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STAKEHOLDER ENGAGEMENT FOR MONITORING AND EVALUATION IN SUSTAINABILITY OF WATER PROJECTS IN MAKUENI COUNTY, KENYA

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ABSTRACT

The acceptability and continuity of community interventions beyond the funding and implementation period is crucial to ensure sustained positive outcomes for the beneficiaries. Despite the significance of sustainability, projects and programmes aimed at improving the wellbeing of communities fail within a few years after formal completion. Therefore, this study examined two monitoring and evaluation principles; stakeholder engagement and accountability in water projects in Makueni County, Kenya. The objectives of the study were to examine stakeholder assessment in sustainability of water projects and investigate managerial accountability in sustainability of water projects in Makueni County, Kenya. The key theories used to develop the study included Stakeholder Theory and Accountability Theory. The researcher employed a descriptive design with both qualitative and quantitative approaches to gather data on the subject of stakeholder engagement for monitoring and evaluation in the sustainability of water projects in Makueni County, Kenya. The study targeted 26 water projects funded by JICA through the Ministry of Water, Sanitation and Irrigation and managed by County Government of Makueni, NGOs and beneficiary communities in the region. The study used simple random sampling technique to select respondents from the targeted households. The researcher also used purposive sampling to select representatives from four organisations and one official from the Ministry of Water in Makueni County Government. Questionnaires and interview schedules were used to collect data from the respondents. SPSS (version 28) and Microsoft Excel software were used to analyse the quantitative data. Descriptive and inferential analyses were derived and presented in tables and charts. On the other hand, thematic analysis was used to categorise and derive insights from the qualitative data. The study found that stakeholder engagement for monitoring and evaluation influenced the sustainability of water projects in Makueni County, Kenya. The study specifically identified that 48.8% of variability in model on sustainability of water projects could be explained by changes in the selected independent variables of stakeholder assessment and managerial accountability. Using ANOVA test, the study determined that the variability was statistically significant at $p<0.05$ level [$F(2, 357) = 55.813$, $p = 0.001$]. However, a variability of 48.8% implied that there were other factors which could influence sustainability of water projects. The study further determined that the County Government of Makueni and NGOs in the region applied strategies such as employing local communities in water projects to enhance ownership and sustainability. Besides, charging an affordable utility fee on water projects guaranteed sustainability of water projects even after the exit of implementing partners. The findings of the study are beneficial to organisations and individuals involved in projects and programmes aimed at addressing water issues in ASAL regions. Project officers can also use insights from the study to enhance the sustainability of community interventions. The study further contributes to the pool of knowledge regarding the sustainability of projects at the local, regional and global levels.

Key Words: Monitoring and Evaluation Principles, Stakeholder Engagement, Stakeholder Assessment, Accountability, Sustainability

Background of the Study

The concept of project sustainability has gained significance in the contemporary world with an increase in calls for interventions that serve the beneficiaries beyond the period of donor existence. Hassan, Osore and Ong'anya (2020) highlighted that sustainability is a key component of project management because it ensures the continued delivery of services to the beneficiaries beyond the period of financial support provided by the development partners. In another study, Kithiia and Majambo (2020) observed that billions of shillings had been spent in community projects to improve the living conditions of the population even though most of the interventions could not persist after the exit of donors. Therefore, donor funding is considered a temporary driver for social change but the key challenge is sustaining the change itself. The scholars noted that the aspect of sustainability differentiated the success and failure of community-based interventions.

The concept of project sustainability has been highlighted at the global level because of its significance in facilitating the wellbeing of the current and future generations. The literature by Stanitsas, Kirytopoulos and Leopoulos (2021) indicated that concepts of sustainability and sustainable development had gained significance in scholarly research and project management. According to the study, sustainability and sustainable development were crucial since the population was becoming more conscious of the need for projects to meet the present needs without jeopardizing the ability of future generations to meet their needs (Stanitsas, Kirytopoulos & Leopoulos, 2021). The scholars particularly highlighted sustainability and sustainable development in the construction sector. The scholars observed that it was crucial to assess indicators of sustainability in construction projects to protect the environment, and present and future generations. According to the study, both present and future generations should derive benefits from construction projects even after the implementation phase.

Dinnie and Holstead (2018) contributed to the research on the sustainability of community-based projects at the global level using the case of Scotland. The scholars argued that initiatives at the community level were increasingly focusing on the sustainability component to ensure the population derived benefits from an intervention beyond the implementation period. The scholars observed that strategies such as public funding could help to promote sustainability and negotiate technical and procedural challenges which were common in community-based projects.

Project sustainability is particularly critical in Africa with most of the countries categorised as emerging economies. Muluh, Kimengsi and Azibo (2019) focused on rural Cameroon to analyse the state of donor-funded projects in Africa and suggest strategies to guarantee sustainability beyond the funding period. The scholars argued that Cameroon, among other developing countries, had been a primary beneficiary of donor-funded projects for more than five decades. The projects targeted different sectors including agriculture and rural development. The scholars wrote that efforts in donor-funded projects on the continent were mostly directed towards planning, implementation and impacts on the beneficiaries. However, inadequate strategies were established to address the challenges that prevented the success of the projects as well as the continuity of the interventions after the exit of the donors. Therefore, the study recommended strategies such as enhancing beneficiary participation in the project implementation to realise sustainable rural development.

