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STAKEHOLDER MANAGEMENT PRACTICES AND IMPLEMENTATION OF WATER PROJETS IN MT KENYA REGION, KENYA

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ABSTRACT

The Kenyan Government through its ministry of Water and sanitation has successfully done more than 50 annual water budget since independence. Despite this, 18 million people still struggle to get sustainable water supply in Kenya. This study therefore sought to analyse the influence of stakeholder management on implementation of water projects in Mt Kenya Region, Kenya. Specifically, the study sought to to establish the effect of stakeholder need identification on implementation of water projects in Mt Kenya Region, Kenya and to establish the influence of stakeholder participation on implementation of water projects in Mt Kenya Region, Kenya. This study adopted a descriptive research design. The study targeted the 8 counties in Mt Kenya region. The total population was 420 consisting of 60 community leaders,40 government officials,6 project management committees and 12 county water engineers. The sample size was obtained using the Nassim formula. The 130 respondents were chosen with the help of stratified random sampling technique. Primary data was collected through use of semi structured questionnaires. The study also conduct pilot test to test the validity and the reliability of the data collection instrument. The data collection instrument generated both qualitative and quantitative data. The study used both descriptive and inferential statistics for data analysis with the aid of Statistical Package for Social Sciences (SPSS version 25). Descriptive statistics such as mean, standard deviation, frequency and percentages were used in this study. In relation to inferential statistics, the study used correlation analysis. This was used to establish the relationship between the independent and the dependent variables. Data was then presented in a tables, bar charts and pie charts. The study concludes that stakeholder need identification has a positive and significant effect on implementation of water projects in Mt Kenya Region, Kenya. The study also concludes that stakeholder participation has a positive and significant effect on the implementation of water projects in Mt Kenya Region, Kenya. From the results, the study recommends that Counties in Mt Kenya region should ensure an effective and efficient framework is implemented to enhance stakeholder need identification.

Key Words: Stakeholder Management Practices, Stakeholder Need Identification, Stakeholder Participation, Implementation of Water Projects

Background of the Study

Project implementation is one of the poorly managed subjects in project management (Project Management institute, 2017).According (Okeniyi, 2018) to More than a third of projects worldwide fail to reach their objective that has led to questioning of project management and implementation. Project management discipline focuses on managing the various activities in a project intended to deliver the objectives of the intervention. Projects are temporary organizations to the original organization; they operate within defined timeframes, budget and quality and normally follow a chronological procedure in the inception through to the implementation. A number of different project management approaches such as iterative, lean, phased and incremental approaches may be used. Effective methodology employed must put into considerations the overall objectives of the project, cost, time in addition to roles and responsibilities of all the stakeholders of the project. Generally, project objectives express goals of a project in SMART terms. These project goals and objectives are set on the onset of the project.

Whilst some goals can be defined in quantifiable terms others are difficult to define in quantifiable parameter such as quality and soft project goals such as project reputation (Ahmed & Fazel, 2016). Project objectives aids in the definition of a project in terms of benefits perceived and project purpose. Project management main challenge is to achieve all its set project goals within its given constraints in terms of time, quality, budget and scope. Project goals and objectives can be viewed as contract between the project sponsors and the project managers (Smith, 2016).A project attracts different stakeholders with varying expectations of the outcome from the project. The level of urgency and priorities by the stakeholders has a tendency to change during the lifecycle increasing the project management challenge. Most cost overruns and delays in project are caused by issues in project management rather than the technical aspect (Ayatah, 2012).

