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STAKEHOLDER MANAGEMENT AND PERFORMANCE OF IRRIGATION SCHEMES IN KISUMU COUNTY, KENYA

[1] Awino Jullyane Okello, [2] Dr. Mungai Annemarie Wairimu

[1] Msc. Project Management, Jomo Kenyatta University of Agriculture and Technology, Kenya

[2] Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

ABSTRACT

The general objective of the study was to examine the effect of stakeholder management on performance of irrigation schemes in Kisumu County, Kenya. The specific objectives were to determine the effect of stakeholder mapping, and stakeholder engagement assessment. This study was guided by the program theory and Resource-Based Theory. The study employed a descriptive research design. The study targeted 5 irrigation schemes in Kisumu County. The unit of observation was 62 project committee members, 15 block leaders, and 15 counties' ministry of water, sanitation and irrigation officials. The sample size was determined using census since the study population is less than 200. This study used primary data which was collected using questionnaires. A pilot was collected with 10% of the sample hence 9 people who are actively involved in the management of the irrigation schemes. The study used content and construct validity. Cronbach's alpha was used to measure reliability of the questionnaires. Content validity index was 0.9100 (94.8%) proves that validity of the items implying that they are suitable in helping to achieve the study objectives. Construct validity test shows that all constructs were valid since they meet the 0.5 AVE threshold. Reliability test shows that all the items had an acceptable Cronbach's Alpha scale of more than 0.7 (0.856). Findings show a strong significant relationship between stakeholder mapping and project performance (r=0.520, p=0.000), and a strong significant relationship between stakeholder engagement assessment and project performance (r=0.595, p=0.000). The study recommends that; the project managers should allocate adequate funds for project implementation, the project plan should be outlined clearly to show the work plan and expected timelines for every project phase, and the project managers should make use of innovative monitoring tools to get real time data on the stakeholders engagement and project progress.

Key Words: stakeholder management, stakeholder mapping, stakeholder engagement assessment,

Performance, irrigation schemes, Kisumu County

Background of the Study

Stakeholder management involves process and control that must be planned and guided by underlying principles. The advantage of stakeholder management include eliminating conflicting interests among stakeholders, reducing the pressure of management to produce short-term results, reducing the cost associated with a high turn-over among stakeholders and providing the firm with committed stakeholders in an environment characterized by increasing competition (Aaltonen et al., 2018). Stakeholder management is the process which involves the establishment, monitoring and maintaining ideal relationships with an organization's stakeholders. Organizations need stakeholders so as to accomplish their goals and stakeholders therefore become an instrument which provides the organizations with resources and support towards ensuring that the required goals are attained (Mampaey, Brankovic & Huisman, 2017).

Stakeholder management involves activities through which organizations identify all their stakeholders. This is followed by an assessment exercise which is aimed at determining the stakeholders' interests and commitment and how they influence the organization's activities and performance (Smith, Russell & Tennent, 2017). Project stakeholders involve both internal and external to the project (O'reilly, 2019). Internal stakeholders include project financiers, project team, and support team while external stakeholders include project beneficiaries, competitors, suppliers, the wider community and other Government entities. The government's general strategy to stakeholder engagement heavily influence how initiatives and programs interact with their stakeholders.

Stakeholder management influences more than project time and cost. Vuorinen and Martinsuo (2019) noted that stakeholders influence four project dimensions: communication, complaints, decision-making authority, and supervision. For every project, either small or large, there is always a need of stakeholder engagement, being public or community members who are impacted or to be impacted by the project. Yet, many organizations do not put enough emphasize on how to effectively engage with these groups in their projects to ensure better performance. Engaging stakeholders at a very early stage in the project is key to successful outcomes. If project stakeholders are not committed to the project, they may become a source of risk within the project (Windsor, 2021).