Project sustainability is equally critical in community interventions in the Kenyan context. Kithiia and Majambo (2020) examined the case of water projects in Mombasa city and argued that the region continued to experience inadequacies despite the massive funding since the colonial period. The scholars noted that the lack of sustainability of water and sanitation services was likely to persist unless issues of funding, governance and cost recovery were fully addressed. The study

highlighted that involvement of communities and residents could help to identify historical and investment issues which affected the sustainability of the projects.

Based on the recommendations in the existing literature regarding strategies to realise project sustainability, this study focused on stakeholder engagement for monitoring and evaluation. Andriof and Waddock (2017) described stakeholder engagement as a practice that enhances the interaction of an organisation with parties who have interests in the projects, findings and outcomes. According to the study, stakeholder engagement helps an organisation to commit to critical aspects of a programme including relevance, trust, responsibility, responsiveness and inclusivity. In another study, Boaz et al. (2018) emphasised principles of stakeholder inclusivity, transparency and accountability in the involvement of stakeholders in an intervention. The scholars observed that the principles were crucial in clarification of the engagement process, identification of the necessary resources and organisational learning. Similarly, Conallin et al. (2017) used the case of water resource management to demonstrate that even though stakeholder engagement was critical, it was supposed to be guided by a framework with specific principles. The scholars argued that a stakeholder engagement framework helped to reduce the long-term costs of projects. Besides, observing the principles of stakeholder engagement such as effective communication plan, assessment, inclusivity, transparency and accountability facilitated the attainment of long-term positive outcomes in an intervention. Therefore, this research explored stakeholder engagement for M&E in relation to the sustainability of water projects in Makueni County, Kenya.

This study focused on Makueni County located in the former Eastern Province of Kenya. Makueni County covers an area of 8,034.7 square kilometres with a population of more than 0.9million people. Makueni County is located in the Arid and Semi-Arid Areas of Kenya. The weather conditions in Makueni County have necessitated the implementation of different development projects including the drilling of boreholes to enhance the accessibility of water. For instance, the Japanese International Cooperation Agency (JICA) signed a 609-million-yen (KSh.646 million) agreement with the Ministry of Water and Irrigation in the year 2011, which initiated the drilling of boreholes in Makueni and Machakos County. The project resulted in the drilling of 26 functional boreholes within Makueni County. However, JICA 2016 Financial Year report revealed that only 17 boreholes were functional as of the year 2017 – four years after the completion of the project (JICA, 2017). Therefore, there was a significant need to investigate the component of sustainability in water projects in Makueni County.

Statement of the Problem

Lack of sustainability in projects is a major challenge that deny the population the opportunity to derive benefits from community interventions. Kithiia and Majambo (2020) noted that billions of shillings had been spent in community interventions to improve the living conditions of the population even though most of them could not be sustained a few years after exit of donors. In another study, Eja and Ramegodwa (2020) highlighted examples of global projects that failed resulting in financial losses. For instance, the United Kingdom wasted over 100m pounds on Information Technology projects in the financial year 2013-2014 yet the projects could not be continued beyond the funding period. Similarly, the government of Egypt abandoned the second phase of a $90 billion Toshka new valley project that was aimed at enabling the country to manage the increasing population. The scholars also highlighted that more than $100 million was lost in Ghana from the year 2009 to 2011 due to inadequate execution of projects which prevented the realisation of sustainability. Similarly, Ceptureanu et al. (2018) found that at least 40% of interventions by non-government and community-based organisations terminated in the first few years after the exit of donors. The issue of lack of sustainability of development projects was further highlighted in the JICA (2017) report which indicated that out of the 26 boreholes funded

by the agency in Makueni County, only 17 were operational. This implied that at least 34% of the targeted households in Makueni County still experienced challenges to access water resources despite the massive investment from the agency.

According to Amanje (2022), most project managers only considered the aspect of sustainability in the proposal phase but failed to integrate it in the implementation stage. The study indicated that development aid to Kenya stood at approximately $770m in the year 2005 and continued to increase in subsequent years. Even though some of the projects had been implemented successfully, there was little evidence to show how the projects continued to benefit the poor beyond the period of funding. According to the study, the aspect of sustainability was not integrated into the projects. The study found that most projects could not be sustained because the elements of stakeholder ownership and commitment to continuity were missing. Another study by Lennon, Dunphy and Sanvicente (2019) demonstrated that poor acceptability of interventions affected their sustainability in communities. According to the study, lack of acceptability in the community reduced the chance of project sustainability by more than 69%. The study indicated that target beneficiaries could fail to accept a project if stakeholder engagement was not prioritised and hence affecting trustworthy of the project managers and their intentions.

Based on the findings regarding challenges with the continuity of projects and programmes, there was a significant need to examine factors that could guarantee project sustainability to empower beneficiaries in communities. As demonstrated in the study by Ullah, Showrav and Eram (2023), failure of projects to continue beyond the official funding period has negative implications on the stakeholders. Ullah, Showrav and Eram (2023) argued that project failure affects finances, reputations, trust and emotions of the stakeholders. The study further highlighted that project failure is associated with unrealised potential of the community, significant financial losses, harm to the reputation of project managers, stifled stakeholder relationships, and endangering of communities as well as the environment. In addition, project failure could be associated with legal ramifications and hence affecting the long-term existence of the intervention. Therefore, this study aimed to provide insights on how stakeholder engagement could enhance sustainability of water projects.

