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STAKEHOLDER INVOLVEMENT AND IMPLEMENTATION IN RURAL ELECTRIFICATION PROJECT IN EMBU COUNTY, KENYA

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ABSTRACT

The general objective of the study was to examine role of stakeholder involvement in rural electrification projects in Embu County, Kenya. The study was guided by the following specific objectives; to assess influence of stakeholder informed consent on implementation of rural electrification projects Embu County, Kenya; and to establish the influence of stakeholder involvement evaluation on implementation of rural electrification projects Embu County, Kenya. This study used a descriptive research design. The study targeted 51 rural electrification projects in Embu County. The unit of observation was; 165 Rural Electrification and Renewable Energy Corporation (REREC) staff, 20 Ward Public Participation Facilitators (WPPF) at the ward level, and 51 Kenya power project staff. Taro Yamane's 1967 sampling formula was used to calculate the sample size of 148 respondents that were sampled using stratified random sampling. This research used a questionnaire to collect primary data. The pilot test was conducted with 15 respondents representing 10% of the sample. Quantitative data was analysed using descriptive and inferential statistics using the Statistical Package for Social Sciences (SPSS) version 24. Findings were tabulated. The questionnaire met all the validity and reliability requirements and the respondents had a clear understanding of the data collection instrument hence it is good instrument for data collection. The findings suggest that stakeholder involvement evaluation and informed consent were found to significantly impact project implementation, underscoring the need for continuous feedback mechanisms and meaningful engagement with stakeholders throughout the project lifecycle. The study recommends a holistic approach to rural electrification project implementation in Embu County, Kenya, emphasizing the importance of stakeholder involvement, and informed consent. By implementing these recommendations, stakeholders can work towards achieving sustainable and impactful electrification initiatives that benefit the local community and contribute to regional development.

Key Words: Stakeholder Involvement, Stakeholder Informed Consent, Stakeholder Involvement Evaluation, Rural Electrification Projects

Background of the Study

Successful project implementation is a complex process that requires a commitment from all parties involved, including clients and contractors. One crucial aspect of project success is the commitment of clients to project financing obligations, which in turn motivates contractors to commit themselves to project plans (Kareithi & Muhua, 2018). This highlights the importance of aligning the interests and goals of all stakeholders in order to achieve successful project implementation. Additionally, it is important to note that the best implementation strategy for any specific project should be selected through a systematic process of gathering input from a wide range of stakeholders with expertise in project implementation practice (Mwihaki, 2015). This approach allows for the consideration of multiple perspectives and ensures that the chosen strategy is tailored to the specific needs and context of the project.

Owing to the important contribution of development projects to countries' development, participation of different stakeholders is fundamental to ensure their success (Mitchell et al., 2017). Project stakeholders are individuals and organizations actively involved in the project, or whose interest may be affected as a result of the project execution or completion (Oleanders & Landin, 2017). Due to the interest of stakeholders on the project, they may exert influence on the project's objective and outcomes. To ensure a successful project, the project team must identify and engage all stakeholders, determine their requirements and expectation and manage their influence in relation to their requirements (Irvin & John, 2015).

Stakeholder involvement is the process used by an organization to engage relevant stakeholders for a purpose to achieve accepted outcomes (Edelenbos & Klijn, 2016). Edelenbos and Klijn (2016) further indicate that effective involvement helps translate stakeholder needs into organizational goals and creates the basis of effective strategy development. A well-managed stakeholder involvement process helps the project stakeholder to work together to increase comfort and quality of life, while decreasing negative environmental impacts while boosting the economic sustainability of the project. In this study stakeholder involvement is measured in terms of community engagement, informed participation, feedback, and disclosed information.

Community engagement refers to the process of actively involving and engaging members of a community in a project or initiative. This can include seeking input and feedback from community members, as well as providing them with information about the project and its progress (Meyer & Turner, 2019). Informed participation refers to the process of providing stakeholders with the necessary information and resources to actively participate in a project or initiative. This can include providing information about the project goals, objectives, and timelines, as well as the expected outcomes and potential benefits (Bryson & Crosby, 2018).

Feedback refers to the process of receiving and responding to feedback from stakeholders. This can include soliciting feedback on project plans, progress, and outcomes, as well as taking steps to address any concerns or issues raised by stakeholders (Turner & Muller, 2017). While disclosed information is the process of providing stakeholders with transparent and accurate information about a project or initiative. This can include providing stakeholders with access to project documents, progress reports, and other relevant information, as well as being transparent about any potential risks or challenges associated with the project (Cooper & Turner, 2020).

