



The influence of Stakeholder engagement on the implementation of the Galana Kulalu Food Security Irrigation project

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Abstract: This study aims to investigate on the influence of stakeholder engagement on the implementation of the Galana Kulalu food security irrigation project in Kilifi and Tana River Counties, Kenya. The study was guided by stakeholder theory. The study adopted a mixed (quantitative and qualitative) method research methodology, with 100 respondents (87) field employees and (3) project managers engaged by the National Irrigation Authority to manage Galana Kulalu food security project and (10) Agricultural Development Corporation (ADC) employees formerly employed by Galana Kulalu project as a target population. A sample size of 81 respondents consisted of randomly selected representatives of all these categories and the response rate of the study was 79%. From data analysis, it was discovered that the implementation of flagship projects in Kenya and the attainment of national food security are significantly influenced by stakeholder participation. The data analysis gave insightful recommendations for improving food security in Kenya by utilizing contemporary irrigation technology and embracing the four objectives in project successful implementation and sustainability.

Key words: Stakeholder engagement, Project implementation, irrigation project, food security

1.1 Background of the study

Food insecurity is one of the main factors contributing to poor nutrition, which can be brought on by a variety of conditions, such as the lack of food, problems with food affordability, and an uneven distribution of food among household members (Agesa et al., 2019). Food insecurity is the inability to regularly obtain enough wholesome foods that will support healthy growth and development as well as an active and fulfilling life. Approximately 10% of the world's population or 811 million people, frequently go to bed starving; many of these circumstances occur in South Asia and Sub-Saharan Africa, despite although-income countries occasionally experience mild food insecurity, all nations must have access to a wide variety of low-cost, nutrient-dense foods. Irrigation has played a significant role in

agriculture for more than 5,000 years in many distinct cultures. Around 800 BC, the inhabitants of Persia created Qanats, a system of irrigation. Even though the technique is among the oldest, it is still used today, especially in North Africa, the Middle East, and some regions of Asia, (Mboi 2018). The Indus Valley civilization in India created sophisticated irrigation and water storage systems in Northern India and Pakistan. Crops were grown in those environments using vast canal networks and large-scale agricultural techniques, Egyptians used irrigation in the Nile Valley by constructing dikes that collected water from the flooding river Nile. Others include the Chang Jiang, Huang He, and Hai He basins in China, the Nile River in Sudan and Egypt, and the Huang He, Hai He, and Huang He basins in China, the objective is to ensure food security.

As of 2020, 282 million people across all of Africa were hungry, and more than one-third of the population was undernourished, which is more than double the fraction of any other country in the world. The overall number of hungry individuals is continuing to rise due to conflict, drought, climate change, and economic difficulties brought on by the COVID-19 pandemic are undoing years of progress. (World Vision Report, 2023), the situation is getting worse in East Africa, where 7.2 million people face the threat of going to bed hungry and 26.5 million people experience extreme food insecurity, it is also estimated that up to 73 million people in East and Southern Africa are experiencing severe food insecurity, including famine, and that this number will increase in the coming months for most countries unless interventions are underway. Before the pandemic in 2020, the number of people who are extremely poor and make less than \$1.90 a day had been decreasing; however, this movement was overturned by the pandemic, severe weather patterns around the world, as well as the results of conflict, Although the full extent of its effects is unknown, conflict reduces the availability of food globally, raises costs, and endangers the most defenseless people and countries. Kenya has a score of 23.7 on the Global Hunger Index (GHI), a metric that measures and tracks hunger at the local, national, and international levels, placing it 94th out of 121 countries. This suggests that over the years, Kenya has experienced a serious hunger level (FAO, 2021).

According to statistical data provided by the Red Cross Society of Kenya, long episodes of food scarcity and starvation have occurred in Kenya because of severe, ongoing droughts. As of September 2022, there was an alarming record of three million Kenyans in need of emergency food assistance (Red Cross Society of Kenya report, 2023). The country's net crop harvests were severely impacted by two failed rainy seasons and long drought seasons. Changing agro-ecological conditions directly impact food production, while growth and income distribution have an indirect impact. These are only a few of the ways that agricultural sectors and food production are impacted by climate change, Droughts and floods will be the primary variables affecting short-term variations in food production in semi-arid and sub-humid regions if climate variability becomes more extreme and widespread. More than 600 million people will remain undernourished in 2023, the year that the new Sustainable Development Goals (SDG) agenda has set as the deadline for eliminating chronic food insecurity and poverty. This is in addition to determinations to promote pro-poor growth, decrease inequality, and protect the most vulnerable people. There'll still be far too many starving people.

