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STAKEHOLDER MANAGEMENT AND SUSTAINABILITY OF WATER PROJECTS WITHIN PRISONS IN NAIROBI COUNTY, KENYA

[1] Pudus John, [2] Dr. Gatobu Purity, PhD

[1] Master of Science in Project Management of Jomo Kenyatta University of Agriculture and Technology

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

ABSTRACT

Stakeholder management has gained substantial attention and become a critical area in project management. Stakeholder management keeps decision-makers and influencers engaged and on-track which is the pathway for a successful project. Majority of prisons across Kenya face water supply shortages due to insufficient maintenance and inadequate government support for water infrastructure projects. These shortages expose inmates to health risks from unsafe drinking water and inadequate sanitation, violating basic human rights standards. The general objective of the study was to examine the effect of stakeholder management on sustainability of water projects within prisons in Nairobi County, Kenya. The specific objectives were; to assess the effect of stakeholder's identification on sustainability of water projects within prisons in Nairobi County, Kenya, and to examine the effect of stakeholder communication on sustainability of water projects within prisons in Nairobi County, Kenya. The study was guided by theory of transactive planning and Cognitive dissonance theory. The unit of analysis was 35 prison facilities in Nairobi County. The unit of observation was 238 respondents comprising of 15 heads of prisons facilities, 35 water project supervisors, and 175 technical staff officers. Yamane sampling formula was used to sample 144 respondents. The researcher purposively selected hence 10 heads of prison stations, 22 project supervisors, and 112 technical staff officers in the prison facilities. Data was collected using questionnaires. A pilot was conducted using 14 respondents. The study used content and construct validity. Reliability was tested using Cronbach's alpha coefficient. Data was analyzed using descriptive and inferential statistics and findings tabulated. Findings show that; stakeholder identification has a strong positive significant correlation with sustainability of water projects in Nairobi prisons stations (r=0557, p=0.048), and stakeholder communication has a strong positive significant correlation with sustainability of water projects in Nairobi prisons (r=0.839, p=0.048). The study recommends that; thorough stakeholder analysis should be conducted to identify all individuals and organizations interested with the project activities and the project outcome, invest in an effective information communication management system to promote effective integration of information and feedback from all the channels of communication.

Key Words: Stakeholder Management, Sustainability of Water Projects, Stakeholder's Identification, Stakeholder Communication

Background of the Study

Stakeholder management has gained substantial attention and become a critical area in project management. Project stakeholders are individuals and organizations actively involved in the project or whose interests may be positively or negatively affected by project execution or completion. They may also exert influence over the project and its results (Freeman, 2023). Spałek (2024) defines stakeholder management as the process of identifying, analysing and engaging persons, group of persons or organisations that are likely to have connection/relationship with the project. Stakeholder management is a process which requires a series of actions or steps for it to be completed.

In the context of project management, managing stakeholders is an integral process throughout the project performance phase. Unlike other project activities such as planning, design and project closure that take place once during the entire phase of project execution, project stakeholder management is a process that takes places in the entire duration of project execution (Hayibor, 2020). Stakeholder management is composed of strategies and ways that are used to lure stakeholders into participating in intended organisation activities and thereby supporting it towards achieving its objectives. In other words, organisations need stakeholders so as to accomplish their goals and stakeholders therefore become an instrument which provides the organisations with resources and support towards ensuring that the required project goals are attained (Mampaey, Brankovic & Huisman, 2019).

Stakeholder management keeps decision-makers and influencers engaged and on-track which is the pathway for a successful project. These interested parties in a project have different needs, expectations, motivation, power, influence, behaviors, traits, literacy levels. These interested parties of project are referred as stakeholders. A stakeholder is perceived to have a stake in the project whether they have monetarily invested in the project or not (Sutterfield, Stroud, & Blackwell, 2021).

Statement of the Problem

Despite the 2010 Constitution of Kenya's efforts to enhance stakeholder involvement in government projects, the sustainability of water projects within prisons remains a significant challenge, particularly in Nairobi County. The Kenya Prisons Service, managing 135 facilities nationwide, faces critical water supply issues, with an average of 40% disruptions in waterline systems at any given time. In Nairobi County alone, approximately 16,000 individuals, including 12,000 prisoners and 4,000 staff members, depend on these vulnerable water systems. The severity of this issue is underscored by the fact that 65% of prisons across Kenya experience water supply shortages due to insufficient maintenance and inadequate government support for water infrastructure projects (Prisons Legal and Statistics Directorate and Water and Sanitation Office, 2024). These shortages not only violate basic human rights standards but also contribute to a 15% annual increase in health-related incidents within these facilities (Kenya Human Rights Commission, 2022).