Objectives of the Study

General Objective of the Study

To examine stakeholder engagement for monitoring and evaluation in sustainability of water projects in Makueni County, Kenya.

Specific Objectives

i. To determine the role of stakeholder assessment in sustainability of water projects in Makueni County, Kenya.
ii. To investigate the role of managerial accountability in sustainability of water projects in Makueni County, Kenya.

Theoretical Framework

Stakeholder Theory

Stakeholder theory was proposed in the literature by Edward Freeman (1984) who developed the argument of the interconnected relationships between an organisation and other parties such as employees, owners, suppliers, investors, customers and communities (Freeman, 1994). Freeman's proposal developed from an initial stakeholder theory which suggested that shareholders were the key stakeholders in a business organisation (Freeman, Philips & Sisodia, 2020). Therefore,

stakeholder theory as described by Freeman takes into consideration all individuals and parties that have interests in or are affected by the operations of a specific organisation.

Stakeholder theory is applicable in both private, public and not-for-profit sectors. The study by Fischer, Brettel and Mauer (2020) used the stakeholder theory to discuss the dimensions of sustainability in business organisations. According to the literature, entrepreneurs are forced to balance stakeholder involvement, business and external expectations to establish successful and sustainable ventures. In another study, Uribe, Ortiz-Marcos and Uruburu (2018) wrote that there was a close relationship between stakeholder theory, project management and sustainability-related knowledge, skills and tools. The scholars demonstrated that prioritising the relationship between stakeholder theory and project sustainability promoted inclusivity policies, corporate social responsibility and shared value among stakeholders.

Stakeholder theory was crucial in this study since it provided the foundation for research on stakeholder assessment and engagement. As presented in the literature by Uribe, Ortiz-Marcos and Uruburu (2018), stakeholder theory aligns with sustainability-related knowledge, skills and tools. Therefore, the theory was used to validate the need for stakeholder engagement in the sustainability of development projects.

Accountability Theory

Accountability theory was proposed by Lerner and Tetlock (1999) who suggested that the concept of accountability develops from the perception that the actions of one party will be assessed by another person or entity (Tetlock, 1999). Vance, Lowry and Eggett (2015) further explained the theory and stated that the perceived need to justify specific behaviours and actions makes a person to consider and feel accountable to the process. The scholars noted that there is a perceived need to account for both the process of making decisions and the related outcomes. As a result, the involved person thinks deeply and conducts a systematic analysis of their behaviours and actions.

The practice of accountability is considered crucial in both organisational and project management. For instance, Omoregbe and Kurtis (2020) discussed the influence of accountability on the sustainability of competitive advantage in organisations. The study determined that organisations should establish accountability frameworks to use in communication, implementation, monitoring and improvement of employee commitment to routine tasks and strategic plans. Besides, the study illustrated that it is critical to establish a culture of accountability and transparency to sustain the competitive advantage of an organisation in the market.

The theory is consistent with the objectives of managerial transparency and managerial accountability in the sustainability of water projects in Makueni County, Kenya. The theory presents key literature to develop the study on how transparency and accountability can be used to realise project acceptability and continuity in communities. The theory demonstrates that accountability is crucial in organisations as well as individual stakeholders who may include beneficiaries of an intervention.

Conceptual Framework

The conceptual framework provides the relationship between independent and dependent variables of the study. The independent variables constitute stakeholder assessment and managerial accountability. The dependent variable, on the other hand, constitutes the sustainability of water projects. Figure 1 below shows the conceptual framework employed in the study.