Kenya has a growing population, and more than 75% of its citizens rely on agriculture for a living (Agesa et al., 2019). As a result, the government has been working to establish, manage, and maintain productive irrigated land. However, although agriculture makes up most of the Kenya's economy and directly contributes 24% of the country's annual GDP, it has been argued that all societies must increase their

adaptation capacity to deal with the resulting present and future challenges. Irrigation is necessary to maintain agricultural output and, consequently, Kenya's economic growth. Nevertheless, Kenya's inconsistent rainfall patterns and the frequency and severity of droughts represent a danger to rain-fed agriculture, making irrigation an attractive alternative. Kenya Vision 2030 is a carefully thought-out strategy to make the country an upper-middle-income, industrialized nation by 2030, offering a high standard of living to its population in a secure environment, (Kenya Vision, 2030), the initiative was launched by the government in the year 2008, to support Kenya Vision 2030, The Big Four Transformative Agenda was announced by the Jubilee Government and encompasses; Manufacturing industries, Universal Healthcare, Affordable Housing, and Food Security and Nutrition. The project was also associated with the 2030 Sustainable Development Goals (SDG) of the United Nations. The agenda is incorporated into Kenya's Third Medium Term Plan, which was put into effect from 2018 to 2022. A third of the value of the Kenyan economy is accounted for by the country's primary industry, agriculture, which has historically dominated the economy, (Leshore and Minja's 2019). It also plays an especially significant role in our economy by ensuring food security for the citizens through adequate production and supply of crops, livestock, and fisheries. One million acres were to be under irrigation by 2022 as part of the Galana Kulalu Irrigation Development, which was promoted to end or reduce the country's cyclical hunger problems. The Bura Irrigation and Settlement Scheme is being executed; according to the gazette, it encompasses 12,000 acres. Currently, on around 3,500 acres, maize is the main crop being cultivated. The system will be switched from being pumped to being gravity-fed as part of the project to boost sustainability. The goal is to develop a gravity-fed irrigation system that would increase food and nutrition security, sustain agricultural productivity, and enhance living conditions for Kenyans, Mwea Irrigation Scheme 30,350 acres make up the gazette area, of which 26,000 acres are used to grow paddy rice. While boosting rice yield is one of the project's main goals, the main purpose is to decrease food shortages since achieving food security is the first step toward building a powerful, efficient, and thriving country (National Irrigation Authority, 2023). The Kenyan government and its partners have been working around the clock to boost the output of maize from 40 to 67 million 90 kg bags per year by year 2022, rice from 125,000 to 400,000 metric tons by the year 2022, and potatoes from 1.6 million tons presently to about 2.5 Metric tons by 2022 to accomplish food security and good nutrition for all citizens, to move agriculture from subsistence to productive commercial farming, KES 17.9 billion was allocated for nationwide uncompleted irrigation projects in the 2018/2019 budget, (Parliamentary Budget Office, 2018).

1.2 Statement of the Problem

The goal of project management is to foresee as many risks and issues as you can, as well as to plan, coordinate, and manage operations to ensure that the project is effectively completed. To meet the objectives, a project will need effective planning using project management systems. Cost, quality, and time are the three main columns that make up an attempt, the parameters of time, budget, and expectations have been used to define project success. In addition, project success is taken into consideration on the off chance that it adheres to the budget, schedule, desired quality, achievement of the initial expectations, and acceptance by the task's receiver or task customer. Significantly increasing food security is a benefit of large-scale irrigation projects. The Galana Kulalu food security project includes the construction of physical infrastructure for the sustainable use of the natural resources available in the area, such as the Galana Kulalu ranches. Water storage, transportation and distribution, irrigation, aquaculture, livestock production, land improvement, road network, and eco-tourism are just a few of the industries that make up this sector (National Irrigation Authority, 2021). The Galana Kulalu