According to Olander and Landin (2017) involvement of stakeholder in project is a valuable concern for project managers to address the time, costs and quality constraints associated with project portfolio management. Therefore, for a project manager, to carry out a successful project and to meet users' and organization requirement, stakeholder involvement and satisfaction is the key to determine whether a project fails or succeeds. According Alkhafaji (2018), stakeholder

management is critical to project success as it helps to align project objectives with the needs and expectations of stakeholders. Additionally, Turner and Muller (2017) found that effective stakeholder communication and involvement can lead to increased project success by reducing project risk, improving decision-making and enhancing project outcomes. Therefore, it is evident that stakeholder involvement is a key factor in successful project implementation.

Successful project implementation refers to the successful completion of a project within budget, on schedule, and with the desired outcomes and benefits. In order to achieve successful implementation, a project must be effectively planned, executed, monitored, and controlled (Chege, & Kinoti, 2019)**.** In this study, project success will be measured in terms of timely completion, completion within budget and customer satisfaction. To achieve successful project implementation in these areas, project managers should ensure that they have a clear understanding of the project goals and objectives, and that they are aligned with the organization's strategic plan (Kerzner, 2017). They must also involve all stakeholders throughout project implementation.

In rural electrification, a development projects, stakeholder involvement and implementation are closely intertwined. Effective stakeholder engagement can facilitate the successful implementation of a project by ensuring that the needs and concerns of the community are taken into account and by building support for the project among key stakeholders (Cooper & Turner, 2020). Conversely, poor implementation can undermine stakeholder engagement by creating dissatisfaction and mistrust among community members (Mueni, 2021). This study on stakeholder involvement and implementation in rural electrification project in Embu County, Kenya is important because it will provide insights on how to improve the participation of stakeholders and increase community ownership of the project. Also, it will inform the decision-making processes of how to improve the implementation of the project and ensure its sustainability.

Statement of the Problem

Implementation of rural electricity programmes has been a challenge to the government with only 36% of the rural population having access to electricity (Republic of Kenya, 2013). Electrification in Kenya is below the SSA average with 15.8% overall access and only 3.8% access in rural areas. This is despite the establishment of the REA and the significant financing it receives, and other initiatives such as the Umeme Pamoja, a programme launched in 2006/07 with the aim of getting groups of rural households collectively connected to the grid. The current state of rural electrification in Embu County, Kenya is a significant concern, with data from the Energy Regulatory Commission (ERC) indicating that only a small percentage of households in rural areas have access to electricity. For example, in 2020, the ERC reported that only 18.5% of rural households in Embu County had access to electricity. This lack of access to electricity in rural areas has significant implications for socio-economic development and poverty reduction.

There is a growing body of literature on the importance of stakeholder involvement in the implementation of projects. Stakeholder informed consent and involvement evaluation can play a crucial role in the successful implementation of rural electrification projects. Makau and Kithiia (2017) emphasized the need for community engagement and informed participation in the implementation of rural electrification projects to ensure the successful implementation of the projects and the satisfaction of the community. Similarly, Wamukonya and Kithiia (2018) emphasized the importance of feedback and disclosed information in the implementation of rural electrification projects to ensure transparency and accountability in the project implementation process. The study conducted by Njogu (2016) on the influence of stakeholders' involvement on project implementation in the automobile emission control projects in Nairobi County showed that

stakeholder involvement plays a crucial role in the successful implementation of development projects.

There is however limited research on the specific role of stakeholder involvement in rural electrification projects in Embu County, Kenya. The present study aimed to fill gaps in the literature by providing an in-depth examination of the influence of stakeholder involvement on the implementation of rural electrification projects in Embu County, Kenya. Specifically, the study focused on the following aspects of stakeholder involvement: informed consent, and involvement evaluation. The study used statistical evidence to provide a comprehensive understanding of the current state of rural electrification projects in Embu County and the level of stakeholder involvement.

Objectives of the Study

i. To assess influence of stakeholder informed consent on implementation of rural electrification projects Embu County, Kenya.
ii. To establish the influence of stakeholder involvement evaluation on implementation of rural electrification projects Embu County, Kenya.

LITRATURE REVIEW

Theoretical Review

Theory of Consent

Theory of Consent (ToC) is a social theory that explains how individuals and groups come to consent to a particular course of action. This theory, first proposed by Funtowicz and Ravetz (1990), emphasizes the importance of informed participation and feedback in the decision-making process. Theory of Consent (ToC) is a social theory that explains how individuals and groups come to consent to a particular course of action. According to this theory, individuals and groups are more likely to consent to a project if they feel that their opinions and concerns have been considered and addressed. This is achieved through a process of informed participation, where stakeholders are provided with accurate and relevant information about the project, and are given the opportunity to provide feedback and express their views.