According to the Kenya National Bureau of Statistics (2023), the occupancy rate in Nairobi's jails is 215%, much higher than the national average of 190%. This congestion puts further strain on already restricted water resources. The World Health Organisation (WHO) recommends that each person consume at least 20 litres of water per day for basic hygiene and meal preparation. According to a survey undertaken by the Kenya Water Institute (2022), inmates in Nairobi's Prisons receive an average water only 5-10 litres per day, considerably short of the WHO requirement.

The problem is further exacerbated by insufficient financial allocation. According to the Prisons Headquarters Planning Directorate, water infrastructure maintenance accounts for only 2% of prison expenses. This equates to around KES 700 million from the KES 35 billion yearly budget (National Budget, 2023/2024), which is extremely inadequate considering the scope of the problem. Furthermore, a Transparency International Kenya (2023) assessment indicated

that only 60% of monies provided for jail water projects are efficiently used due to bureaucratic inefficiencies and a lack of proper stakeholder cooperation.

As per the Kenya Water and Sanitation Network's annual report (2023), 78% of water-related projects in Nairobi prisons do not meet their sustainability targets within three years of implementation. This failure rate is 22% greater than for similar projects in other public institutions, highlighting a unique issue in the prison system. Moreover, research conducted by the University of Nairobi's Institute for Development Studies (2023) discovered that stakeholder participation in prison water projects is 40% lower than in community-based water projects. This lack of engagement is associated with a 35% decrease in project lifespan and effectiveness.

While previous research has looked at stakeholder engagement in a variety of contexts, such as water projects in rural Kenya (Kimani & Mwangi, 2020) and the impact of policy frameworks on public infrastructure sustainability (Njuguna et al., 2021), there is a significant gap in research that focusses on stakeholder management and its impact on the sustainability of water projects in prisons stations in Nairobi County.

This study aims to address this research gap by examining the relationship between stakeholder management and the sustainability of water projects within prisons in Nairobi County, Kenya. By focusing on this specific context, the research seeks to provide valuable insights into how effective stakeholder management can contribute to the long-term sustainability of these critical water infrastructure projects, ultimately improving living conditions and health outcomes for both inmates and staff in Nairobi's prison facilities.

Objectives

The general objective of the study was to examine the effect of stakeholder management on sustainability of water projects within prisons in Nairobi County, Kenya

Specific Objectives of the Study

i. To assess the effect of stakeholder's identification on sustainability of water projects within prisons in Nairobi County, Kenya.
ii. To examine the effect of stakeholder communication on sustainability of water projects within prisons in Nairobi County, Kenya.

LITERATURE REVIEW

Theoretical Review

Theory of Transactive Planning

Theory of Transactive Planning was introduced by Friedmann (1973b). Transactive planning transforms knowledge to action by means of dialogue between actors. Friedmann points out that the gap between planner and program implementation team is increasing because they do not communicate. Consequently, the planner, before suggesting solutions, must establish personal contact and relations with the project team, and this contact must be kept up until the planning (or the action) has been carried out. Instead of a formalized paper contact (plans), the most important thing is a personal, verbal communication between planner and client. The objective must be that both acquire mutual insight into each other's knowledge of the planning process and that this knowledge will result in action. Friedmann was less concerned with the various stages in the planning process. Friedmann main idea can be summed up in the following way: if one establishes good contact between planner and client, and if one tries to change the causes of problems rather than the effects, then the planning process will develop naturally within the framework imposed by the society and the type of problem to be solved. The theory was critiqued by Hostovsky (2007) who asserted that planning is time consuming and not every interested party may be involved in planning and the parties excluded may feel that their interests are ignored. The theory is relevant to the stakeholder identification which involves careful selection of stakeholders. This will ensure that only people and organizations that have

interest in the project outcomes are considered as project stakeholders to help achieve the project objectives.

Cognitive Dissonance Theory

Cognitive dissonance theory was developed in the late 1950s by Leon Festinger. The theory holds that when individuals encounter new information or new experiences, they categorize the information based on their preexisting attitudes, thoughts, and beliefs. If the new encounter does not fit their preexisting assumptions, then dissonance is likely to occur (Aronson, 1968). According to Gruber (2003), dissonance refers to the personal tension or stress experienced when an individual's actions contradict or are inconsistent with his or her values or beliefs. Dissonance arises everyday through interactions with other people and information constantly being exchanged. According to cognitive dissonance, if a person holds two beliefs that are relevant to one another but are inconsistent, dissonance will arise.