food security project has run into several issues that have made it impossible for it to accomplish its intended goals (Leshore, and Minja, 2019). These challenging issues include, but are not restricted to, weakness in the contract and implementation, particularly the use of, but are not restricted to, weakness in the contract and implementation, particularly the use of single-sourcing of contracts, advanced payments to professionals working on the project; inadequate guidelines for the knowledge transfer process; inability to manage the infrastructure put in place after the contractor left the site; and exceeding the project's scheduled completion date. The repercussions of food insecurity on people, families, communities, and countries are extensive, it happens when individuals do not have adequate access to nourishing food to live active, healthy lifestyles. Food insecurity has short-term and long-term effects that can affect many distinct aspects of life, including health, cognitive development, the economy, society, and education. By guaranteeing food security, society may strive toward a better, more secure, and sustainable future for all. Addressing food insecurity involves comprehensive measures, including social safety nets, agricultural development, educational initiatives, and health treatments. The Galana Kulalu food security project was expected to produce 300,000 tons of maize but continues to produce below the desired level. Some of the difficulties faced by irrigation schemes include small budgetary allocations, poor management, unstable water supply and issues with water pumping, and low returns, (Leshore, and Minja, 2019). Additionally, the report noted that unfavorable weather patterns, such as flooding, had an impact on the projected yields. Although the Kenyan government allocated billions for the project in its first phase in 2013–2014, subsequent allocations drastically decreased, making it difficult for the contracted company to meet its objectives. The situation worsened in 2018–19 when the project received no budgetary allocation, and in 2019–20, the project received only KES 10 million (Office of the Auditor General, 2019). As part of the Galana Kulalu project, which sought to boost the country's food output, 1 million acres were to be transformed to intensive agriculture. At a starting cost of Ksh14.5 billion, Israeli company GreenArava was contracted to construct, maintain, and test irrigation infrastructure. The objective of this research is to examine the influence of shareholder's engagement on the implementation of flagship in the case of Galana Kulalu food security project and achievement of national food security.

1.3 Study objective

The study objective guiding this research is to assess the influence of stakeholder engagement on the implementation of the Galana Kulalu Food Security Irrigation project.

1.4 Justification of the Study

Kenya has the largest and most diverse economy in East Africa, with agriculture serving as the foundation stone of the country's economy and a significant element of its growth plan, apart from the fact that only about 20% of Kenya's land is considered appropriate for farming and that in these areas maximum yields have not been reached, there is significant room for productivity growth even though agriculture is usually based on subsistence, and productivity has generally stagnated in recent years. Notwithstanding ongoing population growth, more than 75% of Kenyans rely on agriculture for a portion of their income, and the sector contributes more than one-fourth of Kenya's GDP, as a result of the dominance of raw materials in agriculture, manufacturing and higher-value commodities are underutilized, and employment growth is hindered, the drought and other enduring issues have made basic livelihoods in arid and semi-arid areas in Kenya more vulnerable, which has caused serious problems for food security and for the more than two million Kenyans who receive food assistance annually. To address positive action and enhance the fair distribution of agricultural production

resources, this is being done as a plan to enhance the standard of living for the underprivileged groups residing in these locations. To support sustainable food production, the emphasis is on increasing agricultural output through the improvement of irrigation intensification and extension, in Kenya, there is a possibility for irrigation on roughly 1,350,000 acres but only roughly 500,000 acres have been created for irrigation out of the total, the existing irrigation potential might be increased to around 1.9M acres with better water gathering and storage systems.

Many farmers also struggle without access to significant financial support or extension services and operate without basic agricultural inputs or modern agricultural equipment, by 2022, 1,000,000 acres will be irrigated as part of the Galana Kulalu irrigation system, which was developed and put into place as a response to the country's recurrent famine problems. Even though just 10,000 acres of the intended one million acres have been planted with crops, although millions of Kenyans go to bed hungry every night, the project aims to lessen food shortages for the country's citizens (National Irrigation Authority, 2022). Therefore, it is crucial to make use of the enormous potential for irrigation development to make it easier to increase contributions to food security and the overall GDP.