ToC has been used by researchers in various fields, such as environmental management and community development, to understand how consent is obtained and maintained for different types of projects. For example, in a study conducted by Rydin and Stirling (2010), the authors used the theory of consent to examine how informed participation influenced the acceptance of wind energy projects in the United Kingdom. They found that communities were more likely to accept the projects if they felt that their views had been taken into account and if they had been provided with accurate and relevant information about the project.

According to a study by Lee and Breslow (2015), ToC emphasizes the importance of informed participation and feedback in the decision-making process, which is particularly important in projects that have the potential to affect the lives and livelihoods of local communities. ToC was used to understand the influence of informed participation on the implementation of rural electrification projects in Embu County, Kenya. The study examined how the provision of accurate and relevant information and the opportunity for feedback and participation influence the community's consent to the project.

Feedback Intervention Theory

The Feedback Intervention Theory (FIT) was developed by Kurt Lewin, a social psychologist. According to Lewin, "feedback is most effective when it is timely, specific, and actionable" (Lewin, 1952). FIT has been applied in various fields such as education, healthcare, and business to improve performance, change behavior, and increase accountability. For example, in education, feedback is provided to students to help them improve their learning and academic performance (Hattie & Timperley, 2007). In healthcare, feedback is used to help patients improve their health and well-being (Krause, Riegel, & Meischke, 2008). In business, feedback is used to help employees improve their performance and achieve organizational goals (Den Hartog, Koopman, Thierry, & Kompier, 1996). In the context of rural electrification projects, FIT was used to understand the influence of feedback on the implementation of the project. For instance, providing feedback on the progress of the project, any challenges encountered, and suggestions for improvement can help to ensure that the project is implemented effectively (Janssen & Heerkens, 2010). In addition, providing feedback on the impact of the project on the community can help to ensure that the project is meeting its intended objectives (Janssen, Bressers, & Edelenbos, 2004).

Conceptual framework

A conceptual framework is a logically developed, described and elaborated network of interrelationships among variables integral in the dynamics of a situation being investigated (Mugenda & Mugenda, 2014). It explains the theory underlying these relationships and describes the nature and direction of these relationships. A variable is a measurable characteristic that assumes different values among the subject. It is therefore a logical way of expressing a particular attribute in a subject (Mugenda & Mugenda, 2014). The conceptual framework shows the interrelationships among the independent variables and dependent variable. Figure 2.1 presents the conceptual framework for this study

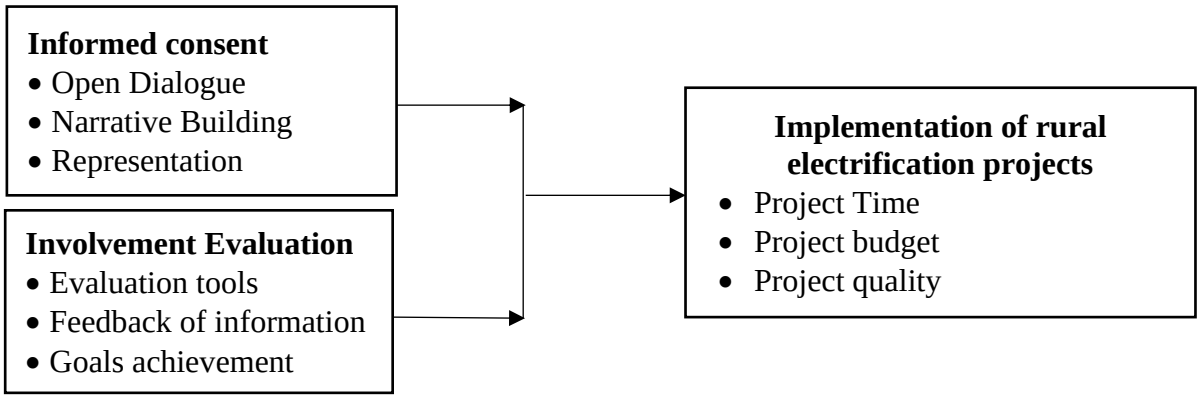

Figure 2.1: Conceptual Framework

Informed Consent

Informed consent refers to the process by which individuals and groups are actively engaged and involved in decision-making processes that affect them (Innes & Booher, 2019). This can include providing information, seeking input, and involving stakeholders in the design, implementation, and evaluation of programs or projects. It is seen as a key component of community engagement and is essential for ensuring that community members have a voice in the development and implementation of projects that affect their lives. The measures of informed participation include

open dialogue, narrative building, and representation. Open dialogue refers to the ability of community members to express their opinions and concerns freely and openly in discussions about the project (Innes & Booher, 2019). This can be facilitated through public meetings, community forums, and other forms of communication. Narrative Building is the process of working with community members to develop a shared understanding of the project and its potential impact. This can be achieved through community-wide discussions, workshops, and other forms of engagement that allow community members to share their perspectives and experiences (Renn, 2018). Representation refers to the inclusion of community members in decision-making bodies related to the project, such as community boards or committees (Fung, 2017). This ensures that community perspectives are taken into account in the project's development and implementation.