According to Abrams (2018) defines sustainability as "whether or not something continues to work over time". He further elaborated that it is the test of sustainability is whether water continues to be abstracted at the same rate and quality as when the supply system was designed, continue to function and be used as planned, and whether environmental quality continues to improve. In his writings, he identified key factors that influence sustainability including availability of money for recurring expenses and occasional repair, acceptance from users of the service, adequacy of service providers, appropriate design and quality of works. The sustainability of the commissioned projects are enhanced by ensuring that only projects prioritized by the beneficiaries are implemented, building the capacity of the beneficiaries and enhancing project ownership. Project implementers ensure that a management and sustainable operations concept is established to ensure projects continues to meet the needs of the recipients over time. This is through key stakeholder's involvement from project preparation phase. (Irrigation, 2016)

According to the Kenya National Water Services Strategy (2018 - 2022), sustainable water access levels in Kenya were estimated to be at 60%, while sanitation was estimated at 68%. According to Minyiri and Muchelule (2018), a closer look at Kenya's water projects leaves no doubt that performance is a challenge. This is evident in most of the water projects that have been undertaken over time with little impact despite the resources used. People lack proper services because systems fail, often because not enough resources are invested to appropriately build and maintain them, and also because of the stress that the fast growing population places on the existing infrastructure.

In Kiambu County, 50% of the water projects implemented were successfully completed. This indicates that various water projects face enormous challenges of implementation. In Kakamega, Kanda, Muchelule and Mamadi (2016) established that financial capacity, owner

interference, and an imposition of contract duration, decision-making ability and change in project scope influence project implementation. Correlation analysis indicated that these factors had a weak but significant positive relationship with project completion. After the 2013 general election, and the coming into effect of the new constitution, provinces became defunct and the country was now divided into 47 counties. Each county has its own government and therefore there is no central regional capital. Mt Kenya region comprises of Meru County, Tharaka Nithi, Embu, Kirinyaga, Nyeri, Muranga, Kiambu County and Laikipia County

Statement of Problem

The Kenyan Government through its ministry of Water and sanitation has successfully done more than 50 annual water budget since independence. Despite this, 18 million people still struggle to get sustainable water supply in Kenya. This has been caused by fast growing population, global warming and poor management of water projects (Mulwa, Li, & Fangninou, 2021). In Mount Kenya region, More than 36% of its population lack access to clean water. This is despite the many projects and policies done in the region to mitigate water shortage (Mutua, Omuterema, & Gweyi, 2016). According County Development report (2018), Most counties in Mt Kenya region have a water shortage of an average of 44.7% to meet its demand. Mt Kenya region has many water projects that have been established, but have collapsed immediately after the project closure . According to (Masombe & Omwenga, 2020) on factors hindering implementation of water projects, inadequate stakeholder management during project planning is one key factor. This is the reason for many collapsed projects in the region. .On realizing this gap, this research was done to show the influence of adequate stakeholder management on implementation of water projects in Mt Kenya Region, Kenya.

In Kenya, Mwanza, Namusonge and Makokha (2020) conducted a study on the influence of project stakeholders' practice on performance of construction projects in Kakamega County. Mabrouk, Sperandio and Girard (2017) conducted a study on stakeholder management in a Collaborative Project for a Sustainable Development. However, none of these studies showed the influence of stakeholder management on implementation of water projects in Mt Kenya Region, Kenya. To fill the highlighted gaps, the current study sought to assess the influence of stakeholder management on implementation of water projects in Mt Kenya Region, Kenya.

General objective

To analyse the influence of stakeholder management on implementation of water projects in Mt Kenya Region, Kenya

Specific Objectives

i. To establish the effect of stakeholder need identification on implementation of water projects in Mt Kenya Region, Kenya.
ii. To establish the influence of stakeholder participation on implementation of water projects in Mt Kenya Region, Kenya

Theoretical Framework

General System Theory

Systems theory was proposed in the 1940s by Ludwig von Bertalanffy. It was originally developed for biological sciences but later incorporated into other fields as it was modified into general systems theory. According to the theory, a system can be said to consist of elements, attributes and internal relationships and that it exists in an environment. A system, therefore, is a set of things that affect one another within an environment and form a larger pattern that is different from any of the parts (Rosen, 2018).