1.5 Significance of the Study

Project management practices will go a long way toward fostering organizational growth and increasing productivity, without proper project management, resource allocation would become a challenge, project management techniques continue to advance, taking into account shifting industry needs and international best practices, therefore, the study will aid in understanding project dynamics in assessing the implementation of the flagship and achievement of food security in reference to the Galana Kulalu food security project. This research will be of significance to management and the community on project planning, the project management team will be able to calculate time and money savings by using project management solutions, which will optimize resource allocation and reduce wasteful processes. With proper planning of time, budget, and resources, as well as having effective systems and processes in place, the team can roll out products more quickly and with higher quality. The study will assist project managers in understanding the value of teamwork and engagement, project management that enables the team to see the bigger picture, and how to start a project off right and keep it on track without hindrance or restrictions when requirements are well captured, budgets are planned, and timelines are mapped out in assessing the implementation of the flagship and achievement of food security in reference to the Galana Kulalu food security project. Because using resources to modernize involves many difficulties and uncertainty, a project is also subject to significant risk, therefore, risk management, is one of the main benefits of project management and essential to the project's success, if the risks are not well controlled, the project could fail in several ways, including going over budget, missing deadlines, and disappointing the client. The project team will therefore benefit from the study's financial results which will help in assessing the implementation of the flagship and achievement of food security in reference to the Galana Kulalu food security project. Over the course of the project life cycle, a substantial quantity of data is collected, analyzed, and converted. As different processes are implemented, unique and crucial data is also collected and shared with the project management team. A variety of techniques are used to assess the volume of data being gathered, turn it into project information, and then either write the information down for the team members or store and distribute it in different formats for later use. Because of this, the research is important for the project manager and other stakeholders who use data and feasibility studies to inform policy. The administration of Kilifi County is dedicated to collaborating with the federal government and other partners to guarantee that the people of Kilifi have access to a

consistent supply of priced, wholesome food. Getting food security is a top priority that must be accomplished. (Government of Kilifi County, 2023) In order to do this, the government must implement innovative techniques for producing food, such as irrigation, climate-smart agriculture, and the application of sustainable farming technologies to guarantee a year-round food supply.

1.6 Scope and delimitation of the Study

Even though the government has launched several flagship projects, this investigation was only limited to the Galana Kulalu Food Security project because it represents other flagship projects, even with Kenya having such a large number of irrigation projects, in addition, the researcher concentrated on the stakeholder engagement as the only variable that affect the implementation of flagship projects and achievement of national food security in the in Galana Kulalu Project.

1.7 The conceptual framework

Independent variable

Dependent variable

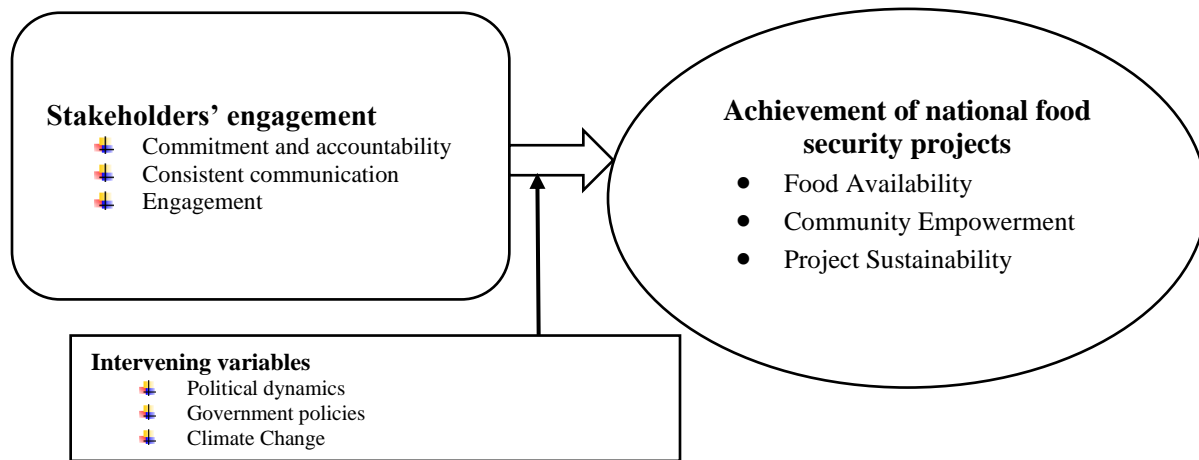


Figure 1: The conceptual framework
 Source: Own conceptualization, 2024

1.8 Literature review

Under this section, the study examined and discussed the work of other researchers in the same field of study; the gaps in the studied literature will help with the creation of new material.