Informed participation has been extensively studied in the fields of community development, environmental management, and natural resource management. According to the works of (Fung, 2017; Arnstein, 2019) informed participation is an essential component of community engagement and can help to build trust and support for projects, as well as identify and address potential issues. Additionally, it can also help to ensure that projects are sustainable and responsive to the needs and priorities of the community. Research has also shown that informed participation can lead to greater acceptance and ownership of a project, as well as improved outcomes (Renn, 2018). In the context of rural electrification projects, informed participation can involve providing information to the community about the project, seeking input on the design and implementation of the project, and involving the community in the decision-making process.

Involvement Evaluation

Evaluation involves assessing the progress and outcomes of a project (Blake & Mouton, 2018). Credibility, as a measure of evaluation feedback, refers to the degree to which the feedback is perceived as trustworthy and accurate by the recipient. In their work "Feedback in organizations: An evolutionary perspective," Blake and Mouton (2014) emphasized that credibility is critical to the effectiveness of feedback as it affects the recipient's willingness to accept and act upon it.

Recurrence, as a measure of feedback, refers to the frequency with which feedback is given. Researchers such as Schein (2019) in "Organizational Culture and Leadership" argue that frequent feedback is essential for organizational learning and continuous improvement. Finally, Guiding, as a measure of feedback, refers to the extent to which the feedback provides direction and guidance on how to improve. According to Zenger and Folkman (2017) in "The Extraordinary Leader," guiding feedback is most effective when it is specific, actionable, and focused on development. Therefore, feedback is an important aspect of stakeholder involvement and is crucial to the success of electrification projects. The measures of feedback, including recurrence, credibility, and guiding, play a significant role in determining its effectiveness in driving improvement and growth.

Empirical Review

Informed Consent

The study by Janssen (2017) aimed to investigate the impact of stakeholder involvement on the success of construction projects in the Netherlands. The study specifically sought to establish the influence of informed participation on the success of construction projects in the Netherlands. The target population was construction projects in the Netherlands, and the sample consisted of a survey of 150 construction project managers. The data was analyzed using regression models, and the findings showed that informed participation was positively related to project success and satisfaction with project outcomes.

The study by Ribeiro and Souza (2017) aimed to examine informed participation in project management in Brazilian companies. The target population was Brazilian companies involved in project management, and the sample consisted of a survey of 200 project managers. The data was analyzed using descriptive statistics, chi-squared tests, and correlation analysis, and the findings showed that informed participation was positively related to project success, better communication, and increased customer satisfaction.

The study by Kim and Kim (2019) aimed to determine the effect of informed participation on project success in the Korean construction industry. The target population was the Korean construction industry, and the sample consisted of a survey of 150 construction project managers. The data was analyzed using regression models, and the findings showed that informed participation was positively related to project success, reduced conflict, and improved communication. The study by García-Morales and Gutiérrez-Gutiérrez (2018) aimed to investigate the relationship between informed participation and project performance in Spanish construction projects. The target population was Spanish construction projects, and the sample consisted of a survey of 200 project managers. The data was analyzed using regression models, and the findings showed that informed participation was positively related to project success, improved communication, and increased customer satisfaction. These studies provide evidence that informed participation has a positive impact on project implementation by increasing project success, reducing conflict, improving communication, and increasing customer satisfaction. These findings suggest that informed participation should be encouraged in project management practices to improve project outcomes. The studies were however conducted in developed countries and different projects. None of the studies focused on rural electrification projects in Kenya. A gap that present study sought to fill by assessing the influence of informed participation on implementation of rural electrification projects Embu County, Kenya.

Involvement Evaluation

The study by Chen and Wang (2020) aimed to investigate the impact of feedback on project performance in the construction industry. The target population was the construction industry in Taiwan, and the sample consisted of a survey of 200 construction project managers. The data was analyzed using regression models, and the findings showed that feedback was positively related to project performance and customer satisfaction. The study by Huang and Wang (2017) aimed to examine the influence of feedback on project success in the Taiwanese high-tech industry. The target population was the high-tech industry in Taiwan, and the sample consisted of a survey of 150 project managers. The data was analyzed using regression models, and the findings showed that feedback was positively related to project success, improved communication, and reduced conflict.

Kim and Lee (2018) aimed to determine the effect of feedback on project performance in the South Korean construction industry. The target population was the South Korean construction industry, and the sample consisted of a survey of 200 project managers. The data was analyzed using regression models, and the findings showed that feedback was positively related to project performance, reduced conflict, and improved communication.

