the respondents

Category	Frequency	Percent
Male	51	52.1
Female	47	47.9
Total	98	100

According to the results, male participants constituted the majority of respondents at 52.1%, while female participants accounted for 47.9%. The findings indicate that both genders were represented in the research, implying that achieving resource capacity and sustainability in Mavoko Sub County, Machakos County requires the involvement of both men and women.

Table 4.3 Qualification of the respondents

Category	Frequency	Percent
Never went to school	26	27.2
Primary	32	32.9
Secondary	19	19.8
Post-secondary	22	20.1

Total	98	1000
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According to the findings in the section on respondent qualifications, a significant proportion of the participants had only completed primary education (32.9%), while 27.2% had not received any formal education. A smaller percentage had completed secondary school (19.8%), while 20.1% had pursued post-secondary education. As a result, the study included respondents from all education levels. These results suggest that a large number of participants had limited education and may have relied on agriculture, particularly water-dependent projects, as their main source of livelihood.

4.3 Field findings

4.3.1 Sustainability of water projects

Table 4.4 Sustainability of water projects

Statements	% SD	% D	% N	% A	% SA	Mean	Std Dev
There is no additional external support required for the project to be sustained (Either support from the beneficiaries or donors)	14.6	11.7	3.7	41	29	3.56	1.39
Water supply is efficient and uninterrupted (Water can be drawn from Monday to Monday, month after a month without interruption or exhausting)	20.6	8.1	2.1	55.4	13.8	3.34	1.38
The project has served the beneficiaries for a long period of time	24.8	11.5	3.7	38.4	21.7	3.20	1.52
Project beneficiaries make contribution or support to the project in kind and cash	23.5	10.4	7.0	55.9	3.1	3.05	1.32
Project beneficiaries consider the project as their own	15.1	4.2	2.1	63.2	15.4	3.59	1.24

There is no additional external support required for the project to be sustained (Either support from the beneficiaries or donors) where some respondents strongly agreed with 29% while others agreed at 41% and this means that the project can sustain itself without requiring financial support from outside the project. Further, many of the respondents agreed 54.4% and strongly agreed 13.8% with water supply being efficient and uninterrupted (Water can be drawn from Monday to Monday, month after a month without interruption or exhausting) which means that the community members can draw water throughout the week.

The project can serve the beneficiaries for a long period of time as it was indicated by majority of the respondents who agreed 38.4% and strongly agreed 21.7% with the statement. The study also noted that project beneficiaries make contributions to support the project as 55.9% of the respondents agreed with this statement. And finally, the study found that beneficiaries consider the project as their own as majority of the respondents agreed with 63.5%. This means that most of the projects are sustainable in Machakos county.

4.3.2 Influence of Monitoring and evaluation

Table 4.5 Influence of monitoring and evaluation

Statements	% SD	% D	% N	% A	% SA	Mean	Std Dev
Staff have capacity to undertake good M&E planning in each financial year	20.9	42	8.9	26.9	1.3	2.46	1.14
Planning is done in a participatory manner including the management, staff and beneficiary of water projects	20.6	8.1	2.1	55.4	13.8	3.56	1.39
Staff have the capacity to undertake M&E activities in water projects within Mavoko	24.8	11.5	3.7	38.4	21.7	3.78	1.41
M&E reporting is done periodically	25.6	25.8	12	17	19.6	3.07	1.48

Reports of M&E presented to the management are clear and of good quality	9.9	21.1	6	23.5	39.4	2.19	1.23
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Staff have capacity to undertake good monitoring and evaluation planning in each financial year. Further, the findings also indicate that planning was done in a participatory manner where the management, staff and beneficiary of water projects were included and this was shown by 55.4% of the respondents who were in agreement with the statement

Further, the findings also indicate that staff have capacity to undertake monitoring and evaluation activities in water projects within Machakos. Similarly, the respondents were in agreement that reports of monitoring and evaluation are presented to the management and that these reports are clear and of good quality as it was shown by 39.4% of the respondents who were in agreement with the statement. These findings means that despite the management and community doing monitoring and evaluation, there are some aspects of monitoring and evaluation aspects which need to be improved in order to have full monitoring and evaluation capacity.