1.8.1 Theoretical Framework

Stakeholder Theory: An organization has a duty to a larger group of stakeholders, according to the normative stakeholder theory, which serves as the foundation for the stakeholder view of corporate governance (Patricia and Kennedy 2022). The theory as advanced by Freeman (1984), The same opinion was supported by Juliet et al. (2016), who explained that managers are deemed to have an implied relationship with not only shareholders but also other stakeholders. Stakeholders are any group or individual that can directly or indirectly affect or be affected by the realization of a company's objectives. The corporate planning process, strategic management, moral quandaries, organizational settings, project management and execution, and environmental management are all areas in which stakeholder theory is widely used in management (Mishra, 2012). According to (Olumbe et al., 2021), stakeholder theory has

made the significance of business interactions with the community more apparent. It is also thought that a corporation that adheres to stakeholder theory is likely to produce higher revenues, they go on to say that alternate decision-making in a firm and project implementation are provided by stakeholder theory.

1.8.2 Empirical review

There are big differences between stakeholder management and stakeholder engagement, to effectively engage stakeholders, an organization must be prepared to listen, discuss issues that are significant to its constituencies and be open to changing its objectives and operating procedures because of stakeholder contribution. As issues with organizational management develop over time and against a backdrop of more responsibility and transparency in the form of morally righteous, sustainable, and ethical practices that are required by both society and the business world's competitive environment, concern about stakeholder relationships and the interests of stakeholders has also come to the front position, (Kujala et al, 2022). In contrast to the one-sided management of stakeholders, stakeholder engagement is a process that develops a robust set of interaction, dialogue, mutual respect and change. Stakeholder engagement is a strategy used by an organization to actively include stakeholders in its operations.

The accomplishment of a project in every organization depends on its stakeholders, an organization can no longer function without the support of its stakeholders, in this review, public and commercial organizations have looked for ways to engage stakeholders because this is a win-win strategy, (Wariua et al, 2013) whether a project is successful or unsuccessful depends on the interests of the stakeholders, while some stakeholders will merely be able to express their opinions, others will have the ability to make decisions about the project, according to the influence they may exert and the effect the project will have on them, all stakeholders may be ranked (main, secondary, tertiary, and so on). Participating with stakeholders has advantages for the organization as well as its stakeholders. There are several reasons why a company may have greater confidence from its stakeholders. There is an increased readiness on both sides to comprehend one another's points of view, communication becomes an enabler rather than a barrier, and finding common ground is enhanced. In order for meaningful engagement to result in reciprocal information exchange, trust must be established.

1.9 Research methodology

To assess the influence of stakeholder engagement on the implementation of the flagship project and the achievement of national food security, a descriptive research design was used for this study. This research design helps in collecting data without changing the environment. The research design is also thought to be appropriate because it aids in determining the relationship between stakeholder engagement as the variable affecting project implementation in Galana Kulalu food security project in Kilifi and Tana River Counties.

Site description, Study Population and Target population

The target population for the research comprised of 100 respondents comprising the following, (87) field employees and (3) project managers engaged by National Irrigation Authority to manage Galana Kulalu food security project and (10) Agricultural Development Corporation (ADC) employees formerly employed by Galana Kulalu project, this is because of their expertise and knowledge of the subject areas, the researcher chooses to focus on this group. Since there were no significant production operations throughout the study period, the researcher focused on 100 respondents available during the research period, though, the project may employ up to 300 employees in full production activities.

Table 1: Target Population

Categories	Population
Project Managers	3
Field Employee	87
Former (NIA) Employee at (ADC)	10
Total	100

Source: National Irrigation Authority, 2024

Study Sample Size and Sampling Techniques

Due to the small number of targeted populations, the study used a census in which every responder participated. A census is a more accurate kind of survey since it includes every member of the population. (Murithi, 2019) indicated that conducting a census in which every member was chosen for the research was best if the community was small, with less than 200 unique individuals.

Sample size

Using Yamane's formula, which was described by Yamane (1967), The sample size for the study was determined using the following formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = sample size

N = population size

e = level of precision or margin of error expressed as a decimal 5% margin of error Confidence Level (95%)

$$n = \frac{100}{1 + 100(0.05)^2} = 1.25$$

$$100 / 1.25 = 80$$

Therefore, n = approximated 80 respondents (sample size).

About 80% of the target population, or 80 respondents, make up the sample size for this demographic.

Table 2: Population sample size

Categories	Population(N)	Sample 80%
Project Managers	3	2
Field Employee	87	70
Former (NIA) Employee at (ADC)	10	8
Total	100	80

Source: *Field data, 2024*

Methods and Instruments of Data Collection

To gather information, the researcher conducted interviews and used closed-ended questionnaires.