According to this theory, all systems are interrelated parts constituting an ordered whole and each sub system influences other parts of the whole. This implies that strengthening one part of the system will improve the whole. Similarly weakening one part will have negative implications on the whole. It is used to develop a holistic view of a system within an environment and is best applied to situations where the elements within the system inextricably connect and influence one another.

In applying the theory, the study holds the view that a project (system) comprises various elements (in this case stakeholders); the donors, implementing agencies and beneficiaries, among others. These interact and all have a key role in contributing to the success of a project. Neglecting one element will have an effect on the project performance. Stakeholder participation is one attribute that has been overlooked resulting in project failure. Therefore increasing participation by stakeholders will contribute to the good of the whole. This study will therefore use general systems theory to assess the influence of stakeholder need identification on implementation of water projects in Mt Kenya Region, Kenya.

Stakeholder Theory

Stakeholders Theory as indicated by Donaldson and Preston (1995); Evans and Freeman (1988) and Freeman (1984) models and identifies stakeholders in an organization and also describes how stakeholders and their interests should be managed. Harrison and Wicks (2013) indicate that stakeholders' theory sought to address the principle of what and who in a project rally counts. Unlike the traditional view of looking at an organization where only the owners matter, the stakeholders theory indicates that other parties include suppliers, communities, financiers, political groups, government bodies, employees and customers (Njogu, 2019).

The objective of this theory is to enable managers to have an understanding of stakeholders and manage them strategically (Ketokivi& Mahoney, 2016). The importance of stakeholders' management is described in several studies (Sama-Lang &Zesung, 2016; Harrison & Wicks, 2013). This theory has been applied in different fields despite it having a strategic management origin and the manner in which it is used is distinct where it uses different methods, and criteria of evaluation (Shepard & Gonzalez, 2015).

The theory puts emphasis on this theory emphasizes on a significant relationship between stakeholders and the top management staff (Wu and Wokutch (2015). In specific, the managers should understand that stakeholders affect the success of projects (Takim, 2019). The relationship with the top management determines the stakeholder's participation

Bridoux and Stoelhorst (2014) outline four basic premises of stakeholder theory. First, a project has relationships with stakeholders who are influenced by the decision it makes. Secondly, the theory's concern is on the relationship's nature in terms of the outcomes and processes of its stakeholder. Thirdly, the intrinsic value of all stakeholders and not one interests group is assumed to rule over the others. Lastly, this theory places its focus on the decisions made by the management. This study will use stakeholder's theory to assess the influence of stakeholder participation on implementation of water projects in Mt Kenya Region, Kenya

Conceptual Framework

The conceptual framework as indicated in figure 2.1 presents the association between the research variables; independent variables (stakeholder need identification and stakeholder participation) and dependent variables (implementation of water projects in Mt Kenya Region, Kenya).