According to Festinger (1962), a person would expose himself to sources of information which he expected would add new elements which would increase consonance but would certainly avoid sources which would increase dissonance. Essentially, people will only pay attention to the information or speak to people who support what they already believe, and ignore any other facts that contradict this. The theory today still offers a lot to communication research because it applies to all phases of the communication process. The theory is related to the study since ineffective communication may result to withdrawal o stakeholders who may feel that their concerns and opinions are not addressed as they would have wished. This may result to lack of satisfaction with project outcome.

Conceptual Framework

This study stakeholder management (independent variable) on sustainability of water projects within Prisons in Kenya (dependent variable). This framework provides a clear concept of the areas that are likely to have meaningful relationships in the study.

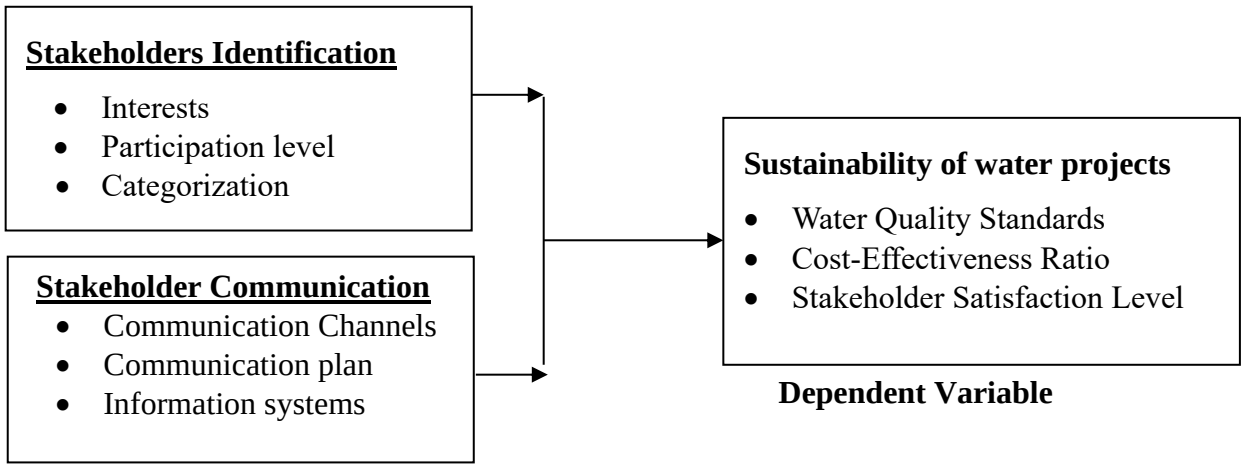

Figure 2.1: Conceptual Framework

Stakeholder Identification

Stakeholder identification is the process of looking for the key persons, group of persons or organizations that are likely to be affected in any way with the project. Identifying stakeholders implies that the project team is actively collecting information and data regarding the main parties that could have interests on the project and documenting them for the purpose of analyzing their role in the project (Bahadorestani, Naderpajouh, & Sadiq, 2020). Stakeholder identification is differentiating which parties are classified as stakeholders in a project, either because they can influence the project or because they are directly affected by the result (Muluka et al., 2021). Effective stakeholder management regardless of how small stakeholder's role within the project is involves identifying and ensuring that all stakeholders

involved are analyzed. Involving external stakeholders within a project especially from the business world has proven to be beneficial to all parties involved (Oguzie et al., 2021).

Stakeholders are identified as part of the project initiation, and this list requires to be reviewed and updated as the project progresses. The process involves identifying everyone remotely connected with the project (individuals, groups, or organizations) that could impact or be impacted by a project's decision, activity, or outcome. Identifying all stakeholders in the initial stage itself helps in better manageable projects as it helps in factoring all stakeholder's interests at the planning stage itself (Gupta, Crilly, & Greckhamer, 2020). Hambrick and Wowak (2021) noted that this stage focuses on identifying who to engage based on the identified goals and objectives. It involves analysing the interest and influence of stakeholders to determine who to include or exclude. It is likely impossible for an organisation to have all stakeholders on board during the identification stage. Hence, the need to set clear goals and objectives from the onset of the engagement process. The process of identifying the key stakeholders is an iterative process in which stakeholders are included or removed to ensure that all relevant stakeholders are represented at every stage within the engagement process.

Olatunde, Awodele, and Odeyinka (2021) contemplated that stakeholder identification is a process in stakeholder management that enables the organizations to come up with an elaborate list of the stakeholders who have interested in the projects. identification of stakeholders is the only aspect that could enhance project success. When identifying affected stakeholders, it is argued that a systematic approach many times works well, beginning with delineating the project's geographic sphere of influence (Rajablu et al., 2015). It remains a project manager's job to identify stakeholders and understand their impact in the project. This is a delegated role done on behalf of the project board and amounts to a relationship management function (GOK, 2017a). A stakeholder register is also created which identifies in great detail, everything about the stakeholders' function in the project initiated (Oyeyipo et al., 2019). This is essential in establishing stakeholder salience.