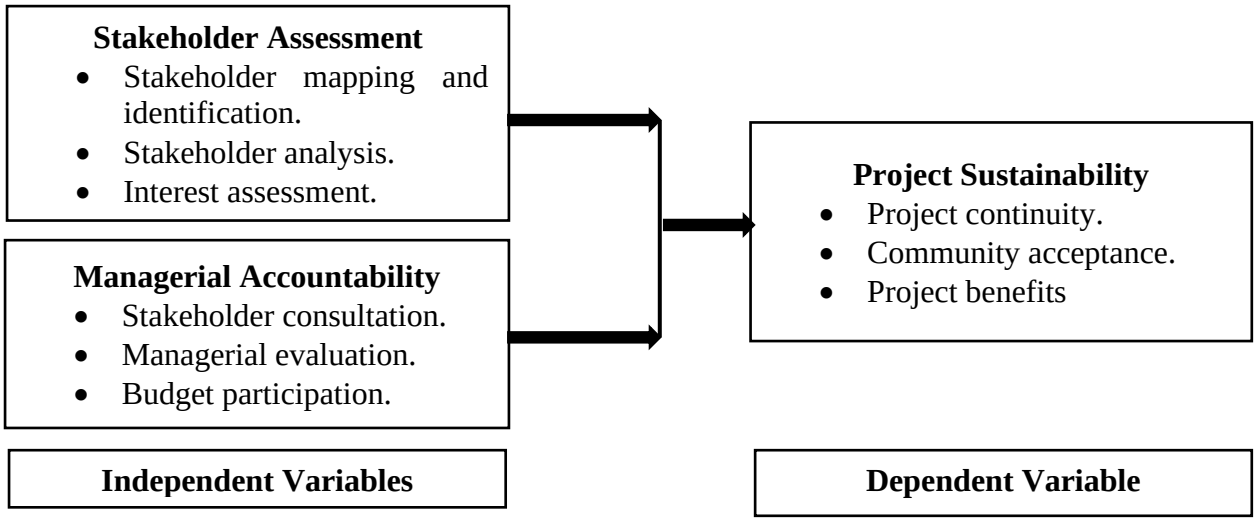

Figure 1: Conceptual Framework

Stakeholder Assessment

Assessment is a crucial practice in engagement of stakeholders. According to Fernandez et al. (2019), it is crucial to map out all parties and identify their interests in the implementation of projects. The process enables satisfaction of all parties who may be affected by the intervention. Therefore, stakeholder assessment was measured based on the process of identifying the stakeholders, facilitation of engagement and the expectations to attain in the involvement process.

Managerial Accountability

Accountability entails the assurance that the performance or behaviour of an individual or entity can be assessed based on something they are responsible (van Zyl & Claeye, 2019). Van Zyl and Claeye (2019) emphasised the need for accountability in NGOs in implementation of community interventions. According to the study, the management teams should consistently provide feedback and take responsibility for the performance of the project. Similarly, this research examined the aspects of stakeholder consultation in all phases of project management, training, managerial evaluation and budget participation.

Project Sustainability

The concept of sustainability was measured based on the definition by Walugembe et al. (2019) who highlighted the acceptability and continuity of an intervention after termination of formal financing, managerial and technical assistance from the external development partners. Based on the literature, an intervention should be accepted and continue to benefit the target population even after the exit of the development partners.

Empirical Review

Stakeholder assessment in the sustainability of projects

Stakeholder assessment forms a crucial component that can facilitate the sustainability of interventions in communities. The study by Pucci et al. (2020) used a longitudinal, single case study of the Salcheto winery in Italy to examine the virtuous cycle of stakeholder engagement in developing the culture of sustainability. The study emphasised the role of stakeholder engagement as a powerful driver for value creation which influences the sustainability of an intervention. The study developed from stakeholder theory and demonstrated that the first step in stakeholder engagement is identifying and meeting the needs and interests of the stakeholders. However, identification and attainment of the needs and interests of the stakeholders require mapping out all parties including individuals and groups that either have interests or can be affected by the

implementation of a specific intervention (Fernandez et al., 2019). The approach is necessary to ensure all key stakeholders are included in the engagement process.

The study by Pucci et al. (2020) presents critical insights about stakeholder inclusivity in the sustainability of interventions as a result of implementing a reliable engagement framework. However, the study relied on a single case study to develop the argument that stakeholder inclusivity was necessary to develop a culture of sustainability. Even though the findings might be considered appropriate in advocating for stakeholder engagement, it is important to examine other contexts based on factors such as variation in population characteristics. Carrol (2022) wrote that stakeholder engagement approaches vary based on contexts due to differences in the demographic profiles of countries and regions. Therefore, the principle of stakeholder inclusivity should be researched in the context of Makueni County in Kenya.

The development of a framework is aimed at facilitating both the inclusion and engagement of all key stakeholders. Ferreira et al. (2020) used a systematic review to study the identification and engagement of stakeholders in nature-based solutions in environmental programmes. The scholars observed that most interventions failed to adopt the idea of stakeholder involvement based on the general perception that multi-stakeholder initiatives have an effect of slowing down development processes. The study indicated that it is challenging to reach a consensus in interventions that require multi-stakeholder engagement. However, Ferreira et al. (2020) emphasised the need to not only include but also engage the local and indigenous communities in the formulation and implementation of solutions. The study demonstrated that the engagement of stakeholders at the local level helps to develop a sense of project ownership which is necessary to attain continuity beyond the implementation period.

Ferreira et al. (2020) provided a detailed review of the existing literature about stakeholder assessment and engagement in environmental programmes. The study particularly emphasised the involvement of stakeholders through effective communication and review of feedback. The scholars further argued that the involvement through communication and feedback was a determinant of stakeholder ownership of the intervention. However, the study failed to provide an analysis of how communication could facilitate good performance and ownership of the intervention. Besides, the study relied on secondary literature to assess stakeholder inclusivity in environmental programs. Secondary literature may fail to capture new trends in stakeholder engagement in programs. Consequently, it was necessary to conduct a primary study to determine the best strategies for ensuring the stakeholders participate and owns the interventions at the local level.

The element of project ownership is further explored in the study by Thananusak and Suriyankietkaew (2023). The study employed a grounded theory qualitative case study to unpack the key sustainability drivers for sustainable social enterprises in Thailand. The scholars proposed an emergent model of leadership and local engagement that could drive the sustainability of interventions. The study demonstrated that sustainable social enterprises rely on the ability of project implementers to facilitate community participation and establish a good sense of ownership. For instance, it is necessary to set clear expectations of engagement for the members at the local level to understand their roles in all the phases of project management.