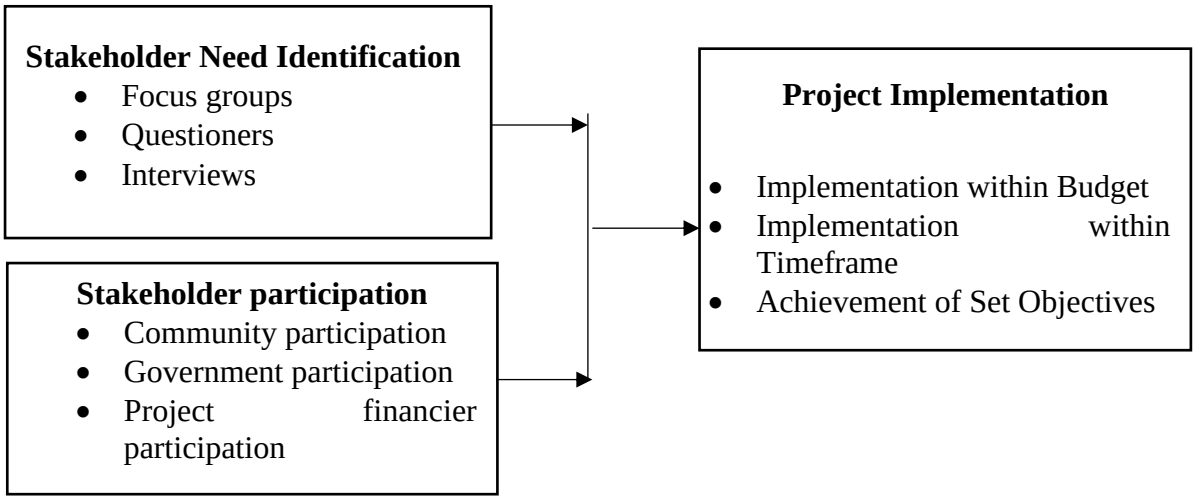

Figure 1: Conceptual Framework

Stakeholder Need Identification

Stakeholder need identification is the first step in stakeholder management. Identifying, analyzing and communicating – these are the three essential activities in dealing with stakeholders. Stakeholder identification therefore takes place before the stakeholder analysis. It aims to identify all organizations and individuals who are directly or indirectly affected by a company's activities or who have a specific interest in these activities. The result should be a list of all stakeholders (Muthuveloo, Ping & Meng, 2020).

According to Ali and Gitonga (2019) stakeholder identification is a process of determining who your project's stakeholders are and what can be their effects on your project's objectives. It takes place before the process of stakeholder analysis. It is critical to identify the stakeholders in the early phases of a project and manage them throughout the entire project's life cycle.Typically, at the beginning of a project, everything is quite complicated. Therefore it is difficult to understand who is affected by the project. Stakeholder identification is a perpetual process because as the project progresses new stakeholders arise and some of them may disappear. There are many useful tools and techniques that can be used for stakeholder identification and analysis(Hassan, 2015).

Kinyua (2016) indicates that the work of identifying stakeholders and analysing them is done not just by the Project Manager alone. The entire project team, in consultation with subject matter experts, project managers of past similar projects and even senior executives need to be involved in this. Records of past projects and data gathering techniques help in determining and analysing stakeholders.A document that assimilates all the information collected related to stakeholders is called the Stakeholder Register. It is maintained by the Project Manager and his team. All the information about stakeholders is compiled in this stakeholder register, an output of the "Identify Stakeholder" process(Muthuveloo, Ping & Meng, 2020).

Stakeholder Participation

Stakeholder participation is the process by which an organization involves people who may be affected by the decisions it makes or can influence the implementation of its decisions. Stakeholder participation is a key part of corporate social responsibility (CSR) and achieving the triple bottom line. Companies engage their stakeholders in dialogue to find out what social and environmental issues matter most to them and involve stakeholders in the decision-making process (Mambwe*et al*. 2020).

Stakeholder participation is used by mature organizations in the private and public, especially when they want to develop understanding and agreement around solutions on complex issues and large projects. Stakeholder participation provides opportunities to further align business practices or knowledge production with societal needs and expectations, helping to drive long-term sustainability and shareholder value. Stakeholder participation is intended to help the practitioners and their organization, to compete in an increasingly complex and ever-changing business environment, while at the same time bringing about systemic change towards sustainable development (Magassouba, 2019).

Stakeholder participation helps organizations to proactively consider the needs and desires of anyone who has a stake in their organization, which can foster connections, trust, confidence, and buy-in for your organization's key initiatives. When done well, stakeholder participation can mitigate potential risks and conflicts with stakeholder groups, including uncertainty, dissatisfaction, misalignment, disengagement, and resistance to change. When it comes to strategic planning, stakeholder engagement is critical. It's important that the stakeholders understand why the organization exist, where it want to go, and how it is going to get there (Eshiwani, 2015).

Empirical Review

Stakeholder Need Identification and Project Sustainability

Ali and Gitonga (2019) conducted a study on the influence of stakeholders identification on the performance of national government constituency development fund projects in Wajir west constituency, Kenya. The study adopted a descriptive research design. The target population for this study was 261 comprising of Community leaders, Constituency Development Fund Committee, Project Management Committee and County officials. The study used a sample of 78 selected using stratified random sampling techniques. Primary data was obtained using self-administered questionnaires. The study found that stakeholder identification influences project implementation.