Globally, successful organizations have developed effective and meaningful ways to deal with diverse stakeholders' interests. As a result, the organizations have brought forth a competitive advantage and discovered various opportunities that had not been discovered in the past, including the unmet stakeholders' demands and requirements or the new resource combinations that the stakeholders provide to the companies. Stakeholder engagement is increasingly becoming a key element is project implementation that ensures successful project implementation globally (Karlsen, Graee, & Massaoud, 2018

According to Mwanaumo and Mambwe (2019), stakeholder engagement significantly reduces workplace accidents, misfortunes, and injuries particularly in construction projects. This reduces the likelihood of poor scheduling due to time wastage. Munns and Bjeirmi (2016) highlight some of the common challenges faced by projects in Africa which re mainly caused by poor or lack of stakeholder engagement. Magassouba, Tambi, Alkhlaifat, and Abdullah (2019) asserted that stakeholder involvement in project identification, planning, implementation and monitoring enhances the chance of project success and it is an appropriate way to achieve an organization goals.

Statement of the Problem

Agriculture dominates the Kenyan economy and small holder irrigation projects offer a crucial function in irrigation activities. Agriculture accounts for 65% of Kenya 's overall exports and offers more than 18% of formal jobs (KNBS, 2023) Kenya's Government (GoK) initiated its National Water Master Plan 2030 in 2014, with targets to increase the irrigated area up to approximately 970,000 hectares in 2030 (FAO, 2015). Irrigation programs has the potential to contribute to the political and economic stability of Kenya. Smallholder agriculture dominates the sector contributing 75% of the crops and livestock production

Irrespective of the contribution of the irrigation schemes to food security and poverty alleviation, exploitation of irrigation in Kenya has not translated into project success. The potential of the irrigation schemes have not been exploited. The irrigation schemes have only realized 40% of the target production levels and 28% of the expected revenues compared to private operated irrigation schemes. According to Mboi (2018), sustainability of several irrigation schemes for smallholder communities in Kenya is a challenge mainly due to water shortage. National Irrigation Authority (NIA) spends about KS 22 million annually to pump water to the Western Kenya Irrigation Schemes (Ahero and West Kano) only to produce less than 50% of the targeted rice yields (Alal 2019). Irrigation canal design concerns, and notably ineffective water conveyance to the paddy fields, are some of the causes of the declining rice production levels. Ooro (2018) found that approximately 50% of small holder irrigation schemes in Kisumu County operate below capacity similarly due to the above named challenges, thereby questioning their level of sustainability. Data from Nyando sub-county office of irrigation suggests about 50% of small holder irrigation schemes in Kisumu County operate below capacity similarly due to the above named challenges, thereby questioning their level of sustainability. Muema (2018) found that the average performance in the Ahero, West Kano and Bunyala irrigation schemes *was 48%, 49% and 56%, respectively*. He also added that the continuous flooding method of water application used in rice farming in Ahero, West Kano, Bunyala and Mwea utilizes a lot of water, thus making rice production during drought periods to be very low. Lefore et al. (2019) assert that politically connected individuals who are well resourced reduce the growth of irrigation. This is because poor farmers are disadvantaged and their control over natural resources is more entrenched. Furthermore, current economic environments prevent irrigation from reaching the number of people who can benefit both directly and indirectly from equitable access to irrigation.

Several studies have been done on stakeholder engagement. Ibrahim (2019) studied influence of stakeholder participation on project performance in Wajir County and found that stakeholder involvement has positive effect on project performance. Maina (2018) on influence of stakeholder management on project performance found that stakeholders' participation positively enhances project performance of Open air Market project. Mageto, Kitheka, and Ogolla (2021) study on effect of project stakeholder management on the performance of road construction projects in Mombasa County, Kenya concluded that project stakeholder identification, project stakeholder mapping, project stakeholder analysis and stakeholder risk management have a positive and significant effect on the performance of road construction projects in Mombasa County, Kenya. However, little or no evident study has been conducted in the area of "project stakeholder management on the performance of irrigation schemes in Kisumu County, Kenya". The study hence sought to fill the research gap by examining the effect of stakeholder management on performance of irrigation schemes in Kisumu County, Kenya.

General Objective

The general objective of the study was to examine the effect of stakeholder management on performance of irrigation schemes in Kisumu County, Kenya.