Table 3: Data Collection Tool Summary

Categories	Data Collection Tool
Project Managers	Interviews
Field Employee (ADC and NIA) and Project Managers	Questionnaires

Source: *Field data, 2024*

Instrument validity and reliability

Validity and reliability are measurement tools for good research (Mohajan 2018), it measures the consistency, repeatability, precision, and trustworthiness of research, however, reliability concerns the amount to which a measure means consistent results during repetitive trials. A high coefficient indicates that the items have a strong correlation with one another; pilot research was used to enhance the questionnaire's validity in this regard. The questionnaires were given to four respondents randomly chosen Field employees to improve validity and reliability, based on the outcome, it was in consistency with the other questionnaires.

Data Analysis Procedures

This is the procedure of gathering, modelling, and assessing data to help the researcher concluded that supports decision-making about identified variables, such as the impact of community participation, stakeholder engagement, completion time, and budget and financial management in project implementation in the achievement of food security. Using the most recent version of the excel package, the researcher used descriptive statistics, including percentages, and frequencies, to analyze the quantitative data for this study. On the other hand, the open-ended questions were utilized to collect qualitative data, which was then analyzed utilizing content analysis and thematic coding. The following Multiple Regression Model was used to predict degree of correlation between budget planning, financial resource management, completion time, stakeholder involvement, and community participation in the implementation of flagship projects

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where Y= Project implementation

B0 = Constant

β_1 , β_2 , β_3 , and β_4 are Coefficients of the factors influencing the implementation of flagship projects and achievement of national food security in the Galana Kulalu irrigation project in Magarini sub-county, Kilifi and Tana River Counties, Kenya.

ε = error term

X1= Community participation

X2= Stakeholders engagement

X3= Completion Time

X4= Budget planning and financial resource management

Ethical Consideration

Research ethics must be considered to guarantee that studies are carried out responsibly, respectfully, and securely, researchers may guarantee that their study is done ethically and advances scientific knowledge by adhering to certain ethical norms. Prior to gathering data, the researcher acquired letters of authority from the institution and a NACOSTI research permit. In addition, the researcher gained informed consent from the participants and provided them with an assurance about the security and privacy of their data by assuring them that confidentiality will be upheld.

1.10 Findings and discussion

Demographic Characteristics

The respondents' age, gender, level of education, and role in the project were used to indicate their demographic features.

The response rate

Table 4: The study's response rate

Responses	Sample size	Frequency	Percentage
Interview	2	2	100
Questionnaires	80	63	79

Source: *Field data, 2024*

80 questionnaires administered to all respondents, out of 80 questionnaires, 63 questionnaires were returned representing a response rate of 79%, as recommended by Mugenda and Mugenda (2003) the response rate of 50 % is adequate for analysis, the response rate was fair for analysis; thus, the analysis was conducted on 63 filled questionnaires. Further, an interview with the project managers was administered and this represented 100%, throughout the analysis, the 79% response rate was representative of the target population, adequate and good enough to enable the researcher to generate a conclusive report.

Gender of Respondents

Respondents were asked to indicate their gender. Table 5 shows the gender of the respondents.

Table 5: Gender of Respondents

Gender	Frequency	Percentage
Male	54	86
Female	9	14
Total	63	100

Source: *Field data, 2024*

According to Table 5, the distribution of responses by gender reveals that 86% of respondents were men and on the other hand 14% were women. This indicates that the male gender was dominant over the female counterpart in the study area, this representation could be attributed to the nature of work, which is physically demanding, communities' beliefs on women and harsh environmental conditions of the study area which is extremely hot and sparsely populated. On the other hand, women have been fairly represented to enhance the two-thirds rule enshrined in our Kenya constitution and the achievement of national food security through the Galana Kulalu irrigation project.

Level of education of the respondents

It was requested of the respondents to list their educational backgrounds. The study's findings about the respondents' distribution by education level are displayed in Table 6.