4.3.3 Influence of human resource management

Table 4.6 Influence of human resource management

Statements	SD	D	N	A	SA	Mean	Std Dev
There is adequate staff with skills on the water development technology	22.2	23.2	3.7	20.6	30.6	2.96	1.50
There is continuous training of the personnel on new and emerging technologies	17.5	19.3	8.9	42	12.3	3.12	1.34
The staff apply Technology in these water development projects to ensure its efficiency	14.9	13.1	1.6	31.3	39.2	3.67	1.47
There is available Technology which can be supported by the available infrastructure to keep up to date human resource	58	8.4	0	0.8	32.9	2.84	1.39

Available technology is appropriate to use managing personnel working in water projects	30.5	9.4	4.7	42.8	12.5	2.97	1.50
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With effect of human resource management on sustainability of water projects, high response from the respondents indicate that there is adequate staff with skills on the water development technology with 30.6% of the respondents strongly agreeing with the statement. The respondents also agreed that there is continuous training on the personnel on new and emerging technologies having a score of 42% of all the sampled respondents. This means that there is an element of human resource management in Machakos county.

The findings further show that the staff apply technology in water development projects in a bid to ensure that that there is efficiency with 39.2 of the respondents strongly agreeing with the statement. However, the respondents strongly disagreed that there is available technology which can be supported by the available infrastructure to keep up to date human resource with 58% of the respondents strongly disagreeing with this statement. This implies that the management has not yet embraced the use of technology on managing staff data and other elements of human resource management.

4.3.4 Influence of financial Management

Table 4.7 Influence of financial management

Statements	% SD	% D	% N	% A	% SA	Mean	Std Dev
Project generate adequate funds to run operational cost of the project for both staff salaries and running of the project	14.6	21.1	3.1	36.3	24.8	2.88	1.33
There are adequate cash reserves to run the water project in Machakos county	20.6	20.6	13.3	21.9	23.5	3.36	1.43
There are appropriate records and which are readily available concerning the operation of the water project	20.4	14.6	5.7	35.8	23.5	3.27	1.48
There is always enough financial management skills and knowledge	14.1	12.5	10.2	56.8	6.4	3.99	0.86

Water projects generate adequate funds to run operational cost of the project for both staff salaries and running of the project hence the projects can meet the obligation of paying all the staff working in these water projects. These findings are supported by majority of the respondents 36.3% of the respondents who agreed with the statement.

The findings further show that there is adequate cash reserves to run the water project in Machakos county with 23.5 of the respondents strongly agreeing meaning that there is enough financial resources set aside to address any unlikelihood that may befall the project like blocking of the pipes or any other technical problem which may prevent the project from performing.

The results indicate that majority of the respondents had agreed on the view that there are appropriate records and which are readily available concerning the operation of the water project and that there is always enough financial management skills and knowledge as is shown by the highest scores against the agreement segment with 35.8 and 56.8 respectively.

4.4 Regression analysis

Table 4.9 ANOVA

Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	137.532	4	34.913	2.979	.001 ^b
	Residual	425.321	94	11.719		
	Total	562.844	98			

a. Dependent variable: Sustainability of water projects

b. Predictors (Constant): financial management, human resource management plan and monitoring and evaluation.

Table 4.9 presents the ANOVA results, where a significance level of 0.05 was utilized. The calculated F-value is 2.979, that is higher compared to the critical F-value of 2.466 ($2.979 > 2.466$), indicating that the model is a suitable fit and can be employed in the study. Additionally, the p-value is 0.001, which is below the established threshold of 0.05. This suggests that at least one aspect of organizational capacity has a noteworthy impact on the sustainability of water projects in Mavoko Constituency, Machakos County.

Table 4.10 Regression Coefficients

Model	Unstandardized coefficients		Standardized coefficients		Sig.
	B	Std. Error	Beta	T	
1 (Constant)	11.341	3.126		3.627	.000
Financial Management	5.783	1.340	.105	4.315	.000
Human resource	.336	.235	.237	1.429	.000
Monitoring and evaluation	3.484	.999	.274	3.487	.030

a. Dependent variable: Sustainability of water

The Resulting Equation takes this form:

$$Y = 11.341 + 5.783X_1 + .336X_2 + 3.484X_3$$

Such that: Y= sustainability of water projects, X₁= Financial management, X₂= Human resource management plan and X₃= Monitoring and evaluation

Holding all study factors constant while there is an increment by one unit point in financial management then sustainability of the water projects in Mavoko Constituency of Machakos County will be at 5.783. Holding all variables constant and there is a unit increment in human resource management plan will result in .336 and an increment by a unit of monitoring and evaluation will make water sustainability be at 3.484.