Liu and Chen (2019) investigated the relationship between feedback and project success in the Chinese construction industry. The target population was the Chinese construction industry, and the sample consisted of a survey of 150 project managers. The data was analyzed using regression models, and the findings showed that feedback was positively related to project success, improved communication, and increased customer satisfaction. These studies provide evidence that feedback

has a positive impact on project implementation by improving project performance, reducing conflict, improving communication, and increasing customer satisfaction. These findings suggest that feedback should be encouraged in project management practices to improve project outcomes. However, the studies were conducted in different contexts; none of the study was conducted in Kenya and specifically on rural electrification projects a gap that present study sought to fill. The present study therefore sought assess influence of feedback on implementation of rural electrification projects Embu County, Kenya.

RESEARCH METHODOLOGY

This study adopted a descriptive research design. The study targeted the key players in the rural electrification projects. These include the Rural Electrification and Renewable Energy Corporation (REREC) staff, Ward Public Participation Facilitators (WPPF) at the ward level, and Kenya power project staff. Taro Yamane's 1967 sampling formula was used to calculate the sample size. Therefore, the sample for the study was 148 respondents. The research used stratified random sampling to select the sample. This research used a questionnaire to collect primary data. The study collected quantitative data from closed- ended questions. The analysis will involve both the descriptive and inferential statistics using the Statistical Package for Social Sciences (SPSS) version 24. The collected data was further analyzed using multi linear regression to determine the relationship between the dependent and independent variables.

RESEARCH FINDINGS AND DISCUSSION

Out of the 148 questionnaires distributed, 133 were completed and returned, representing a response rate of 89.9%. According to Mugenda and Mugenda (2013), a response rate of 50% is justifiable for analysis and publishing, with 60% considered good, while a rate of 70% or above is considered excellent. This study's response rate was excellent for data analysis and reporting.

Descriptive Analysis

Descriptive statistics according to Mugenda and Mugenda (2013) enables the researcher in describing the scores or measures of distributions through statistics. In presenting the descriptive findings of study variables in the current study, means and standard deviations were adopted. The study requested respondents to rate their responses in a scale of 1-5 where 1= Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree. The means and standard deviations were used to interpret the findings where a mean value of 1-1.4 was strongly disagree, 1.5-2.4 disagree, 2.5-3.4 neutral, 3.5-4.4 agree and 4.5-5 strongly agree. Standard deviation greater than 2 was considered large meaning responses were widely spread out and not tightly clustered around the mean.

Stakeholder Informed Consent

The first objective of the study was to assess influence of stakeholder informed consent on implementation of rural electrification projects Embu County, Kenya. Respondents were therefore requested to indicate their level of agreement with the statements on the influence of stakeholder informed consent on implementation of rural electrification projects Embu County, Kenya. Table 1 presents summary of the findings obtained.

Table 1: Descriptive Statistics on Stakeholder Informed Consent

Statements.	Mean	Std. Dev.
Community participation leads to successful implementation of rural electrification projects.	3.869	0.54
Informed participation of local residents in the planning and implementation stages of rural electrification projects improves project outcomes.	3.977	1.024
Lack of informed participation from local residents leads to project failure.	3.753	0.092
Informed participation of local residents in the decision-making process enhances project sustainability.	3.937	1.842
The involvement of local residents in the planning and implementation stages helps to identify their specific needs and priorities.	3.885	1.396
Informed participation of local residents leads to greater community ownership of the projects.	3.957	0.808
The level of informed participation of local residents has a direct impact on project success.	3.933	0.121
Aggregate Score	**3.902**	**0.832**

The study found that the respondents agreed on average that community participation leads to successful implementation of rural electrification projects (M= 3.869, SD= 0.54); that informed participation of local residents in the planning and implementation stages of rural electrification projects improves project outcomes (M= 3.977, SD= 1.024); and that lack of informed participation from local residents leads to project failure (M= 3.753, SD= 0.092). In addition, respondents agreed that informed participation of local residents in the decision-making process enhances project sustainability (M= 3.937, SD= 1.842); that the involvement of local residents in the planning and implementation stages helps to identify their specific needs and priorities (M= 3.885, SD= 1.396); that informed participation of local residents leads to greater community ownership of the projects (M= 3.957, SD= 0.808); and that the level of informed participation of local residents has a direct impact on project success (M= 3.933, SD= 0.121).

The findings above supported by an aggregate mean score of 3.902 (SD= 0.832) show that the respondents agreed that stakeholder informed consent influences implementation of rural electrification projects Embu County, Kenya. The findings aligns with literature emphasizing the significance of informed participation in project success. Janssen (2017), and García-Morales and Gutiérrez-Gutiérrez (2018) have conducted studies in different contexts, highlighting the positive impact of informed participation on project success, communication, and stakeholder satisfaction. The literature suggests that projects benefit from actively involving stakeholders, ensuring open dialogue, narrative building, and representation, as it fosters a sense of ownership, trust, and satisfaction among community members.