Specific Objectives

i. To determine effect of stakeholder mapping on performance of irrigation schemes in Kisumu County, Kenya.
ii. To establish effect of stakeholder engagement assessment on performance of irrigation schemes in Kisumu County, Kenya.

LITERATURE REVIEW

Theoretical Literature Review

Program Theory

The program theory was propounded by Bickman (1987). The theory provides a framework for understanding a program's success or failure. It provides the underlying assumptions that explain why planned activities should achieve the desired impact. The program theory has been used to manage projects for a long time. Ladhani and Sitter (2018) asserted that specifying a program theory to funders, planners, staff, and evaluators will assist them in carrying out their duties since they know what is expected of them. It explains how funding is being utilized and focuses on the outcomes as it clarifies the program's perspective upon which project monitoring and evaluation can be based. A detailed description of the process or mechanisms of the program theory includes information about the critical steps, links, and phases of the expected transformation process and some implementation issues. The social protection programs from the government and private sector need to be well crafted and provide a clear roadmap to the number of individuals they help reduce poverty (Ouma & Adésínà, 2018). This theory support the objective on stakeholder mapping since it analyzing the skills and abilities of the identified stakeholders. This will guide the project implementers on role allocation to the stakeholders.

Resource-Based Theory

Resource Dependency Theory Pfeffer and Salancik came up with this theory in 1978 through their publication The External Control of Organizations: A Resource Dependence Perspective. Since this theory was developed, it has been embraced for its influence on organizational theory as well as strategic management (Hillman, Withers & Collins, 2009). According to this theory organizations use resources to undertake their functions and achieve results. Resource Dependency Theory concerns the way organization's behavior is affected by external resources it utilizes such as raw materials. The resources are always in scarce supply and are sourced from an external environment. How an organization gathers, alter and exploit resources will greatly determine its survival and attainment of goals.

This theory clearly explains why organizations take given measures like mergers, acquisitions or inter-organizational relationships in a bid to either consolidate resources, reduce competition for scarce resources within the environment or to reduce uncertainty and interdependence. This is largely because most organizations are viewed as open systems relying on the external environment. Critics of resource dependency theory argue that there has been tremendous improvement in communication and transport technology introducing new levels of environmental dependency between organizations and their competitors. Controlling interdependencies may also lead to unexpected consequences like new patterns of dependence (Wambua, 2019). Project planning and implementation requires the allocation and use of human resources, financial resources as well as equipment. These resources can only be sourced from the external environment that is the community, the government or donors. Allocation of financial resources to the irrigation schemes will ensure that all the resources needed for the project are availed on time. This theory is therefore supports the third objective on engagement assessment.