Hassan (2015) conducted a study on the influence of stakeholders identification on performance of constituencies development fund projects a case of Isiolo north constituency, Kenya. The research study adopted a descriptive survey design. The target population for this study was representatives from all one hundred and fifty five CDF projects (155) in Isiolo North Constituency. Data was also collected from fifteen (15) CDF committee members and five (5) government representatives (departmental Heads).The study found that stakeholder identification influences project performance.

Muthuveloo, Ping and Meng (2020) conducted a study on the impact of stakeholder identification on organizational commitment: evidence from Malaysia. This study attempts to identify key aspects pertaining to care of organizations towards their stakeholders and their impact on organizational commitment based on the Social Exchange Theory (SET). A quantitative research approach was applied and a total of 287 samples were collected from working individuals across different organizations located in Penang, Malaysia. This study found that among all the organizational stakeholder care that was provided to employees,

extended family, CSR, suppliers and customers, employees and suppliers were found to be positively and significantly associated with organizational commitment and all its dimensions.

Kinyua (2016) conducted a study on stakeholder identification and financial performance of deposit taking SACCOs in Kenya. Stratified random sampling was done to determine sample size. Data was collected from a sample of 64 Deposit taking SACCOs out of a population of 180 licensed DTS. The sample size was 130 respondents. Descriptive research method was used in this study. Questionnaires were used to collect primary data. To ensure that the research instrument yields valid data, the researcher engaged expert in the relevant field in scrutinizing it. The study found that stakeholder identification influences performance of deposit taking SACCOs.

Stakeholder Participation and Project Sustainability

Mambwe*et al*. (2020) conducted a study on the impact of stakeholder participation on performance of projects in Lusaka District. The study established that there was a significant relationship between stakeholders' engagement on performance of project specifications. Regression Analysis results also showed that there is a linear correlation between stakeholder engagement and performance of project specifications such that stakeholder engagement could be used to predict levels of performance of project specifications. Also, if stakeholder engagement levels increase, so are the levels of performance of project specifications.

Magassouba (2019) conducted a study on influence of stakeholder participation on development project performance in Guinea. Monitoring and evaluation in project identification, planning, implementation and monitoring enhances the chance of project success and it is an appropriate way to achieve an organization goals. The information collected on stakeholders' involvement in previous study indicated the strong connection between project performance and various stakeholders and many authors agreed and are conducting more substantial investigations to ground those findings. Therefore, as discussed in the literature, stakeholders engagement through identification, planning, implementation, monitoring and control contribute in a very great extent to project success.

Njogu, (2019) stated that sustainability of universal health coverage should engage stakeholders from all sectors of society. Health and wellbeing depends on socioeconomic, geographic, demographic and political determinants. This requires integrating risk-mitigating strategies into long-term inter-sectoral development planning to improve management of shocks and stresses, while supporting broader favourable outcomes for health, resilience and sustainable development overall. Domestic government-led financing offers the clearest foundation to efforts towards universal health coverage, strengthened by political engagement and effective governance. Adaptive support mechanisms and financial instruments, potentially backed by international funding mechanisms, can offer incentives for preparedness and effective response to the impacts of shocks and stresses.

Nturibi, (2016) stated that universal health coverage ensures that all people can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship has continued to dominate in health care. This continues to attract the attention of many stakeholders including governments (Turner, 2013). This is because it embodies three related objectives namely equity in access to health services-those who need the services should get them, not only those who can pay for them; that the quality of health services is good enough to improve the health of those receiving services; and finally financial risk protection which aims at ensuring that the cost of using care does not put people at risk of financial hardship

RESEARCH METHODOLOGY

Research Design

This study adopted a descriptive research design. According to Mangal & Mangal (2013), a descriptive research refers to a research design used in accurately describing the research population characteristics and the study variables. This design is one of the most widely used non-experimental research designs across disciplines to collect large amounts of survey data from a representative sample of individuals sampled from the targeted population. The study adopted the design as it helps describe the situation as it exists.