Stakeholder Communication

Project communications management refers to necessary processes for ensuring proper and timely production, collection, dissemination, and distribution of project information. Project communication management is the backbone to effective decision making during the lifespan of a project (Hysa & Spalek, 2019). Communication enhances stakeholders to effectively participate in organization decision making processes. Communication also creates an enabling environment for stakeholders to engage in dialogue with members of the organization. Communication is a key component across all factors of their project implementation profile and often seen as lubricant that keeps everything working properly (Sanghera, 2019).

Maintaining open, accurate and regular channels of communication within the different levels of the project stakeholders and staff is vital to ensuring smooth and efficient flow of instructions from initiators of projects to the beneficiaries and sufficient warning of changes and risks to enable preparation and early assessment (Binder, 2015). It is necessary that the project stakeholders know their expectations; tasks, time frame of activities, quality specification, what budget and time constraints they are working towards. If stakeholders are not sure of their allocated tasks, how to accomplish them, the entire project will cease (Nguyen & Mohamed, 2020). Odhiambo, Ouko, and Muhoho (2020) indicated that communication is essential in ensuring that all stakeholders involved in a project operate in sync. Optimal communication is an essential aspect of improved performance. Communication could be sensitive if not implemented appropriately in the process of project management. However, oversharing information could result in poor communication owing to the limited availability of feedback. This phenomenon reduces the deliverability of projects because feedback is fundamental, especially in change implementation. The perception that quality communication is a manager's responsibility could also be affecting project performance negatively.

Empirical Literature

Stakeholder Identification and Project Sustainability

Saad, Zahid, and Muhammad (2022) evaluated how stakeholder identification drove success of programs based in Southwest of China. Their assessment evaluated role played by identifying, assessing and analysing the stakeholders based on their connection with the project on the success of the projects. Their study utilized a comparative research approach and did a comparison between the projects that had fully identified stakeholders and those that did not identify the stakeholders and document them. Findings indicated that stakeholder identification is an essential process in stakeholder management that ensures the project team has a record on the stakeholders they are dealing with and how they are engaged.

Angela (2019) examined the effect of stakeholder management strategies on project success. The study focused on water and sanitation projects executed by MMDAs in Ashanti Region. The study adopted descriptive survey design. Primary data was collected from a sample of 122 employee respondents. Structured questionnaire was used to assemble the data for the study. The study found that stakeholder participation, top management support, the availability of project professionals and teams and adequate funding are the key factors that contribute to the success of project. Also, the study found that stakeholder identification and engagement strategies have significant positive influence on project success while stakeholder analysis has positive but insignificant influence.

Wanjala and Nyaberi (2023) studied effect of stakeholder identification on performance of donor funded projects in Nakuru County. The study adopted a survey design. The population comprised of 50 donor funded projects in Nakuru County. Questionnaire was used to collect data. The study found out that stakeholder identification was a significant predictor to donor sponsored projects in Nakuru county. The project managers effectively identified stakeholders, collected, analyzed and submitted data or stakeholder information to create a stakeholder registry that identifies project stakeholders and relevant information about them.

Githinji, Ogolla, and Kitheka (2020) studied influence of stakeholder's involvement on project performance at Kenya Ferry Services. This study adopted a descriptive research design. The study target population was 231 stakeholders of Kenya ferry services. Simple random sampling was used to sample 70 respondents. Questionnaires were used to collect data. The study findings showed that involvement of stakeholders in project identification was significantly and positively related to project performance. Thomas and Iloka (2024) investigated the influence of stakeholder identification on the performance of healthcare projects in Machakos County, Kenya. A descriptive method was employed, with emphasis on project managers of important healthcare projects in Machakos County. There was a focus on a total of 341 healthcare projects in the county. A questionnaire was used to gather data. Findings showed that most healthcare projects surveyed did not effectively prioritize stakeholder identification by recognizing project stakeholders, analyzing them, and documenting their information.

Stakeholder Communication and Project Sustainability

Gamil and Rahman (2023) studied effects of poor communication on construct projects. Data was collected using a questionnaire survey. The target was construction practitioners in the Malaysian construction industry. Findings showed that reliability and efficiency of the communication enhances effective communication and performance of construction projects. Machange and Fujo (2021) assessed effective communication management in achieving stakeholder satisfaction in project-based organizations in Tanzania. The sample respondents were 125. Findings showed that traditional communication channels are still highly used in rural-oriented projects. Of the four communication channels used, face-to-face and meetings were rated the most effective modes of communication channels preferred by the stakeholders in projects due their convenience.