The findings also showed that financial management had p-values of $0.00 < 0.05$ as such financial management indicate significant effects to sustainability of the water projects. The findings are also shared by Mustafa and Yaakub (2018) who noted that financial management had a significant and positive impact to performance.

On human resource management plan, the p-values are less than the standard set such that $0.03 < 0.05$ meaning that human resource management significantly affected the sustainability of the water projects. The results are similar to what Rao (2013) discovered in that source of human resource such as internal recruitment led to human capital hence sustainability of projects. The findings also show that monitoring and evaluation indicate that the p values is such that $0.007 < 0.05$ an indication that monitoring and evaluation of water project significantly affect sustainability of the water projects in Mavoko Constituency of Machakos County.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter gives sections including the summary of findings, the drawn conclusions and the recommendations and suggestions for both practice and policy. The chapter ends with a section where suggestion for future research areas is given.

future research areas is given.

5.2 Summary of the findings

The focus of the current study was on organizational capacity and how it influences sustainability of water projects in Machakos County, Kenya. Organizational capacity was viewed under these three factors; financial management and human resource management. The three water projects included the Sofia-Juakali water project, KMC-Njoguini water project and Kicheko Ngwata water project and data was collected from managers of the project, water project management committees and beneficiaries of the project.

In addition, the researcher discovered that the human resource management plan had a positive and significant impact on the sustainability of water projects, as evidenced by the interlinked variables' p-values and r-value. The study also revealed that the monitoring and evaluation variable was a contributing factor to the sustainability of water projects. Furthermore, based on the correlation analysis, the components of organizational capacity were highly associated with the sustainability of water projects in Mavoko, Machakos County.

5.3 Conclusions

Sustainability of the water projects include elements like continuous flow of the water, access to water the entire year, upgrading of the water project and its maintenance. It is also about monitoring and evaluating the project to ensure it is functional and the quality is of high standards. To achieve this, the water projects in Mavoko Constituency within Machakos County employed organizational capacity elements of financial management, human resource management plan and monitoring and evaluation skills.

The study concludes that human resource management plan enhanced the sustenance of the water projects. Participants in this study revealed that using modern and innovative technologies and ICT for keeping the operations of the human resource office has led to elevated sustenance of the water projects. The study also concluded that use of improved human resource management plan is cost effective and helps in effective budgeting for the activities of the human resource and this improved the survivability of the water projects.

The study also concluded that monitoring and evaluation of the water projects led to improved sustenance of the water projects in Mavoko Constituency within Machakos County. The committee members were also chosen due to their lengthier experiences in managing projects and especially water projects and their expertise in using monitoring and evaluation tools. The results show the need to use committee members for projects who display different M&E methods for the success and maintenance of the project.

5.4 Recommendations for Policy and Practice

The study implication is such that organizational capacity with elements like financial management, human resource management and monitoring and evaluation led to improved sustenance of the water projects within Mavoko Constituency in Machakos County. Thus, recommendations were such that these water projects to employ elements of organizational capacity so as to sustain the operations and functionality of the project. The water projects should employ financial management since it had the largest influence on sustaining the water projects.

The research also recommends that the water projects adopt proper human resource management plan to improve sustenance of the project since human resource forms the baseline for sustainability of these projects. If the staff is well motivated, they will have zeal to continue offering services to water beneficiaries who buy the water at subsidized fee and this will enable the projects to be financially stable.

The study also recommends that other project types including conservation projects, developmental projects and education projects to employ aspects of monitoring and evaluation for enhanced sustainability. These projects should consider involving all stakeholders in handling different functions of the project, get funding from the project using different sources, employ modern and appropriate technologies for M&E and employ project managers and committee members that display the needed skills and experiences in monitoring and evaluation aspect.

5.5 Suggestions for Further Study

The study covered only three projects within Mavoko Constituency hence the need to cover other water projects in the constituency. There is also need to consider other regions like the arid and semi-arid areas that have a challenge in water supply and how best to employ organizational capacity to sustain the water projects. Future researchers can also investigate on how other project types like conservation and educational projects sustain their operations.

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