Conceptual Framework

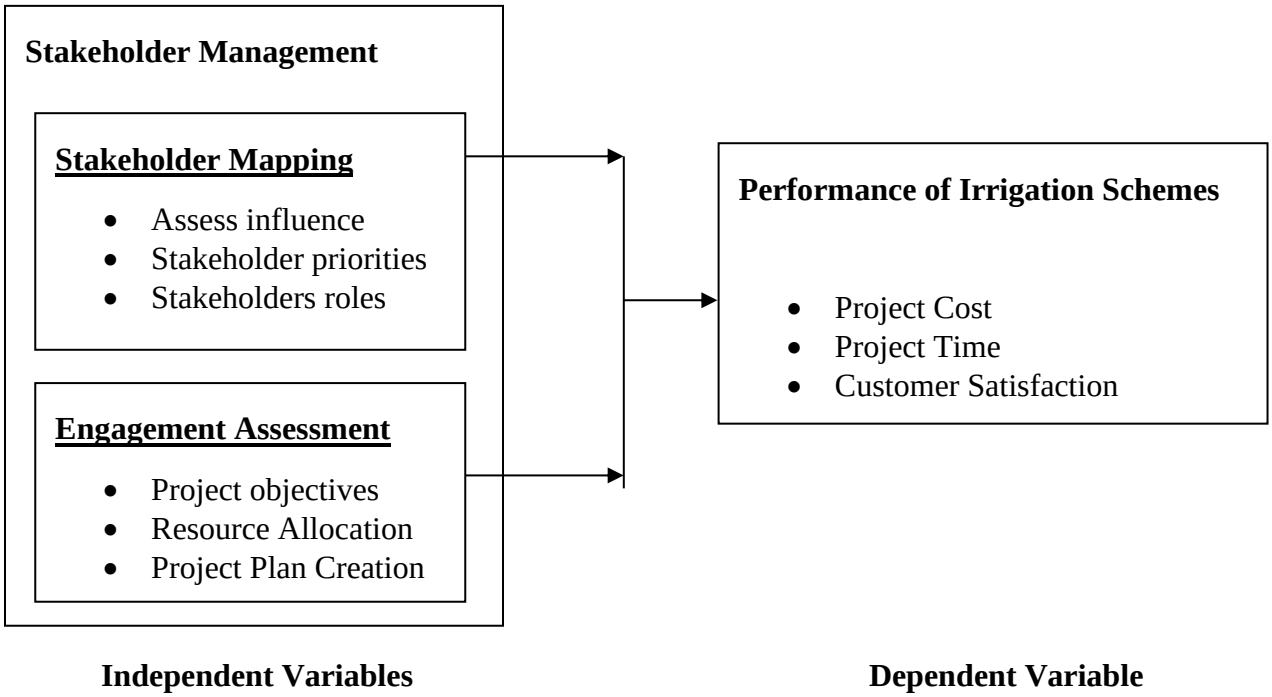

Figure 1: Conceptual Framework

Stakeholder Mapping

Stakeholder mapping is the process of identifying and categorizing key stakeholders involved in achieving the policy objectives of an organization. Stakeholder Mapping is a tool used to analyze and prioritize the engagement of stakeholders when you are planning to implement a project. This tool helps a project manager and a project team generate information about stakeholders to understand their interests and assess their influence in order to successfully implement and sustain a new initiative. Stakeholder mapping offers the first step of identifying stakeholders, a simple way to visualize stakeholders and their likely impact and influence. In addition, the approach is simply to list stakeholders along one axis of a table, list the significant stakeholder interest along another axis of the table and to then indicate the perceived magnitude of their interest (Cleland, 2019).

Thorough and comprehensive mapping is a critical first step in stakeholder engagement. The critical importance of stakeholder mapping lies in the fact that the process of understanding stakeholders' needs and interests. It is also the building block of establishing a working relationship between all the parties involved and a determinant of the effectiveness of the stakeholder engagement framework in eliciting inputs that will inform and improve the objectives and outcomes that an investment plan is intended to deliver. Stakeholders with high interest and high influence are the major contributors and need to be engaged at the onset of the project. Stakeholders with low interest in the initiative and low influence will require minimum effort (Singh, Gmyrek, Hernandez, Damon, & Hayashi, 2017).

Stakeholder Engagement Assessment

The stakeholder engagement assessment matrix is a tool used to assess and prioritize stakeholders in a project or organization. It helps to identify which stakeholders are most important and relevant to a project or organization and determine the level and type of engagement that is required for each stakeholder. The stakeholder engagement assessment matrix, or SEAM, is a decision-making

tool that allows a project manager to take stock of a project's existing stakeholder relationships and plan how to best move forward with them based on the level of current engagement established with each group. A SEAM helps you choose which stakeholders to engage more deeply with, which ones to remove from the list of responsibilities, and which ones to work around in order to successfully complete a project on time and on budget (Mambwe et al., 2020). Dacha and Juma (2018) observed that stakeholders need to be effectively engaged in construction projects procurement processes in order to avoid cost overruns which may come in form of delays.