Usanase and Nkechi (2022) examined role of communication management on performance of selected Non-Governmental Organization Projects in Kigali Rwanda. The study used a

descriptive research design, with a population of 1238 smallholders and 10 project team members. Simple random sampling was used to sample 302 respondents. Both questionnaire and interview guide were used to collect data. Results showed that the most commonly adopted communication plan parameters were plan of content of the communication, and information needed was adequately designed. The mainly used communication implementation approach was nonverbal communication. Correlational results showed a significant correlation between; the plan of frequency of information needed and timely delivered to beneficiaries, written communication and quality of services, and nonverbal communication is correlated with quality of projects.

Kosgei (2021) looked at the influence of stakeholder consultation on the implementation of water projects in Machakos County, Kenya. The study targeted 172 water projects under implementation in the County of Machakos. Questionnaire was used to collect data from 120 respondents managing 17 water projects. The study concluded that increased stakeholders' consultation would result in effective water projects implementation in the county. The study recommends that there is a need for the identification of link persons or officials who will always represent them during the implementation process.

Mwando (2021) studied influence of influence of stakeholder communication on the performance of private construction projects in Nairobi County. The study adopted a descriptive research approach and had a sample size of 115 respondents. Structured questionnaires were used to collect data from the respondents. The study established that inadequate stakeholder communication leads to poorly performing projects. The study findings also established that stakeholder communication influences the performance of private construction projects in Nairobi County and recommended continuous coordination and proper relationship management between all stakeholders involved in a private construction project.

Kibet, Mugo, and Nassiuma (2023) assessed the influence of communication flows on project implementation at Kenya Rural Roads Authority in Elgeyo Marakwet. An explanatory research design was adopted and the target population for the study was 122 KeRRA staff selected from various departments. The study findings indicated that communication flows had a positive and significant influence on project implementation. The study concluded that communication flows were critical to successful project implementation.

RESEARCH METHODOLOGY

This study adopted a descriptive research design. According to Kenya Prisons Service, there are 15 prison facilities in Nairobi County. The prison facilities were the unit of analysis where 35 water projects that supplies the prisons institutions sampled across the county, with various respondents comprising the heads of the institutions, water project supervisors, and technical prison officers' staff. In this study, the sampling frame was 35 water projects in 15 prison facilities in Nairobi County. The study used Yamane's (1967) formula to calculate the sample of 144. Purposive sampling technique was used for the study techniques which involve selecting certain units or cases based on a specific purpose. The researcher purposively selected hence 10 heads of prison facilities/stations, 22 project supervisors, and 112 technical staff officers in the prison stations.

Primary data was gathered by utilizing semi-structured closed-ended questionnaires administered. Quantitative data was coded and entered into statistical packages for social scientists (SPSS version 28). The data was analyzed using descriptive and inferential statistics. Descriptive statistics included percentage, mean, and standard deviation. The study used correlation analysis at the 5% significance level to examine the direction and strength of the relationship between the independent and dependent variables. Regression was also conducted to establish if changes in independent variable would cause changes in the dependent variable.

RESEARCH FINDINGS AND DISCUSSIONS

The sample size of study was 144 individuals who are responsible for overseeing the implementation of water projects within the prison facilities. The pilot test respondents were

10% of the sample hence 14 respondents. The researcher distributed 130 questionnaires to the respondents and 108 were successfully filled and returned. Thus the response rate of was 83%. The response rate is sufficient are recommended by Creswell (2017) asserted that 50% response rate is adequate, 60% is good and more than 70% very good.

Descriptive Analysis

In this section the study presents findings on Likert scale questions where respondents were asked to indicate their level of agreement with various statements related to stakeholder management practices and project sustainability. The questionnaires used a 5-point Likert scale where 1-strongly disagree, 2-disagree, 3-not sure, 4-agree, 5-strongly agree. The means and standard deviations were used to interpret the findings where a mean value of 1-1.80 was strongly disagree, 1.81-2.60 disagree, 2.61-3.20 not sure, 3.20-4.20 agree and 4.20-5.00 strongly agree. Standard deviation less that 2 was suitable meaning responses were closely clustered around the mean.

Stakeholder Identification

The first objective was to determine the effect of stakeholder identification on sustainability of water projects within prisons facilities in Kenya. Respondents were asked to tick on the extent to which they agree/disagree with statements related to stakeholder identification. Findings are presented in Table 1.