Table 6: Education levels for respondents

Level of Education	Frequency	Percentage
Primary Certificate	25	40
Secondary Certificate	19	30
Diploma/Certificate	11	17
Bachelor's Degree	1	2
Postgraduate Degree	1	2
Others	6	9
Total	63	100

Source: *Field data, 2024*

From the findings, 40% of the respondents had primary education certificate, while 30% had secondary level of education. The numbers dwindle for tertiary-level education, with only 17% of respondents having attained a Diploma or Certificate. A mere 2% had a degree, and another 2% had a postgraduate degree. The remaining 9% belonged to a special category called "others," which did not include basic formal education. It is important to take note of the respondents' education levels. This factor can influence their understanding of the sustainability of the Galana Kulalu Food Security Irrigation Projects. Unfortunately, the study summary indicates that education is not being taken seriously around study. This could be due to cultural norms, religious beliefs, political goodwill, and basic education funding constraints. It is time to invest in education and provide the necessary resources so that individuals can have a better understanding of prominent issues such as the sustainability of our food security.

Table 7: The position of the respondents at the Galana Kulalu Project

Position Level	Frequency	Percentage
Senior Management	1	2
Project manager	2	3
Field Employee	50	79
Other (Please specific)	10	16
Total	63	100

Source: Field data, 2024

According to Table 7's findings, between 2% and 3% of the respondents belonged to the project management team, and 79% which formed the majority were field employees with different technical expertise, however, there was another category of people engaged in the Galana Kulalu irrigation project on seasonal basis comprising 16% of the respondents, the way the responses were distributed also boded well for the study, which looked into the project's aspects involving community participation.

Stakeholders' engagement

The success of Galana Kulalu Food Security Project and the attainment of national food security hinges on the engagement of stakeholders. Our study is designed to explore the crucial role of stakeholders and how their involvement can impact the execution of this flagship project. By understanding the influence of stakeholder engagement, we can develop a comprehensive plan that ensures the success of the project, which will have far-reaching benefits for the country's food security.

Influence of stakeholders' engagement in project implementation

The goal of the research was to find out how stakeholders' involvement affected the Galana Kulalu Food Security project's execution. To accomplish this goal, participants were requested to express their ideas by marking their answers as "yes" or "no" when asked if they thought that the successful completion of the project was correlated with the engagement of stakeholders. The results of this study will be helpful in determining how important stakeholder participation is to make sure that future projects are completed successfully.

Table 8: Influence of stakeholders' engagement in project implementation

Stakeholders' engagement	Frequency	Percentage
Yes	57	90
No	6	10
Total	63	100

Source: Field data, 2024

According to Table 8, it has been observed that 90% of the respondents responded that stakeholders' engagement influences the implementation of the Galana Kulalu Food Security project while 10% observed that stakeholders' engagement does not influence project implementation. This was an indication that stakeholders' engagement influenced the implementation of the project.

Stakeholders' engagement consideration and role in project implementation

The purpose of the variables was to evaluate whether stakeholders' engagement was considered during project implementation and whether stakeholders played a role in the project's execution. On a scale of 1 to 5, the participants were required to indicate how much they agreed with the statements. Strongly Agree (5); Agree (4); Neutral (3); Disagree (2) and Strongly Disagree (1).

Table 9: Stakeholders' engagement consideration during project implementation

Stakeholders' engagement	Frequency	Percentage
Strongly Agree	15	23.8
Agree	27	42.9
Neutral	15	23.8
Disagree	3	4.8
Strongly disagree	3	4.8
Total	63	100

Source: *Field data, 2024*

Based on the findings in Table 9, stakeholder engagement played a role in the project's implementation. Of those surveyed, 42.9% agreed that stakeholders were considered, with 23.8% strongly agreeing, 23.8% remaining neutral, and 9.6% disagreeing to some extent.

Table 10: Stakeholders have their role in project implementation

Stakeholders' role	Frequency	Percentage
Strongly Agree	12	19.0
Agree	30	47.6
Neutral	15	23.8
Disagree	3	4.8
Strongly disagree	3	4.8
Total	63	100

Source: *Field data, 2024*

According to the data presented in Table 10, stakeholders play an essential role in project implementation. Of the respondents, 47.6% agreed that project management leaders had a significant impact on community participation, while 23.8% remained neutral, 19.0% strongly agreed, 4.8% strongly disagreed, and 4.8% disagreed with the statement. Overall, Tables 4.11 and 4.12 highlight the importance of considering stakeholder engagement in project implementation due to their significant role. Therefore, it is imperative to prioritize stakeholder engagement throughout the project lifecycle to achieve the desired results.