Empirical Review

Stakeholder Mapping and Project Performance

Mannetti, Göttert, Zeller, and Esler (2019) sought to find out the effectiveness of stakeholder identification on national park program in Namibia. Findings showed that the park management classified the important stakeholders into groups according to their importance in the project. A consideration of stakeholder salience, different perceptions surrounding the benefits of living adjacent to a protected area, led to better implementation of integrated conservation areas. Ochieng and Onyango (2019) conducted a study to assess the influence of stakeholder analysis on the performance of water and sanitation projects in Homabay County, Kenya. The study adopted the descriptive research design and targeted respondents from Homabay Water and Sanitation Company Limited, county water officers, NGO technical officers and commercial and domestic users. The sample size of 274 was determined from the formula proposed by Yamane. Data was collected using questionnaires. The study findings revealed that stakeholder analysis greatly influence the performance of water and sanitation projects in Homabay County, Kenya.

Mugata and Muchelule (2018) aimed at establishing the effect of stakeholder analysis on performance of road construction projects in Elgeyo Marakwet County. The study population comprised of 19338 individuals who included employees of the county working within the road sector, personnel within various road construction agencies, contractors and community beneficiaries of the project. Data collection instruments were self-administered questionnaires for personnel working directly with the project. The study found out that stakeholder analysis had significant effect on performance of road construction projects.

Stakeholder Engagement Assessment and Project Performance

Mambwe, Mwanaumo, and Nsefu (2020) studied the assessment of relationships between stakeholder engagement on project performance. The research approach that was adopted was a quantitative with descriptive research design. Questionnaires were used to collect data. Findings revealed a strong and positive correlation between stakeholder engagement and project schedule also between stakeholder engagement and project specifications. Results also showed that stakeholder's engagement was strongly but negatively correlated to project cost. Mkutano (2018) investigative effect of stakeholder involvement on project performance on NGOs in Nairobi City. The study used a descriptive survey design with 201 NGOs working in Nairobi City. The study found that there was increased and improved performance in NGOs projects when effective project management practices were adopted. The study concluded that project planning ensured employees and stakeholders worked towards a common goal and M&E provided information that helped the management in decision-making as well as resource allocation.

Kihuha (2018) carried out a study on monitoring practices and performance of global environment facility projects in Kenya, a case of United Nations Environment Programme. The study sought to determine influence of stakeholder involvement in the planning process and performance of UNEP projects in Kenya. An exploratory research design was adopted and analysis performed using descriptive statistics. The study found out that involvement of stakeholders in the planning process

on allocation of funds and all the project stages enhanced the performance of the project and the projects where stakeholders were not involved did not perfume well. The study recommended establishment of strategic plans to define internal process on project planning and restructuring the stakeholder involvement process.

Onyango, Bwisa, and Orwa (2017) investigated public infrastructure projects and discovered that participatory planning had a significant impact on road project performance. The study concluded that conclusion that project leaders must involve decision makers in managing projects and making preparations of project activities. Ali (2019) investigated the impact of stakeholders on the performance of CDF projects through the use of community leaders and discovered that planning and scheduling had an impact on the national government constituency development fund project performance in the Wajir West Constituency. The conclusions were that planning significantly positively impacted the implementation of CDF agendas.

RESEARCH METHODOLOGY

The study employed a descriptive research design. Descriptive research design was preferred since it allows a researcher to draw conclusions using both descriptive and inferential statistics. The study targeted irrigation schemes in Kisumu County. According to the Ministry of Agriculture, Livestock and Fisheries, there are five irrigation projects in Kisumu County. The unit of observation was the project committee members, the block leaders, and the counties' ministry of water, sanitation and irrigation officials. The sample size was determined using census. Therefore, the sample size was 92 respondents. This study used primary data which was collected using questionnaires. A pilot study was conducted before the actual study. Piloting helps to ascertain the reliability and validity of the research instruments. A pilot was collected with 10% of the sample hence 9 people who are actively involved in the management of the irrigation schemes. Quantitative data was coded then analyzed using Statistical Package for Social Sciences (SPSS) computer software version 28. Data was analysed using descriptive and inferential statistics. Inferential statistics such as regression and correlation was used to test the relationship between the study variables.