Table 1: Stakeholder Identification

Statements	SD %	D %	N %	A %	SA %	M	Std dev
Stakeholder analysis is always done to identify people interested/affected by the water projects	3.7	20.4	5.6	9.3	61.1	4.04	1.353
Stakeholders are categorized based on their level of interaction with the project	8.3	7.4	4.6	7.4	72.2	3.72	1.324
People/organizations selected as stakeholders have an impact on the project's resources	12.0	0.9	3.7	26.9	56.5	4.15	1.310
The project team actively seeks input from stakeholders with specialized knowledge	13.9	6.5	0	23.1	56.5	3.92	1.375
Problem analysis before selection of a stakeholder is always undertaken to understand the extent of stakeholder contribution into the project	6.5	1.9	3.7	36.1	51.9	4.25	1.078
The project team quickly responds to the concerns of stakeholders with a high impact on the project	13.9	19.4	3.7	24.1	38.9	3.35	1.506
The projects developed are based on the needs and expectations of stakeholders	2.8	1.9	5.6	9.3	80.6	4.63	0.892
Average						**4.00**	**1.262**

N=108

The findings show that stakeholder analysis is always done to identify people interested/affected by the water projects (M=4.04, Std.=1.353). This is supported by 61.1% of the respondents who strongly agreed that stakeholder analysis is always done to identify people interested/affected by the water projects. The findings indicate that the project managers carry out a stakeholder analysis which helps to identify the people who are interest/affected by the water projects. This helps to ensure that the stakeholders are only people who have project interest at hand. Stakeholders are categorized based on their level of interaction with the project (M=3.72, Std.=1.324). This is supported by 72.2% who strongly agreed that stakeholders are categorized based on their level of interaction with the project. The results imply that

stakeholders do are classified based on their interest in the project. This may enable the stakeholders to concentrate of the project roles/ responsibilities that are delegated to them. People/organizations selected as stakeholders have an impact on the project's resources (M=4.15, Std.=1.310). This is supported by 56.5% of the respondents who strongly agreed with the statement. Results imply that all the stakeholders affect project resources which are in terms of the project financial and human resources. The project team actively seeks input from stakeholders with specialized knowledge (M=3.92, Std.=1.375). This is supported by 56.5% of the respondents who strongly agreed with the statement implying that the stakeholders selected have skills and abilities required to manage water projects. Problem analysis before selection of a stakeholder is always undertaken to understand the extent of stakeholder contribution into the project (M=4.25, Std.=1.078). This is supported by 51.9% of the respondents who strongly agreed with the statement implying that the project managers clearly understand the extent of stakeholder contribution to the project.

The project team is responsive to the concerns of stakeholders with a high impact on the project (M=3.35, Std.=1.506). This is supported by 38.9% of the respondents who strongly agree with the statement which implies that the project team responds fast to the issues raised with top ranked stakeholders. The projects developed are based on the needs and expectations of stakeholders (M=4.04, Std.=1.353). This is as supported by 80.6% of the respondents who strongly agreed with the statement implying that analyzing the needs of the stakeholders ensures that the project implemented meet the stakeholders needs and analysis. The average mean of 4.00 and standard deviation of 1.262 show that majority of the respondents agreed with the statements on stakeholder identification in water projects. Results are in consistent with Saad, Zahid, and Muhammad (2022) who indicated that stakeholder identification is an essential process in stakeholder management that ensures the project team has a record on the stakeholders they are dealing with and how they are engaged.

Stakeholder Communication

The second objective sought to the effect of stakeholder communication on sustainability of water projects within prison facilities in Nairobi County, Kenya. Respondents were asked to tick on the extent to which they agree/disagree with statements related to stakeholder communication. Findings are presented in Table 2.

Table 2: Stakeholder Communication

Key: SD=Strongly disagree, D=Disagree, NS=Not Sure, A=Agree, SA= Strongly agree, M=Mean, Std dev.*=Standard Deviation*

Statements	**SD %**	**D %**	**N %**	**A %**	**SA %**	**M**	**Std dev**
The prison has communication plan that is made known to all water project stakeholders	3.7	13.0	0.9	7.4	75.0	4.37	1.220
The stakeholders are always informed as the project progresses by sending updated information	15.7	6.5	1.9	10.2	65.7	4.04	1.540
The prison has an innovative communication systems	17.6	3.7	1.9	13.0	63.9	4.02	1.553
Stakeholders clearly understand the project goals, objectives, benefits, and risks	18.5	5.6	0.9	25.0	50.0	3.82	1.546
All Stakeholders have a medium to provide feedback to the project	74.1	11.1	0.9	8.3	5.6	2.40	1.199
Communication among the stakeholders is fast and efficient throughout the project cycle	3.7	5.6	0.9	7.4	82.4	4.59	1.023
There is a face-to-face meeting with project stakeholders	16.7	0.9	1.9	14.8	65.7	4.12	1.490
Average						**3.91**	**1.367**