Stakeholder Involvement Evaluation

The second objective of the study was to establish the influence of stakeholder involvement evaluation on implementation of rural electrification projects Embu County, Kenya. Respondents were asked to indicate their level of agreement with statements on the influence of stakeholder involvement evaluation on implementation of rural electrification projects Embu County, Kenya. Table 2 presents summary of the findings obtained.

Table 2: Descriptive Statistics on Stakeholder Involvement Evaluation

Statements.	**Mean**	**Std. Dev.**
Community feedback significantly improves the implementation of rural electrification projects.	3.644	0.369
Regular feedback from project beneficiaries leads to better decision making in rural electrification projects.	3.849	1.809
Incorporating community feedback into the implementation of rural electrification projects results in higher levels of satisfaction among project beneficiaries.	3.975	1.361
The absence of feedback mechanisms hinders the successful implementation of rural electrification projects.	3.869	0.293
Community feedback is incorporated into the planning and implementation stages of rural electrification projects	3.806	0.214
The provision of regular feedback to project beneficiaries increases transparency in the implementation of rural electrification projects.	3.806	0.857
The absence of community feedback has a negative impact on the sustainability of rural electrification projects	3.624	1.999
Aggregate Score	**3.796**	**0.986**

The study found that the respondents agreed on average that community feedback significantly improves the implementation of rural electrification projects (M= 3.644, SD= 0.369); that regular feedback from project beneficiaries leads to better decision making in rural electrification projects (M= 3.849, SD= 1.809); and that incorporating community feedback into the implementation of rural electrification projects results in higher levels of satisfaction among project beneficiaries (M= 3.975, SD= 1.361). In addition, respondents agreed that the absence of feedback mechanisms hinders the successful implementation of rural electrification projects (M= 3.869, SD= 0.293); that community feedback is incorporated into the planning and implementation stages of rural electrification projects (M= 3.806, SD= 0.214); that the provision of regular feedback to project beneficiaries increases transparency in the implementation of rural electrification projects (M= 3.806, SD= 0.857); and that the absence of community feedback has a negative impact on the sustainability of rural electrification projects (M= 3.624, SD= 1.999).

The findings above supported by an aggregate mean score of 3.796 (SD= 0.986) show that the respondents agreed that stakeholder involvement evaluation has some influence on implementation of rural electrification projects Embu County, Kenya. The finding resonates with existing literature on the importance of feedback mechanisms in project management. Chen and Wang (2020) and Huang and Wang (2017) have both investigated the impact of feedback on project performance, highlighting its positive correlation with project success and customer satisfaction. These findings underscore the crucial role of evaluating stakeholder involvement throughout project implementation, as it enables project managers to assess progress, address issues, and enhance communication channels. Moreover, the emphasis on stakeholder involvement evaluation aligns with the conceptual framework's emphasis on understanding the dynamics of stakeholder relationships and their impact on project outcomes.

Project Implementation

The main focus of the study was to was to examine the influence of the stakeholder involvement in the implementation of rural electrification projects Embu County, Kenya. Respondents were therefore asked to indicate their level of agreement with the following statements on

implementation of rural electrification projects Embu County, Kenya. Table 3 presents summary of the findings obtained.

Table 3: Descriptive Statistics on Project Implementation

Statements.	Mean	Std. Dev.
The implementation of rural electrification projects in Embu County is well-coordinated and efficient.	3.596	1.675
The rural electrification projects in Embu County are implemented in a timely manner.	3.806	0.489
The funding allocated for the rural electrification projects in Embu County is sufficient.	3.842	1.24
The rural electrification projects in Embu County provide reliable and sustainable power supply.	3.974	1.316
The community is involved and consulted during the implementation of rural electrification projects in Embu County.	3.667	0.874
The rural electrification projects in Embu County have positively impacted the local economy.	3.843	1.712
The rural electrification projects in Embu County have effectively addressed energy needs in the area	3.936	0.235
Aggregate Score	**3.809**	**1.077**

The study findings show that the respondents agreed on average that the implementation of rural electrification projects in Embu County is well-coordinated and efficient (M= 3.596, SD= 1.675); that the rural electrification projects in Embu County are implemented in a timely manner (M= 3.806, SD= 0.489); and that the funding allocated for the rural electrification projects in Embu County is sufficient (M= 3.842, SD= 1.24). They also agreed that the rural electrification projects in Embu County provide reliable and sustainable power supply (M= 3.974, SD= 1.316); that the community is involved and consulted during the implementation of rural electrification projects in Embu County (M= 3.667, SD= 0.874); that the rural electrification projects in Embu County have positively impacted the local economy (M= 3.843, SD= 1.712); and that the rural electrification projects in Embu County have effectively addressed energy needs in the area (M= 3.936, SD= 0.235).