Target Population

Mt Kenya region was the target area of study. The region has a total of 8 counties which include; Meru County, Tharaka Nithi, Embu, Kirinyaga, Nyeri, Muranga, Kiambu County and Laikipia County. The total population was 420 consisting of 60 community leaders,40 government officials,6 project management committees and 12 county water engineers.

Table 1: Target Population

Category	Target Population
Community leaders	60
Government officials	40
6 PMC	308
County water Engineers	12
Total	**420**

The sampling frame analyzes the list of population entities being sampled for the research (Cooper & Schindler, 2018). A sample frame is a list containing all the sampling units (Tracy, 2019). In this study, the sampling frame was a list of all the 420 respondents.

Sample Size and Sampling Technique

A section of a research process that is selected as an element of data collection is referred to as sampling (Sekara & Bougie, 2019). According to (Oribhabor & Anyanwu, 2019) the sample size should be sufficient and should give efficient results. The sample size was obtained using the Nassim formula

$n=Nc^2 / (c^2+ (N-1) e^2)$

Where: n = sample size N= accessible population c= Coefficient of Variance (0.6) e= standard

Error (0.05)

$N=420(0.6)^2/ [0.6^2+ (420-1)0.05^2] =130$

Table 2: Sample Size

Target population	Respondents	Sample size
Community leaders	60	42.5
Government officials	40	31
6 PMC	308	46
County water Engineers	12	11
Total	**420**	**130**

The 130 respondents were chosen with the help of stratified random sampling technique. Stratified random sampling technique was used since the population of interest is not

homogeneous and could be sub-divided into groups or strata to obtain a representative sample. The study then used simple random sampling to select respondents from each group.

Data Collection Instruments

Data collection refers to the gathering of information to serve or prove some facts (Kothari & Garg, 2014). The study collected primary data. Primary data was collected by use of a questionnaire. A questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from respondents. The questionnaires consisted of two parts and six sections. Part I obtained the demographic information of respondents. On the other hand, part II was divided into five sections, 1-5 which sought to obtain responses to the Likert scale items on dependent variables and independent variable.

Pilot Study

According to Kothari and Garg (2019) a pilot study is a small study conducted prior to a large piece of research to determine whether the methodology, sampling, instruments and analysis are adequate and appropriate. Failure to pilot can contribute to haphazard work in the field (Kombo & Tromp, 2006). A pilot study was conducted to test the instrument's reliability and validity, the completeness or responses, and analyze the various measures within the instrument. Piloting was done on 13 questionnaires; this constituted 10% of the target sample. According to Cooper and Schilder (2019), 5% to 10% of the target sample should comprise the pilot test for assisting in the establishment of reliability of the questionnaire. The respondents used in pilot test were excluded from the final study.

Data Processing and Analysis

This study used both inferential and descriptive statistics to analyze the data. Descriptive statistics enable the researcher to meaningfully describe a distribution of measurements and summarize data (Kothari, 2019; Mugenda & Mugenda, 2019). The descriptive statistics included frequency, percentages and means, summary graphs, pie charts and frequency distribution tables were employed to portray the sets of categories formed from the data.

Inferential statistics was also used to test the relationship between the study variables. The study used correlation and regression analysis. Pearson R correlation was used to measure strength and the direction of linear relationship between variables. Multiple regression models were fitted to the data in order to determine how the independent variables affect the dependent variable.

Multiple regression Analysis was used in this study because it uses the independent variables in predicting the dependent variable. It is a statistical tool attempting to establish whether some variables can be used together in predicting a particular variable (Mugenda & Mugenda, 2018).