Thananusak and Suriyankietkaew (2023) provided crucial evidence developed from qualitative research on the drivers of sustainability in social enterprises. The scholars demonstrated that social enterprises should create social capital and support the wellbeing of a community beyond the implementation phase. However, it is crucial to investigate the topic of drivers of sustainability in social enterprises using mixed research approaches. A mixed research approach is appropriate to address the limitations associated with the respective individual methods.

Managerial accountability in the sustainability of projects

Accountability is a key factor in project management and evaluation. Mabillard and Zumofen (2017) wrote that there is a complex relationship between transparency and accountability which has made some scholars use the two terms interchangeably. The findings demonstrated that the application of transparency influences attaining accountability in an intervention or process. For instance, the study by Gichohi, Sang and Kosimbei (2019) used the case of water supply in Nairobi City County to highlight that transparency and accountability were crucial in attaining sustainable service delivery. The scholars particularly observed that failure to observe accountability disrupted water supply in urban areas since systems could not operate optimally. Therefore, the study concluded that accountability had a positive and statistically significant relationship with the sustainability of an intervention. The study recommended the application of accountability practices such as monitoring and evaluation, managerial evaluation and transparency of service delivery to bolster sustainability of projects.

Gichohi, Sang and Kosimbei (2019) provided reliable evidence to relate the practice of accountability to the sustainability of water projects. The study findings provided critical recommendations that could help to address the problem of water shortages in urban areas. The findings further provided a basis for the successful implementation of other development projects. However, it was necessary to explore the aspect of accountability to development initiatives in other regions. For instance, Makueni County had unique social and climatic challenges that could not be replicated in Nairobi City County. Therefore, a study was considered to examined stakeholder engagement for M&E and sustainability of water projects in Makueni County.

In a similar study, Nyakwaka and Benard (2019) explored the factors that influenced the sustainability of community-operated water projects in the Central Nyakach sub-county in Kisumu County, Kenya. The scholars employed a descriptive cross-sectional research design to develop the study on how the involvement of the community influences the sustainability of water projects. According to the study, the transfer of project ownership to beneficiaries in the community often failed since the targeted beneficiaries lacked the resources, capacity and know-how of running the intervention. According to the study, community ownership of water projects should begin with their involvement in decisions such as the identification of needs, participation in budgeting and implementation. Besides, the community members should be involved in the monitoring and evaluation to understand the assessment process. The research demonstrated that adequate and transparent involvement of community members creates the foundation for accountability since the beneficiaries are consulted on their needs and can assess the performance of the intervention. The findings in the study by Nyakwaka and Benard (2019) provided key information about the involvement of community members and how to ensure a sustainable transfer of project ownership to the beneficiaries. The scholars recommended replication of the study in other parts of the country to cover similar community-owned and managed water projects.

Another study by Kogen (2018) examined the aspect of accountability in the development aid. The scholar noted the effectiveness of development aid was largely affected by a lack of accountability from key stakeholders and particularly those in charge of managing the funds. The study highlighted that there had been a shift to rigorous evaluations and evidence-based policymaking as a strategy to address the lack of accountability in donor-funded interventions. The study further indicated that aspects of accountability and learning were held up as twin pillars to facilitate an effective system of development aid. Kogen (2018) presented a crucial perspective to discuss the concept of accountability in development interventions. However, the scholar recommended further research to determine the influence of accountability on the improvement of development aid systems.

RESEARCH METHODOLOGY

This study employed a descriptive research design to examine stakeholder engagement for monitoring and evaluation in the sustainability of water projects in Makueni County. Siedlecki (2020) wrote that a descriptive study design was appropriate when the researcher intended to use quantitative and qualitative methods to describe individuals or conditions by investigating them as they were in nature. Similarly, the study aimed to understand how stakeholder engagement for M&E could facilitate the sustainability of community interventions.

The study targeted 26 water projects funded by JICA through the Ministry of Water, Sanitation and Irrigation but managed by County Government, NGOs, and beneficiary communities. Subjects of study were derived from the 26 projects. Therefore, the researcher targeted 7,569 beneficiary households, 1 official from Makueni County Government Ministry of Water, and 1 M&E officer from each of the four NGOs including Water Mission, RUWASCO, Water Vision and Welthunger Hilfe. Table 1 shows the target population of the study.

Table 1: Target Population

Category	Number
Beneficiary Households	7,569
M&E Officers	4
County Official	1
Total	**7,574**

Sampling is a crucial aspect of research which helps the researcher to select a section of the population to participate in the study. Bhardwaj (2019) wrote that sampling facilitates derivation of insights about the population based on findings from the sample. The study used simple random sampling technique to select respondents from the target households around water projects. According to Bhardwaj (2019), simple random sampling technique enables every single item from the population to have an equal chance of being included in the sample. Therefore, a simple random sampling technique was appropriate to give an equal chance of selection to all the households benefiting from the water projects funded by JICA in Makueni County. The researcher used a sampling calculator consistent with the recommendation by Cochran regarding calculating the sample size in research (Nanjundeswaraswamy & Divakar, 2021).

$$n = \frac{Z^2 pq}{e^2}$$

where n is the sample size
p is the estimated proportion of the population with the study attribute
$q = 1 - p$
e is the desired level of precision
z-value is derived from the Z-score table.

$$n = \frac{196^2 x\ 0.5(1 - 0.5)}{0.05^2}$$

$$n = 385$$

Besides, the researcher used purposive sampling approach to select M&E officers from the NGOs and the county official in the Ministry of Water and Irrigation as key informants to the study. Therefore, the researcher employed a sample size of 390 respondents.