The respondents' agreement on the efficient coordination, timely implementation, and sufficient funding of rural electrification projects in Embu County, Kenya, as well as the provision of reliable power supply, community involvement, positive economic impact, and effective addressing of energy needs, reflects a comprehensive assessment of project success and alignment with existing literature. Studies such as Wu, Zhang, and Li (2016), which examined customer satisfaction as a critical factor in the success of construction projects, and Mayer and Bowers (2017), emphasizing the importance of planning in effective project implementation, provide insights into the dimensions of project management associated with efficiency and timeliness. Additionally, the positive impacts of rural electrification projects on economic development, community involvement, and energy access resonate with findings from studies like Singh et al. (2017), highlighting the significance of stakeholder engagement and Mugata and Muchelule (2018), emphasizing the importance of understanding stakeholders' needs for project success. These findings collectively underscore the holistic nature of rural electrification project success, emphasizing the need for coordinated efforts, stakeholder involvement, and effective planning to ensure sustainable energy access and economic development in rural areas like Embu County.

Correlation Analysis

The correlation coefficient is a widely used tool in statistical analysis to quantify the strength and direction of the relationship between two variables. It can help researchers understand the degree to which changes in one variable are related to changes in another. If the correlation values are r = ±0.1 to ±0.29 then the relationship between the two variables is small, if it is r = ±0.3 to ±0.49 the relationship is medium, and when r= ±0.5 and above there is a strong relationship between the two variables under consideration. Table 4 presents correlation analysis findings for this study.

Table 4: Correlations Between Study Variables

		Project implementation	Stakeholder informed consent	Stakeholder involvement evaluation
Project implementation	Pearson Correlation	1		
	Sig. (1-tailed)			
	N	133		
Stakeholder informed consent	Pearson Correlation	.740**	1	
	Sig. (1-tailed)	.000		
	N	133	133	
Stakeholder involvement evaluation	Pearson Correlation	.789**	.357	1
	Sig. (1-tailed)	.000	.114	
	N	133	133	133

The significant positive correlation between stakeholder informed consent and project implementation (r = 0.740, p < 0.05) suggests that active engagement and involvement of stakeholders in decision-making processes positively influence project implementation. This finding resonates with studies by Janssen (2017) and García-Morales and Gutiérrez-Gutiérrez (2018), which emphasized the positive impact of informed participation on project success and stakeholder satisfaction. Effective communication and consultation with stakeholders are essential for garnering support and ensuring project alignment with community needs and preferences.

Also, the significant positive correlation between stakeholder involvement evaluation and project implementation (r = 0.789, p < 0.05) indicates that the systematic assessment of stakeholder involvement contributes to project success. This finding aligns with literature emphasizing the importance of feedback mechanisms in project management, as highlighted by Chen and Wang (2020) and Huang and Wang (2017). Regular evaluation allows project managers to identify strengths and weaknesses in stakeholder engagement efforts, enabling them to make informed decisions to improve project outcomes.

Regression Analysis

Model Summary

The model summary provides an overview of the regression model's performance in predicting the dependent variable (implementation of rural electrification projects Embu County, Kenya) based on the independent variables (stakeholder involvement evaluation, and stakeholder informed consent). The results were as presented in Table 5.

Table 5: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834[a]	.696	.687	.36339

a. Predictors: (Constant), Stakeholder involvement evaluation, Stakeholder informed consent

In this model, the R value is 0.834. This indicates a strong positive correlation between the predictors and the dependent variable. Essentially, it suggests that there is a substantial linear relationship between the variables included in the model and project implementation outcomes in rural electrification projects in Embu County, Kenya. The R Square value, also known as the coefficient of determination, indicates that approximately 69.6% of the variability in the dependent variable (project implementation) can be explained by the independent variables included in the model. This suggests a moderately strong relationship between the independent and dependent variables. Overall, the model summary indicates that the regression model, which includes stakeholder involvement evaluation, and stakeholder informed consent as predictors, explains a substantial portion of the variability in project implementation.

Analysis of Variance

ANOVA is used to test the significance of the model. In this study, significance of the model was tested at 95% confidence interval. This means that p-value less than 0.05 means that the model is significant. The results of the analysis are presented in Table 6.