RESEARCH FINDINGS

The sample size was 92 but 9 were used for sampling. Questionnaires were hence administered to 83 respondents and 77 answered the questionnaires. This shows that the response rate for the study was 92.8%. Mugenda and Mugenda (1999) asserted that a response rate of 50% is adequate for analysis and reporting, a rate of 60% is generally good while a response rate of above 70% is excellent. Similarly, Mugo (2010) asserted that a response rate of above 60% is deemed to be very good. The high response rate was achieved as a result of researcher's effort to closely monitor the data collection process

Stakeholder Mapping

The second objective sought to determine effect of stakeholder mapping on performance of irrigation schemes in Kisumu County, Kenya. Respondents were asked to tick on the extent to which they agree/disagree with statements related to cost management. Findings are shown in Table 1.

Table 1: Stakeholder Mapping

Key: SD=Strongly disagree, D=Disagree, NS=Not Sure, A=Agree, SA= Strongly agree, M=Mean.

Statements	SD		D		N		A		SA		M
	F	%	F	%	F	%	F	%	F	%	
Mapping helps to identify all people interested in the irrigation projects	3	3.9	4	5.2	5	6.5	18	23.4	47	61.0	4.32
Stakeholders are mapped according to their levels of engagement in the project	18	23.4	50	64.9	2	2.6	2	2.6	5	6.5	2.45
Mapping helps to monitor stakeholders periodically and stay partially engaged with them	0	0	6	7.8	0	0	24	31.2	47	61.0	4.45
Stakeholder mapping ensures everyone involved in the project design is included in all project phases	0	0	4	5.2	6	7.8	18	23.4	49	63.6	4.42
Stakeholder mapping helps to understand the key interest of the stakeholders in the project	0	0	0	0	0	0	14	18.2	63	81.8	4.82
Likely project risks are analyzed prior to project implementation	4	5.2	15	19.5	4	5.2	39	50.6	15	19.5	3.60

N=77

Findings show that the respondents strongly agreed that; stakeholder mapping helps to understand the key interest of the stakeholders in the project (m=4.82), mapping helps to monitor stakeholders periodically and stay partially engaged with them (m=4.45), stakeholder mapping ensures everyone involved in the project design is included in all project phases (m=4.42), and mapping helps to identify all people interested in the irrigation projects (m=4.32). Findings also show that the respondents agreed that likely project risks are analyzed prior to project implementation (m=3.60). Respondents disagreed that stakeholders are mapped according to their levels of engagement in the project (m=2.45).

Findings imply that through stakeholder mapping, the project managers are able to understand the main interests of the stakeholders and prioritize projects that are most needed by the stakeholders. Mapping also ensures that the stakeholders are constantly engaged in the project and that the stakeholders are involved in all project phases. Mapping further helps to forecast risks that may be experienced during project implementation. The projects managers have however not managed to map stakeholders according to their level of engagement in the project. Findings are in agreement with Mannetti, Göttert, Zeller, and Esler (2019 that stakeholder salience, different perceptions surrounding the benefits of living adjacent to a protected area, lead to better implementation of projects.

Stakeholder Engagement Assessment

To establish effect of stakeholder engagement assessment on performance of irrigation schemes in Kisumu County, Kenya. Respondents were asked to tick on the extent to which they agree/disagree with statements related to stakeholder engagement assessment. Findings are shown in Table 2.

Table 2: Stakeholder Engagement Assessment

Statements	SD		D		N		A		SA		M
	F	%	F	%	F	%	F	%	F	%	
There is consultation on the objectives of the project	7	9.1	4	2.5	0	0	21	27.3	45	58.4	4.20
The project deliverables are shared with the stakeholders	0	0	5	6.5	7	9.1	44	57.1	21	27.3	3.65
Stakeholders are consulted when planning the resources required for project implementation	4	5.2	7	9.1	0	0	46	59.7	20	26.0	3.92
Stakeholders are involved in identifying the personnel and resources required	5	6.5	9	11.7	0	0	49	63.6	14	18.2	3.75
Adequate finances are allocated during planning	13	16.9	40	51.9	7	9.1	11	14.3	6	7.8	2.44
Work plans are used to identify problems in project cycle	13	16.9	5	6.5	4	5.2	38	49.4	17	22.1	3.53
The roles of every stakeholder are well defined in the project plan	10	13.0	7	9.1	12	15.6	11	14.3	37	48.1	3.85