Data Analysis and Presentation

Data Analysis

The researcher used the Statistical Package for Social Sciences (SPSS, version 28) and Microsoft Excel software to analyse the quantitative data. The researcher derived charts and tables to present the quantitative output. The qualitative data, on the other hand, was organised using thematic analysis technique. A regression model was used to establish the relationship between stakeholder engagement for M&E and sustainability of water projects in Makueni County, Kenya.

$$\mathbf{Y} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1 X_1} + \boldsymbol{\beta_2 X_2} + \varepsilon$$

where **Y** is the dependent variable (sustainability of water project)
$\boldsymbol{\beta_0}$ – constant term
$\boldsymbol{\beta_1}$, $\boldsymbol{\beta_2}$ – Variable coefficients
$\boldsymbol{X_1}$ – Stakeholder Assessment
$\boldsymbol{X_2}$ – Managerial Accountability
ε – Error term

RESEARCH FINDINGS AND DISCUSSION

Demographic Information

The study attained a response rate of 92.3 percent which was adequate for data analysis. The main demographic characteristics examined in the study included the gender of the respondent, age group, level of education attained, and marital status. A majority, 56.7 percent, of the respondents were males. Most, 36.4 percent, of the respondents were in the age group of 26-35 years. Other age groups represented in the study were 18-25 years (16.4%), 36-45 years (24.7%), 46-55 years (15.3%) and above 55 years (7.2%). Furthermore, the study examined the highest level of education attained by the respondents. The level of education was crucial to assess the technical ability of the respondents to learn and maintain water projects in the region. The highest proportion, 44.2 percent, of the respondents had attained secondary school education. Another important demographic factor in the study was the marital status of the respondents. A majority, 51.1 percent, of the study respondents were married. The demographic information of the respondents is as shown in table 2.

Table 2: Demographic information of the respondents

Demographic factor		Frequency	Percent
Gender	Female	156	43.3
	Male	204	56.7
Age Groups	18-25	59	16.4
	26-35	131	36.4
	36-45	89	24.7
	46-55	55	15.3
	Above 55	26	7.2
Highest Education Level	None	7	1.9
	Primary	126	35.0
	Secondary	159	44.2
	Tertiary	68	18.9
Marital Status	Single	133	36.9
	Married	184	51.1
	Widow/Widower	36	10.0
	Divorced	7	1.9

Stakeholder Engagement for Monitoring and Evaluation

The study analysed different factors associated with the engagement of stakeholders for monitoring and evaluation in water projects. Some of the factors included perspectives on inclusivity in water projects and the selection of committees to represent the interests of the community in the evaluation of water projects. The study delved into the involvement of stakeholders including beneficiaries in the specific phases of water projects. 29.7 percent of the respondents reported that they were involved after completion while 38.9 and 34.7 percent were involved during the planning and implementation phases respectively. The beneficiaries were mainly involved in the water projects through offering labour. Other respondents reported that they participated in the projects through educating the community on significance of supporting the interventions, guiding the community members whenever meetings were conducted and attending meetings held by the project managers. The elected committee members actively participated in projects through initiatives such as writing proposals to county leadership for introduction of more community interventions, organising regular meetings and other responsibilities required of the committees. On the other hand, the study revealed that 52.5 percent of the respondents were never involved at any phase in water projects in the region. Table 3 shows the involvement of stakeholders in different phases of water projects.

Table 3: Stakeholder involvement in different phases of water projects

Stakeholder Involvement	Response	Frequency	Percent
Beneficiaries are never involved at any phase	No	171	47.5
	Yes	189	52.5
Beneficiaries are involved during planning phase	No	220	61.1
	Yes	140	38.9
Beneficiaries are involved during implementation phase	No	235	65.3
	Yes	125	34.7
Beneficiaries are involved after project completion	No	253	70.3
	Yes	107	29.7

The study further examined the appointment or selection of a committee to represent the interests of the community in water projects implemented in the region. 56.1 percent of the study participants reported that there existed a committee in the area which represented the whole community in water projects. On the contrary, 43.9 percent of the respondents reported that they were not aware of the existence of a committee in the area to represent their interests in water projects. Among the respondents who acknowledged the existence of a committee in the area, 96.5 percent said the committee was developed through election among community members while 2.5 percent reported that the committee members were selected by project managers. According to the respondents, leaders of the local committee actively participated in organising community public participation events and writing proposals for funding of water projects in the region.

Stakeholder assessment in water projects

Assessment was considered as a critical aspect of stakeholder engagement which influenced the sustainability of water projects. The study examined the level of agreement among the respondents regarding the different aspects that characterised stakeholder assessment and involvement in water projects in the region. The study established that at least 50 percent of the respondents disagreed to the statement that stakeholders were mapped out before commencement of water projects. The study further found that about 35 percent of the participants disagreed to the statement that stakeholder analysis was conducted before the involvement process. Similarly, the study identified

that 36 percent of the respondents disagreed to the statement that stakeholder engagement was conducted at different levels based on interests. However, almost a similar number, 34 percent of the respondents, believed that stakeholder engagement was conducted at different levels in water projects. On the other hand, more than 20 percent of respondents were uncertain if practices such as mapping, analysis and assessment of stakeholder interests were conducted in water projects. The lack of awareness among the respondents could be attributed to the fact that the activities were conducted among management teams in implementing organisations before starting the formal engagement.