Findings show that the prison has communication plan that is made known to all water project stakeholders (M=4.37, Std.=1.220). This is supported by 75% of the respondents who strongly agreed with statements indicating that the project managers have put in place a plan that guides on how to communicate with the stakeholders. The stakeholders are always informed as the project progresses by sending updated information (M=4.04, Std.=1.540). This is supported by 65.7% of the respondents who strongly agreed which implies that the stakeholders are often informed on the progress of the project which keeps them posted on the projects. The prison has an innovative communication system (M=4.02, Std.=1.553). This is as supported by 63.9% of the respondents who strongly agreed with the statement implying that there the communication systems is technology driven. Stakeholders clearly understand the project goals, objectives, benefits, and risks (M=3.82, Std.=1.546). This is as indicated by 50% who strongly agreed with the statement which indicates that the stakeholders are oriented on the project goals, objectives, benefits, and risks.

All Stakeholders do not have a medium to provide feedback to the project (M=2.40, Std.=1.199). This is supported by 74.1% of the respondents who strongly disagreed with the statement which implies that the stakeholders do not have a platform to air their opinions on the project. Communication among the stakeholders is fast and efficient throughout the project cycle (M=4.59, Std.=1.023). This is supported by 82.4% of the respondents who strongly agreed with the statement which implies that communication with stakeholders is efficient all through the project life cycle. There is a face-to-face meeting with project stakeholders (M=4.12, Std.=1.490). This is supported by 65.7% of the respondents who agreed with the statement which is an indication that there are organized forums for stakeholder's meetings with the project team. The average mean of 3.91 and standard deviation of 1.367 show that the respondents agreed with statement on stakeholder communication. Findings are in agreement with Gamil and Rahman (2023) showed that reliability and efficiency of the communication enhances effective communication and performance of construction projects.

Project Sustainability

Respondents were asked to tick on the extent to which they agree/disagree with statements related to sustainability of water projects within prison stations in Nairobi County, Kenya. Findings are presented in Table 3.

Table 3: Project Sustainability

Key: SD=Strongly disagree, D=Disagree, NS=Not Sure, A=Agree, SA= Strongly agree, M=Mean, Std dev.*=Standard Deviation*

Statements	**SD %**	**D %**	**N %**	**A %**	**SA %**	**M**	**Std dev**
The intended beneficiaries are using/ benefiting from the projects	16.7	0.9	1.9	7.4	73.1	4.19	1.507
The quality of water projects is desirable	22.2	1.9	8.3	11.1	56.5	3.78	1.643
Maintenance of the water infrastructure systems is scheduled frequently	72.2	0.9	3.7	9.3	13.9	1.92	1.548
Resources allocated for water infrastructure in prisons facilities are utilized effectively	47.2	16.7	16.7	4.6	14.8	2.23	1.457
Projects ensure continuous delivery of services after completion	69.4	6.5	1.9	5.6	16.7	1.94	1.566
Average						**2.81**	**1.544**

N=108

Findings show that; the intended beneficiaries are using/benefiting from the projects (M=4.19, Std.=1.507). Findings are supported by 73.1% of the respondents who strongly agreed with the statements indicating that the intended beneficiaries are benefiting from the water projects.

There is existence of desirableoutcome (M=3.78, Std.=1.643). This is supported by 56.5% of the respondents who strongly agreed with the statement which is an indication that the project outcome is as desired by stakeholders. Maintenance of the water infrastructure systems is not scheduled frequently (M=1.92, Std.=1.548). This is supported by 72.2% of the respondents who strongly disagreed with the statement indicating that the water projects are rarely maintained. Resources allocated for water infrastructure in prison stations are not utilized effectively (M=2.23, Std.=1.457). This is supported by 47.2% who strongly disagreed with the statement implying that the resources allocated to the projects are not put into good use which affects project sustainability. Projects do not ensure continuous delivery of services after completion (M=1.94, Std.=1.566). This is as strongly disagreed by 69.4% of the respondents implying that some of the water projects are not self-sufficient and may stop functioning once the financiers are out of site.

Correlation Analysis

Correlation analysis was conducted to establish the strength of relationship between the independent and dependent variable. The significance level for significant relationship was <=0.05. According to Gray et al (2012), one way to interpret or measure the strength of the correlation is as follows: a correlation value of ± 0.5 shows a strong correlation, ± 0.30 to ± 0.49 moderate correlation while ± 0.29 is a low correlation. The significance level is at 0.05. Correlation results are presented in Table 4.8.