The regression model used in this study was as follows;

$Y = \alpha + X_1\beta_1 + X_2\beta_2 + \mu$

Where Y is implementation of water projects in Mt Kenya Region, Kenya

X_1 is stakeholder need identification

X_2 is Stakeholder participation

$\beta_1 - \beta_2$ are regression coefficients

μ is the error term

α is a constant or the y- intercept

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Descriptive Statistics Analysis

Stakeholder Need Identification and Implementation of Water Projects

The first specific objective of the study was to establish the effect of stakeholder need identification on implementation of water projects in Mt Kenya Region, Kenya. The respondents were requested to indicate their level of agreement on the statements relating to stakeholder need identification and implementation of water projects in Mt Kenya Region, Kenya. The results were as shown in Table 3

From the results, the respondents agreed that stakeholder need identification influences sustainability of water projects. This is supported by a mean of 3.896 (std. dv = 0.865). In addition, as shown by a mean of 3.819 (std. dv = 0.945), the respondents agreed that use of focus groups influences sustainability of water projects. This is shown by a mean of 3.819 (std. dv = 0.945). The respondents also agreed that use of questioners to identify stakeholder needs play a significant role on sustainability of water projects. This is shown by a mean of 3.798 (std. dv = 0.611). With a mean of 3.731 (std. dv = 0.908), the respondents agreed that use of interviews influences the sustainability of water projects. In addition, the respondents agreed that they are satisfied with the stakeholder need identification strategies used. This is shown by a mean of 3.661 (std. dv = 0.776).

Table 3: Stakeholder Need Identification and Implementation of Water Projects

	Mean	**Std. Deviation**
Stakeholder need identification influences sustainability of water projects	3.896	0.865
Use of focus groups influences sustainability of water projects	3.819	0.945
Use of questioners to identify stakeholder needs play a significant role on sustainability of water projects	3.798	0.611
Use of interviews influences the sustainability of water projects	3.731	0.908
Am satisfied with the stakeholder need identification strategies used	3.661	0.776
Aggregate	**3.772**	**0.841**

Stakeholder Participation and Implementation of Water Projects

The second specific objective of the study was to establish the influence of stakeholder participation on implementation of water projects in Mt Kenya Region, Kenya. The respondents were requested to indicate their level of agreement on various statements relating to stakeholder participation and implementation of water projects in Mt Kenya Region, Kenya. The results were as presented in Table 4.

From the results, the respondents agreed that stakeholder participation influences sustainability of water projects. This is supported by a mean of 4.168 (std. dv = 0.905). In addition, as shown by a mean of 3.959 (std. dv = 0.885), the respondents agreed that community participation influences sustainability of water projects. Further, the respondents agreed that government participation play a significant role on sustainability of water projects. This is shown by a mean of 3.920 (std. dv = 0.605). With a mean of 3.815 (std. dv = 0.981), the respondents agreed that project financier participation influences the sustainability of water projects. Further, with a

mean of 3.811 (std. dv = 0.873), the respondents agreed that they are satisfied with the level of stakeholder participation in relation to project implementation.

Table 4: Stakeholder Participation and Implementation of Water Projects

	Mean	Std. Deviation
Stakeholder participation influences sustainability of water projects	4.168	0.905
Community participation influences sustainability of water projects	3.959	0.885
Government participation play a significant role on sustainability of water projects	3.920	0.605
Project financier participation influences the sustainability of water projects	3.815	0.981
Am satisfied with the level of stakeholder participation in relation to project implementation	3.811	0.873
Aggregate	**3.890**	**0.867**

Inferential Statistics

Inferential statistics in the current study focused on correlation and regression analysis. Correlation analysis was used to determine the strength of the relationship while regression analysis was used to determine the relationship between dependent variable (implementation of water projects in Mt Kenya Region, Kenya) and independent variables (stakeholder need identification and stakeholder participation).

Correlation Analysis

The present study used Pearson correlation analysis to determine the strength of association between independent variables (stakeholder need identification and stakeholder participation) and the dependent variable (implementation of water projects in Mt Kenya Region, Kenya) dependent variable. Pearson correlation coefficient range between zero and one, where by the strength of association increase with increase in the value of the correlation coefficients.