Findings show that the respondents agreed that; there is consultation on the objectives of the project (m=4.20), stakeholders are consulted when planning the resources required for project implementation (m=3.92), the roles of every stakeholder are well defined in the project plan (m=3.85), stakeholders are involved in identifying the personnel and resources required (m=3.75), the project deliverables are shared with the stakeholders (m=3.65), and work plans are used to identify problems in project cycle (m=3.35). Respondents disagreed that adequate finances are allocated during planning (m=2.44). Findings imply that the stakeholders are consulted on various aspects of the projects. This include the project resources and the project staff. The stakeholders are also aware of the project deliverables and they also aware of their responsibilities in the projects. Engagement assessment ensures that only most important and relevant stakeholders are engaged in the projects. Findings support Kihuha (2018) that involvement of stakeholders in the planning process on allocation of funds and all the project stages enhance the performance of the project.

Project Performance

In order to measure performance of irrigation projects, the project staff were asked to rate the performance based on various parameters. Results on performance are presented in Table 3.

Table 3: Project Performance

Statements	SD		D		N		A		SA		M
	F	%	F	%	F	%	F	%	F	%	
Projects are delivered within set timelines	15	19.5	49	63.6	6	7.8	4	5.2	3	3.9	2.10
Projects meet quality standards	2	2.6	4	5.2	8	10.4	43	55.8	20	26.0	3.97
Projects are completed within set budget	20	26.0	47	61.0	2	2.6	6	7.8	2	2.6	2.00
Project beneficiaries are satisfied	1	1.3	11	14.3	2	2.6	50	64.9	13	16.9	3.82

Findings show that the staff agreed that; projects meet quality standards (m=3.97), and project beneficiaries are satisfied (m=3.82). Respondents disagreed that projects are delivered within set timelines (m=2.10), and projects are completed within set budget (m=2.00). Findings imply that although the projects meet quality standards that satisfy the beneficiaries, the projects experienced time and budget overruns.

Inferential Statistics

The inferential statistics included coefficient of correlation and regression. This was aimed at establishing the relationship between the study variables.

Correlation

Correlation indicates the strength and significance of the relationship between the study variables. Correlation findings are presented in Table 4.

Table 4: Coefficient of Correlation

Variables		Sustainability	Stakeholder mapping	Engagement assessment
Sustainability	Pearson Correlation	1		
	Sig. (2-tailed)			
Stakeholder mapping	Pearson Correlation	.520**	1	
	Sig. (2-tailed)	.000		
Engagement assessment	Pearson Correlation	.595**	.296**	1
	Sig. (2-tailed)	.000	.000	

**. Correlation is significant at the 0.05 level (2-tailed).

According to findings a strong significant relationship between stakeholder mapping and project performance (r=0.520, p=0.000), a strong significant relationship between stakeholder engagement assessment and project performance (r=0.595, p=0.000). Findings are in agreement with Mugata and Muchelule (2018) that stakeholder analysis had significant effect on performance of projects, Onyango, Bwisa, and Orwa (2017) that planning significantly positively impacted the implementation of CDF agendas.

Regression Analysis

Regression analysis was conducted to understand how a unit change in the independent variable (stakeholder identification, stakeholder mapping, stakeholder engagement assessment, monitor stakeholder engagement) may cause a change in the dependent variable (project performance). Table 5 presents the Model Summary.

Table 5: Model Summary

Model	R	r^2	Adjusted r^2	Std. Error of the Estimate
1	0.759	0.576	0.552	.621

Predicators: (constant)stakeholder mapping, stakeholder engagement assessment,

Findings in Table 5 show an adjusted R-square value of 0.576. This shows that 57.6% of changes in project performance may be explained by stakeholder mapping, and stakeholder engagement

assessment. This means that other stakeholder engagement processes that this study did not focus on contribute to 42.4% of project performance.