Table 4: Coefficient of Correlation

Variables		Project sustainability	Stakeholder identification	Stakeholder communication
Project sustainability	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	108		
Stakeholder identification	Pearson Correlation	.557**	1	
	Sig. (2-tailed)	.000		
	N	108	108	
Stakeholder communication	Pearson Correlation	.839**	.414	1
	Sig. (2-tailed)	.000	.006	
	N	108	108	108

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

Stakeholder identification has a strong positive significant correlation with sustainability of water projects in Nairobi prison facilities (r=0.557, p=0.000). This implies that an increase in stakeholder identification in Nairobi prison facilities could lead to an increase in sustainability of water projects. Findings are in agreement with Wanjala and Nyaberi (2023) that stakeholder identification is a significant predictor to donor sponsored projects

Stakeholder communication has a strong positive significant correlation with sustainability of water projects in Nairobi prison stations (r=0.839, p=0.000). This implies that an increase in stakeholder communication in Nairobi prisons could lead to an increase in sustainability of water projects. Results are in consistent with Usanase and Nkechi (2022) that correlation between; the plan of frequency of information needed and timely delivered to beneficiaries, written communication and quality of services, and nonverbal communication is correlated with quality of projects.

Regression Analysis

Table 5: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	**Std. Error**	**Beta**		
Constant/Y Intercept	2.775	.367		7.560	.000
Stakeholder identification	.398	.060	.285	6.623	.000
Stakeholder communication	.708	.050	.635	14.227	.000

Stakeholder identification stream show a statistically significant positive coefficient (β = .398, sig = .000), indicating that improvements in stakeholder identification result to higher sustainability of water projects within prison in Kenya. Stakeholder identification has the second highest effect on sustainability of water projects within prisons facilities in Nairobi County, Kenya at 28.5% (std Beta = .285). The findings are in agreement with Wango, Ngatia, and Lango, (2024) that stakeholder identification significantly influences the performance of World Bank funded projects in Kenya

Stakeholder communication show a statistically significant positive coefficient (β = .708, sig = .000), indicating that improvements in stakeholder communication result to higher sustainability of water projects within prison stations in Kenya. Stakeholder communication has the highest effect on sustainability of water projects within prisons in Nairobi County, Kenya at 63.5% (std Beta = .635). The findings are in support of Kibet, Mugo, and Nassiuma (2023) that communication flows had a positive and significant influence on project implementation.

The model was fitted as shown below.

$$\text{Project Sustainability} = 2.775 + .398\text{SI} + .708\text{SC}$$

Conclusion

Stakeholder identification has a strong positive significant correlation with sustainability of water projects in Nairobi prisons. Stakeholder identification has the second highest effect on water projects sustainability. The prison management ensures that only stakeholders who have a great impact in the project, have required project management skills and capabilities, and high interest levels in the projects are selected. Identifying stakeholders help in categorizing them according to their interest in the projects. This is based on the roles of the stakeholders in the projects. The stakeholder's needs and expectations are also put into consideration to ensure that the programs meet stakeholders' needs and expectations which leads to stakeholders' satisfaction with project outcome.

Stakeholder communication has a strong positive significant correlation with sustainability of water projects in Nairobi prisons. Stakeholder communication has the highest effect on water projects sustainability. The prison management communicate to project stakeholders on the progress on the project. The communication channels are effective which ensures that project information is effectively shared among the project team and stakeholders. Adoption of a suitable communication channel helps to prevent information distortion and the right message gets to intended recipients without distortion. The project managers make efforts to have physical meetings with the stakeholders to deliberate on matters pertaining to the project. However, there are no suitable channels for the stakeholders to provide feedback on the projects and they may feel that their opinions are ignored by the project managers.

Recommendations

Stakeholder identification significantly predict project sustainability. The study recommends that thorough stakeholder analysis should be conducted to identify all individuals and organizations interested with the project activities and the project outcome. The project

managers should ensure that all details of the stakeholders identified are documented. The interest of every stakeholder in the projects should also be recorded to enable the project managers to establish the interest of the stakeholders and their effect on the projects.

Stakeholder communication predicts project sustainability. The study recommends measures to improve on stakeholder communication. They should adopt innovative communication channels that foster fast and effective communication with stakeholders. The prison management should invest in an effective information communication management system to promote effective integration of information and feedback from all the channels of communication. Project managers should integrate appropriate communication flows in their management to help them when computing project plan and detailing how to communicate with various stakeholders.

Areas for Further Study

The researcher recommends the following:

A study focusing on prisons in another county in Kenya to examine if findings differ or are similar to water projects in prisons in Nairobi County.

A study incorporating the key stakeholders of the programs and beneficiaries to seek their opinion regarding sustainability of water projects in prison stations in Nairobi County.

A study on other stakeholder management practices that possibly contribute to 15.6% of sustainability of water projects in prison stations in Nairobi County.

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