Table 6: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.743	4	9.686	73.348	.000[b]
	Residual	16.903	128	.132		
	Total	55.645	132			

a. Dependent Variable: Project implementation

b. Predictors: (Constant), Stakeholder involvement evaluation, Stakeholder informed consent

In this study, the F-statistic is 73.348, and the associated p-value is < 0.05. This indicates that the regression model is statistically significant. In other words, the predictors (Stakeholder involvement evaluation, Stakeholder informed consent) collectively contribute significantly to explaining the variance in project implementation outcomes. The ANOVA results suggest that the regression model, with the included predictors, is a strong and significant predictor of project implementation in rural electrification projects in Embu County, Kenya.

Beta Coefficients

Table 7: Beta Coefficients of Study Variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.249	.223		5.601	.002
	Stakeholder involvement evaluation	.423	.078	.453	5.395	.000
	Stakeholder involvement communication	.236	.094	.237	2.516	.013

a. Dependent Variable: Project implementation

Stakeholder Informed Consent ($\beta = 0.378$, $p = 0.003$) had positive beta values which indicates that stakeholder informed consent significantly influences project implementation outcomes. Stakeholder informed consent refers to actively engaging stakeholders in decision-making processes and ensuring they have adequate information to make informed choices. This finding corroborates research emphasizing the positive impact of informed participation on project success and stakeholder satisfaction (Janssen, 2017; García-Morales & Gutiérrez-Gutiérrez, 2018). Engaging stakeholders in decision-making fosters ownership and buy-in, leading to smoother project implementation and reduced resistance.

Stakeholder Involvement Evaluation ($\beta = 0.423$, $p < 0.05$) show positive beta value. This indicates that stakeholder involvement evaluation significantly influences project implementation success. This aligns with literature highlighting the importance of feedback mechanisms in project management (Chen & Wang, 2020). Regular evaluation allows project managers to identify areas for improvement and address stakeholders' concerns, leading to more effective project implementation.

Conclusions

The findings indicate that stakeholder informed consent plays a crucial role in the implementation of rural electrification projects in Embu County, Kenya. Informed participation of local residents in project planning and decision-making was associated with improved project outcomes, transparency, and community ownership. This suggests that when stakeholders are actively engaged and their consent is sought, projects are more likely to align with community needs and priorities, leading to greater project success. Therefore, the study concludes that stakeholder informed consent positively influences the implementation of rural electrification projects in Embu County, Kenya.

The study highlights the importance of stakeholder involvement evaluation in the success of rural electrification projects in Embu County, Kenya. Mechanisms for gathering community feedback and regular evaluation were found to enhance project success and sustainability. This implies that when stakeholders' feedback is actively sought and evaluated, project teams can better assess progress, address issues, and improve communication channels, ultimately leading to more successful project outcomes. Thus, the study concludes that stakeholder involvement evaluation positively contributes to the implementation of rural electrification projects in Embu County, Kenya.

Recommendations

Building on the positive influence of stakeholder informed consent on rural electrification projects in Embu County, Kenya, it is recommended that project teams prioritize community participation and decision-making processes. Project managers should establish mechanisms for actively involving local residents in project planning, implementation, and monitoring stages, ensuring that their consent is sought and valued throughout the project lifecycle. This may include conducting community consultations, organizing stakeholder workshops, and providing accessible information about project activities and outcomes. Moreover, project teams should foster a culture of transparency and accountability to build trust and ownership among stakeholders. By actively engaging stakeholders and obtaining their informed consent, project managers can align project objectives with community needs, enhance project acceptance, and promote sustainable development.

Based on the positive relationship between stakeholder involvement evaluation and project success, it is recommended that project managers implement robust feedback mechanisms and

evaluation processes in rural electrification projects in Embu County, Kenya. This entails establishing channels for gathering and analyzing stakeholder feedback, conducting regular project reviews, and assessing the effectiveness of stakeholder engagement strategies. Project teams should prioritize the collection of qualitative and quantitative data on stakeholders' perceptions, satisfaction levels, and suggestions for improvement. Additionally, project managers should use evaluation findings to inform decision-making, adjust project strategies, and address any issues or concerns raised by stakeholders. By continuously evaluating stakeholder involvement, project managers can enhance project transparency, accountability, and responsiveness, leading to improved project outcomes and community satisfaction.

Recommendations for Further Studies

To broaden the scope of understanding, future studies could compare the implementation of rural electrification projects across different counties in Kenya, examining variations in stakeholder dynamics, project management approaches, and outcomes. Such comparative analyses would provide valuable insights into the contextual factors influencing project success and inform the development of tailored strategies for improving rural electrification efforts nationwide. Further research could delve deeper into stakeholders' perspectives through qualitative methods such as interviews, focus group discussions, and case studies. Qualitative inquiries would enable researchers to explore the nuanced experiences, perceptions, and challenges faced by stakeholders in rural electrification projects, shedding light on underlying factors shaping project dynamics and outcomes.

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