Influence of stakeholders' engagement on project sustainability

The purpose of the study was to assess how stakeholder participation affected the sustainability of the project during execution. On a scale of 1 to 5, respondents were asked to rate the impact of stakeholder engagement on sustainability, where strongly Agree (5); Agree (4); Neutral (3); Disagree (2) and Strongly Disagree (1).

Table 11: Influence of stakeholders' engagement on the project sustainability

Project sustainability	Frequency	Percentage
Strongly Agree	9	14.3
Agree	44	69.8
Neutral	4	6.3
Disagree	3	4.8
Strongly disagree	3	4.8
Total	63	100

Source: Field data, 2024

Table 11 reveals that stakeholder engagement is crucial for project sustainability during implementation. A staggering 69.8% of the respondents agreed with this statement, demonstrating its significance. Moreover, 14.3% strongly agreed, indicating that stakeholder engagement is a crucial factor that cannot be overlooked. Despite this, a small percentage of respondents (6.3%) maintained a neutral stance. A smaller percentage of respondents, 4.8%, disagreed and 4.8%, strongly disagreed with the question statement, highlighting the need to recognize the importance of stakeholder engagement for sustainable project implementation. Therefore, it is vital to prioritize stakeholder engagement in project planning to increase the chances of project sustainability

Stakeholders' engagement transparency and accountability by project management

The study aimed to evaluate how project management leaders' transparency and accountability affect stakeholder engagement during project implementation. Participants were requested to rate on a scale of 1-5 the extent to which stakeholder engagement impacts the sustainability of the project by responding to a series of statements. Strongly Agree (5); Agree (4); Neutral (3); Disagree (2) and Strongly Disagree (1)

Table 12: Stakeholders' engagement transparency and accountability

Transparency and accountability	Frequency	Percentage
Strongly Agree	15	23.8
Agree	33	52.4
Neutral	9	14.3
Disagree	3	4.8
Strongly disagree	3	4.8
Total	63	100

Source: Field data, 2024

According to Table 12, it has been observed that project management leaders' transparency and accountability have a significant impact on stakeholders' engagement. Out of all the 52.4% agreed that project management leaders influence stakeholders' engagement, while 23.8% strongly agreed, 14.3%

remained neutral, 4.8% disagreed, and 4.8% strongly disagreed with the statement. The data analysis highlights the undeniable influence of project management leaders' transparency and accountability on stakeholders' engagement. As a result, project management leaders should prioritize transparency and accountability to ensure they effectively engage stakeholders.

1.11 Conclusion

The distribution of responses by gender reveals that the male gender was dominant over the female counterpart in the study area, this representation could be attributed to the nature of work which is physically demanding, communities' beliefs in women and the harsh environmental conditions of the study area which is extremely hot and sparsely populated, the results show that the Galana Kulalu irrigation project is a promising initiative that has attracted a diverse range of age groups, with the most productive age group being between 26 to 45 years. Stakeholder engagement played a role in the project's implementation, this highlights the importance of considering stakeholder engagement in project implementation due to their significant role. Therefore, project management leaders must prioritize transparency and accountability stakeholder engagement throughout the project lifecycle to achieve the desired results and to increase the chances of project sustainability.

1.12 Recommendations of the study

To ensure strong stakeholder engagement in the implementation of Flagship projects and the achievement of national food security in Kenya, the study recommends the following:

- a) Since no civilization in human history has advanced without a solid educational foundation, education level is the single most significant component of growth. An encouraging start is Kenya's present policy of providing free basic education to all. Consequently, there is a need for the County governments, religious institutions, civil society, and all other interested parties to work together more closely to allocate enough financial and other resources to construct additional schools that are easily accessible.
- b) To provide all ethnic communities with a chance to be included in the administration and control of the irrigation project, small-scale farmers and pastoralist communities should be incorporated into the scheme, this can be achieved if the county governments provide civic education concerning the impact of the project.
- c) The Galana Kulalu irrigation project team should create a clear system for receiving and accounting for project resources, develop a procurement plan, set up explicit auditing procedures, and schedule frequent meetings with all stakeholders to examine the project's benefits and financial performance. This can be done with the active participation of the county government, stakeholders, and community members.
- d) The government should produce a framework that will ensure all flagship projects are not affected by the politics of the day and that professionalism is considered in the project life cycle, this will facilitate the timely completion of the projects and proper budget planning and monetary management.

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