Managerial accountability

Another crucial practice of stakeholder engagement for M&E examined in the study was managerial accountability. The study analysed different practices associated with managerial accountability in facilitating stakeholder engagement and implementing water projects in Makueni County. For instance, the study examined training and capacity building of beneficiaries to maintain water projects and equipment. Training of the beneficiaries was considered a critical factor that could facilitate efficient maintenance of the water projects without seeking expertise from other regions. The study found that only 4 people, representing 1.1% of all the respondents to the study, were trained on maintenance of borehole equipment. The remaining 98.9 percent of the respondents were not knowledgeable on technical aspects of maintaining water projects.

The study further analysed the level of agreement to statements related to managerial accountability in water projects in Makueni County. A significantly high number of respondents concurred that managerial accountability was observed in water projects in Makueni County. For instance, at least 37 percent of the respondents agreed that project managers regularly sought feedback from the local community about the project progress and performance. Besides, at least 25 percent of the study participants strongly agreed to the statement that project managers ensured beneficiaries gained the necessary skills and knowledge to manage water projects independently. The study further identified that more than 44 percent of the respondents believed the project managers took responsibility for the performance of water projects in Makueni County, Kenya.

Sustainability of water projects

Sustainability of water projects was measured based on three key indicators including continuity of the interventions after the first 12 months of project completion, acceptability of the projects among beneficiaries and derivation of benefits from the projects beyond 12 months after completion. A significantly high number of study participants agreed that water projects were sustainable in Makueni County, Kenya. The study found that 26.9 percent of the respondents strongly agreed that water projects remained functional beyond 12 months after completion. Similar statistics were evident in the number of respondents who believed community members continued to benefit from the projects beyond 12 months after completion. Besides, 43.9 percent of the respondents strongly agreed to the statement that water projects in the region were acceptable by community members. However, about 2.5 percent of the residents in the area of study said some projects could not continue a few months after the exit of the implementing organisations. Consequently, the residents could not derive benefits from the water projects beyond the 12 months after completion. Some of the factors highlighted for failure of project continuity were equipment breakdown, vandalism and drying up of boreholes.

Regression Analysis

Model Summary

The study employed a coefficient of determination to explain the extent to which variability in the dependent variable was explained by the independent variables in the model. All the independent variables had a statistically significant effect on the dependent variable ($p<0.05$). An R-square value of 0.488 was derived from the regression analysis. The results implied that 48.8% of the

variability in the model for project sustainability could be explained by all the independent variables in the study. The results implied that other factors not considered in this study also influenced the sustainability of water projects in Makueni County, Kenya. The model summary is provided in table 4 below.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.699[d]	.488	.485	.47084	1.590

ANOVA Model

Analysis of variance was conducted to determine the significance of the independent variables in predicting the sustainability of water projects in Makueni County, Kenya. The results in table 5 shows that there was a statistically significant effect of independent variables on predicting the dependent variable at the $p<0.05$ level, [$F(2, 357) = 55.813$, $p = 0.001$].

Table 5: ANOVA Model

	Sum of Squares	df	Mean Square	F	Sig.
Regression	37.946	2	18.973	55.813	.001
Residual	121.358	357	.340		
Total	159.304	359			

Results of Regression Model

A regression model was developed from the coefficients of estimate in table 6. All the independent variables had a statistically significant effect on the variability of the dependent variable at p-value level of less than 0.05. Therefore, the regression model is presented as follows:

$$\mathbf{Y = 1.821 + 0.336}X_1\mathbf{+ 0.256}X_2$$

Where:

Y – Sustainability of water projects
X_1 – Stakeholder Assessment
X_2 – Managerial Accountability

Table 6: Coefficients of Estimate

	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
Constant	1.821	.188		9.703	.000	1.452	2.190
Stakeholder Assessment	.336	.050	.329	6.741	.000	.238	.434
Managerial Accountability	.256	.046	.271	5.553	.000	.166	.347

a. Dependent Variable: Project Sustainability

Qualitative Insights

Significance of stakeholder engagement in water projects

Organisations operating in Makueni County considered stakeholder engagement as a critical component that could facilitate the sustainability of water. According to the interviewed M&E officers, practices such as stakeholder mapping and analysis helped to ensure all key players were involved in the interventions from inception to completion, maintenance and evaluation of the projects. The officers also considered stakeholder involvement as a risk-mitigation measure since some areas were affected by vandalism of water projects. Involvement of the community members as key partners helped to establish security and safety measures for maintenance of the projects. Besides, consistent involvement of key parties including beneficiaries helped to establish good rapport with the community which was necessary for effective implementation of projects.

Another M&E officer mentioned that it was only through engagement with the community that they learned other forces which could affect project implementation and the evaluation process. For instance, some cultural beliefs and land ownership issues often affected implementation and evaluation of projects in cases where stakeholder engagement was ignored. The key informants stated that it was easy to attain a sense of project ownership among beneficiaries if they were involved in all phases of interventions.