Table 5: Correlation Coefficients

		Project Implementation	Stakeholder Need Identification	Stakeholder Participation
Project Implementation	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	121		
stakeholder need identification	Pearson Correlation	.852**	1	
	Sig. (2-tailed)	.001		
	N	121	121	
stakeholder participation	Pearson Correlation	.912**	.189	1
	Sig. (2-tailed)	.000	.081	
	N	121	121	121

From the results, there was a very strong relationship between stakeholder need identification and implementation of water projects in Mt Kenya Region, Kenya (r = 0.852, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings conform to the findings of Ali and Gitonga (2019) that there is a very strong relationship between stakeholder need identification and project implementation.

The results also revealed that there was a very strong relationship between stakeholder participation and implementation of water projects in Mt Kenya Region, Kenya (r = 0.912, p value =0.000). The relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings are in line with the results of Mambwe *et al.* (2020) who revealed that there is a very strong relationship between stakeholder participation and project implementation

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (stakeholder need identification and stakeholder participation) and the dependent variable (implementation of water projects in Mt Kenya Region, Kenya)

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.929	.863	.864	.10120

a. Predictors: (Constant), stakeholder need identification and stakeholder participation

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r-squared for the relationship between the independent variables and the dependent variable was 0.863. This implied that 86.3% of the variation in the dependent variable (implementation of water projects in Mt Kenya Region, Kenya) could be explained by independent variables (stakeholder need identification and stakeholder participation).

Table 7: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.027	2	6.014	107.393	.000[b]
	Residual	6.568	118	.056		
	Total	18.595	120			

a. Dependent Variable: Implementation of Water Projects
b. Predictors: (Constant), stakeholder need identification and stakeholder participation

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 107.393 while the F critical was 3.073. The p value was 0.000. Since the F-calculated was greater than the F-critical and the p value 0.000 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of stakeholder need identification and stakeholder participation on implementation of water projects in Mt Kenya Region, Kenya.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	**(Constant)**	0.205	0.038		5.395	0.000
	stakeholder need identification	0.486	0.107	0.487	4.542	0.001
	stakeholder participation	0.430	0.091	0.431	4.725	0.000

a Dependent Variable: Implementation of water projects

The regression model was as follows:

$$\mathbf{Y = 0.205 + 0.486X_1 + 0.430X_2 + \varepsilon}$$

According to the results, stakeholder need identification has significant effect on implementation of water projects in Mt Kenya Region, Kenya, β1=0.486, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings conform to the findings of Ali and Gitonga (2019) that there is a very strong relationship between stakeholder need identification and project implementation.

In addition, the results revealed that stakeholder participation has significant effect on implementation of water projects in Mt Kenya Region, Kenya β1=0.430, p value= 0.000). The relationship was considered significant since the p value 0.000 was less than the significant level of 0.05. The findings are in line with the results of Mambwe *et al.* (2020) who revealed that there is a very strong relationship between stakeholder participation and project implementation

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study concludes that stakeholder need identification has a positive and significant effect on the implementation of water projects in Mt Kenya Region, Kenya. Findings revealed that focus groups, questioners and interviews influence the sustainability of water projects

The study also concludes that stakeholder participation has a positive and significant effect on the implementation of water projects in Mt Kenya Region, Kenya. Findings revealed that community participation, government participation and project financier participation influence the sustainability of water projects.

Recommendations

The study found that stakeholder need identification has a positive and significant effect on the implementation of water projects in Mt Kenya Region, Kenya. This study therefore recommends that Counties in Mt Kenya region should ensure an effective and efficient framework is implemented to enhance stakeholder need identification

The study also found that stakeholder participation has a positive and significant effect on the implementation of water projects in Mt Kenya Region, Kenya. This study therefore recommends that Counties in Mt Kenya region should ensure stakeholder participation in all phases of projects implementation and project sustainability

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