An analysis of variance was performed on the relationship between independent variables and dependent variable. ANOVA results are presented in Table 4.10

Table 6: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.701	4	9.425	24.451	.000[b]
	Residual	27.754	72	.385		
	Total	65.455	76			

Dependent variable: Project Performance

Results show that regression model had an F value of 24.451 (p= 0.000). The significance value of 0.000 indicates that the regression relationship is highly significant in predicting how stakeholder engagement process would cause changes in performance of irrigation projects. The F calculated is greater than 1 showing that the overall model is suitable for running a regression analysis.

Multiple regression shows how a change in the independent variable would predict a unit change in the dependent variable. Table 7 presents the regression coefficients.

Table 7: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant/Y Intercept	1.812	.625		2.780	.000
Stakeholder mapping	.695	.137	412	5.060	.000
Stakeholder engagement assessment	.343	.083	.371	4.122	.000

As per the SPSS generated in Table 7,

Project performance = 2.976 + 0.695 (stakeholder mapping) + 0.343 (stakeholder engagement assessment)

The regression equation shows that a unit change in stakeholder mapping would cause a unit increase in a unit increase in project performance by a factor of 0.695, a unit change in stakeholder engagement assessment would cause a unit increase in project performance by a factor of 0.343. The variables causes a significant change on project performance sig<0.5.

Findings support Mageto, Kitheka, and Ogolla (2021) that project stakeholder identification, project stakeholder mapping, project stakeholder analysis and stakeholder risk management have a positive and significant effect on the performance of projects.

Conclusion

Stakeholder mapping ensures that stakeholders are engaged in all project phases. This enhances consistency and a good rapport between project managers and the project stakeholders. It also

enhances communication with the stakeholders since the managers are able to keep constant communication with the stakeholders and also develop a good relationship and share ideas that may help to improve project performance. Project managers conduct stakeholder mapping to identify various stakeholders interested in the project. Once the stakeholders are identified, they project managers reach out to them to analyze their interests in the projects and are hence able to designate various roles in the project. Stakeholder mapping further enables the project managers to identify the opportunities, potentials, and project risks early enough and find measures to utilize the opportunities and avert the risks.

Adequate assessment of stakeholder engagement ensures that the roles of each stakeholder are clearly defined within the project plan, fostering a shared understanding of expectations and responsibilities. Through consultation on project objectives and resource planning, stakeholders contribute valuable insights that inform decision-making and resource allocation. However, while stakeholders are actively involved in identifying project personnel and resources, there is a need for improvement in the allocation of finances during the planning phase. Furthermore, maintaining stakeholder relationships requires close collaboration and regular communication, with stakeholders participating in project monitoring and evaluation frameworks to ensure accountability and alignment with project goals. Utilizing appropriate tools for stakeholder engagement assessment is essential for effective management and the overall success of irrigation projects.

Recommendations

The project plan should be outlined clearly to show the work plan and expected timelines for every project phase. They should consult the stakeholders on the project resources especially the project staff and seek recommendation from the community members on the right people to bring on board as project stakeholders. The project managers should make use of innovative monitoring tools to get real time data on the stakeholders' engagement and project progress. The project managers should also guide the farm owners on how to monitor the irrigation projects to keep toes on project performance. Project managers should give more emphasis on stakeholder analysis. This will help them to assess all the existing stakeholders who directly or indirectly influence project performance. This helps to profile and categorize the stakeholders in terms of their influence, interests or timing of engagement so that adequate planning is done for how to engage with them. Project managers should also identify and document all the stakeholders in order to keep record and assess new stakeholders who might have relevance to the project.

Areas for Further Study

The findings have showed that there are other stakeholder engagement processes that this study did not focus on contributing to 42.4% of irrigation project performance in Kisumu County. The researcher hence suggests a study focusing on other variables that were not part of this study. A similar study could also be conducted in another county in Kenya for comparison purposes.

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