Stakeholder engagement platforms in water projects

Most organisations rely on existing leadership structures in the community to effectively introduce water projects. According to the respondents, it was easier to work with leadership of groups in the community since they understood the dynamics that were not clear to external organisations. However, sometimes the leadership of the groups could be a bottleneck if they wanted to serve their self-interests rather than the community. The leadership in the county government had established clear structures which ensured external organisations had a person of contact in case they want to work in the community. For instance, the organisations could work closely with the Ward Administration Officers in case challenges emerged while engaging with group leaders in the community.

Sustainability of water projects

The acceptability and continuity of water projects in communities are priority elements both for organisations and county government of Makueni. The organisations applied approaches such as employing local residents in implementation of water projects. According to the interviewed officers, employing local residents helped to gain the trust of the community as well as to transfer crucial skills required for maintenance of the projects. The employed members gained practical skills while at work on functioning of equipment such as water pumps and how to repair in case of break down.

On the other hand, the county government worked with the communities to ensure continuity of the water projects beyond the implementation phase. For instance, the county government had installed meter system in most of the water projects for the residents to pay a small fee. The revenue derived from the water systems was used for repairs and maintenance in case of break downs. To guarantee accountability in the revenues, the county government had established bank account where the residents paid using Mobile Money Paybill service. The strategy had helped to prevent channelling of water funds to individuals who could misuse.

Common challenges in water projects

The key informants reported that sometimes they had to navigate challenges such as cultural and land ownership issues while introducing and implementing water projects. Land ownership was the most frequently mentioned issue. In case the implementing organisation did not conduct proper land transfer process, the land owner could claim ownership of the project after completion.

In addition, the key informants from organisations running water projects in the region mentioned challenges with vandalism of equipment. Vandalism was common in areas with piped water since the pipes were stolen for sale. As a measure to curb vandalism, the organisations were obliged to work with the local administration including Chiefs, Assistant Chiefs and village elders for vigilance of the projects.

Discussion of the Findings

The findings of the study indicated that aspects of stakeholder engagement for monitoring and evaluation such as assessment and managerial accountability influenced the sustainability of water projects in Makueni County, Kenya. The study particularly determined that stakeholders including beneficiaries were empowered through training and consistent involvement in local projects to enhance ownership and sustainability of the interventions. The study by Civera, De Colle and Casalegno (2019) also examined the component of stakeholder engagement from the perspective of empowerment. The scholars wrote that a focus on the perspective of stakeholder theory enabled the empowerment of parties with interests in interventions which enhanced value creation. However, the study revealed that the involvement of beneficiaries was still inadequate. Even though local committees existed to represent the community in water interventions, more activities were required to create a sense of project ownership among the residents. According to Amanje (2022), most project managers only considered the aspect of sustainability in the proposal phase but failed to integrate it in the implementation stage.

The study also identified that project beneficiaries were mainly involved in water projects through offering labour. The approach was considered appropriate for the community members to gain skills to maintain the project after the exit of implementing partners. On the contrary, the study by Carruth and Freeman (2021) examined beneficiary-workers' labour as a negative aspect of the aid industry. The scholars observed that some organisations provided inadequate compensation for the labour or lacked comprehensive employment agreement with the beneficiaries. Consequently, the beneficiary-workers were alienated from the benefits of their labour.

The principles of transparency and accountability were equally important in projects. Even though the study found a relatively high level of accountability in water projects, a section of the population still believed that crucial elements such as project costs and funding were not adequately communicated to the beneficiaries. Lennon, Dunphy and Sanvicente (2019) wrote that acceptability influenced the sustainability of interventions in communities. The scholars wrote that poor acceptability contributed to more than 69% decline in sustainability of community projects. In another study, Hofstetter, Bolding and van Koppen (2020) observed that observing transparency and accountability could eliminate the need for policy changes to address failed water infrastructure delivery. According to the study, strengthening transparency and accountability in activities such as budget preparation was key in improving delivery of water services.

Conclusion

Based on the findings of regression analysis, the study concluded that stakeholder engagement for monitoring and evaluation had a significant influence on sustainability of water projects. The study showed that acceptability and continuity of water projects was guaranteed if project managers observed practices of stakeholder assessment and managerial accountability. Assessment of stakeholders facilitate effective engagement through decision-making and provision of feedback. In addition, transparency and accountability facilitate development of trust, capacity building of beneficiaries and sharing of evaluation reports for improvement of water projects. The results demonstrate that stakeholder engagement for monitoring and evaluation is essential for acceptability, continued derivation of benefits and continuity of community water projects after the exit of implementing and funding partners.

Recommendations

The study recommends that organisations conducting water projects in Makueni County should prioritise principles of stakeholder engagement for monitoring and evaluation. The project beneficiaries should have a sense of being involved in the projects from planning, implementation through completion and evaluation. There is a need to enhance communication plans for water projects in the community. Communication should be bidirectional where the organisations introduce a project through constant interactions with the target beneficiaries. Transparency and accountability are crucial to establish trust and eventually guarantee the acceptability of the intervention among the target beneficiaries. Therefore, project managers should communicate all crucial details to the target beneficiaries about the water projects.

Areas for Further Research

The study can be replicated in other sectors such as smart agriculture in the era of extreme weather conditions affecting livestock and food crops in arid and semi-arid areas.

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