

MONITORING AND EVALUATION APPROACHES AND PERFORMANCE OF GALANA KULALU MAIZE IRRIGATION PROJECT, KENYA

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ABSTRACT

In order for projects to achieve the intended objectives there is need for the project team to continuously, monitor the project activities with the objective of ensuring that the project is on course and take corrective actions whenever there are significant deviations. This process involves regular and systematic collection, analysing and reporting of information about a project's inputs, activities, outputs and intended impact. In addition, due to continuous calls for accountability and transparency in project management, project managers are required to continuously monitor and evaluate their projects to ensure that they meet the objectives for which they were established. However, in spite of the important element of monitoring and evaluation in project success, there is still limited evidence on the effect of each monitoring and evaluation approach on project performance. To address this gap, the study investigated the influence of monitoring and evaluation approaches on the performance of maize production projects based on Galana Kulalu irrigation project. The study objectives evaluated the effects of result-oriented and logical framework, monitoring and evaluation approaches on performance of maize production projects. The study operationalization was guided by change theory and the results based management

theory. The study was based on descriptive research design with a population of 132 target respondents drawn from the ministry of water and sanitation from which stratified sampling method will be used to select a sample of 71 respondents. Primary data was utilised in carrying out the analysis which was obtained through a semi structured questionnaire. A pilot study was conducted in Tana Irrigation Scheme to improve validity of questionnaires while Cronbach's Alpha was used to test for reliability. Data collected from the field was analysed on the basis of descriptive statistics including means, frequencies and standard deviation for quantitative data and conceptual content analysis for qualitative data. Inferential analysis was carried out using regression analysis. The predictive power of the model was established through R², the fitness of the model assessed through the F-statistic while the significance of the study coefficients assessed through the P-value. The study concluded that result oriented approach and logical framework approach was significantly employed by the project team and they had a positive and significant effect on performance of the project. The study recommends that the project M&E team needs to integrate the four monitoring and evaluation approaches for better results. The study recommends further that the project team needs to involve all stakeholders in the monitoring.

INTRODUCTION

Background of the Study

Literature shows that effective monitoring and evaluation system mainly determined by the ability to track performance and provide instant information for management decision making. In view of Barasa (2014), the need for M&E is to provide appraisal results as to whether the

project is relevant, efficient, effective, its impact and whether the project is sustainable accordance to the purpose for its establishment. M&E also provides important feedback on the success or failure of projects. Moreover, it is shown that monitoring and evaluation enables the management to assess the quality and impact of a project, against project plans and work plan (Serra & Kunc, 2015).

On the basis of these observations, comprehensive monitoring and evaluation (M&E) system should be developed to enable programme implementers, decision-makers and budget planners to establish which strategies work and what needs to be improved (Schwalbe 2015). This is because it was established that effective project monitoring and evaluation enhances the basis for evidence-based project management decisions. However, it is also noted that building and sustaining effective monitoring and evaluation system is not an easy task and requires continuous commitment, time, effort, and resources (Muller, 2017).

Different approaches are adopted in monitoring and evaluating projects. Among the most common monitoring approaches adopted by project managers utilise the matrix model such as the log frame approach (Carr, Onzere & Rosko, 2018). To this end, the most common monitoring and evaluation approaches adopted are the Results-based M&E system, participatory monitoring and evaluation, Logical Framework Approach (LFA) and rapid appraisal approaches. Others include constructivist approach, reflexive approach, feedback systems and impact evaluation. In this study M&E will be operationalized through Results-based approach and Logical Framework Approach.

According to Kerzner (2017) performance of projects may adopt a wide range of indicators ranging from quality, completion time, health and safety measures, cost overrun and client satisfaction. However, literature shows that time, cost and quality are the predominant performance evaluation indicators. Other measurement indicators include relevance, efficiency, effectiveness, impact and sustainability (Harms, 2015). Ansah and Sorooshian (2018) outlined that project performance may be influenced by project characteristics, procurement system, project team performance, design team characteristics, contractor characteristics and client characteristics. In this study project performance will be measured through project schedule, stakeholder satisfaction, impact of the project and project cost.

The Galana Kulalu irrigation project was established in 2014 as a flagship project by the Jubilee government as part of the Government's agenda to ensure Kenya's food security at a cost of 7.2 billion shillings. The project involved construction and installation of irrigation infrastructure, construction of intakes on river Galana, installation of drip irrigation systems, construction of a logistics centre, cultivation of maize and preservation. The initial part of the project involved the construction of a model farm which covering 10,000 acres contract and awarded to Green Arava of Israel at a cost of 14,545,106,963 shillings in September 2014. However, the contract was revised later to 7,294,853,036 shillings after deferment of some parts of the contract (ROK, 2020).

The project was first piloted which proved that the project was viable. From this project was noted that The National Irrigation Board (NIB) expected to realise over 20,000 bags of maize from the first batch of 500 acres averaging 40bags per acre which was higher than the average 17 bags per acre generated in Kenya. From the onset the irrigation scheme promised to be a

game-changer in Kenya's pursuit to bridge an annual production deficit of its main maize staple food and cut reliance on imports from markets in the region. On completion the one million acre scheme was expected to be the biggest in east and southern Africa signifying Kenya's big dreams of attaining food sufficiency (NIB, 2020). However, the project faced challenges ranging from, slow rate of implementation of the contract by the contractor, non-compliance of the contract conditions by the contractor, floods, El-Nino which affected crop yield and delayed payments to the contractor. Consequently, the project has since stalled raising questions as to whether, adequate monitoring and evaluation was conducted on the project.

Statement of the Problem

With globalization and advancement in communication and technological advancement, project managers continuously face pressure from donors, governments, stakeholders, civil society and the media to improve project performance, increase efficiency speed up projects to complete them in time and stay competitive. In addition, there are continuous calls for accountability and transparency in project management. Due to these pressures project managers are required to continuously monitor their projects to ensure that they meet the objectives for which they were established.

However, in spite of the important element of monitoring and evaluation, there is still limited evidence on the effect of each monitoring and evaluation approach on project performance. Most of the existing literature concentrated on the role of monitoring and evaluation on project performance while others focused on one approach only. For instance, Naidoo (2012) studied the role of monitoring and evaluation in promoting good governance in South Africa and Mariga (2012) conducted a study on appraisal of participatory monitoring and evaluation in government community development initiatives: a case study of Tana and Athi River Development Authority. In addition, Phiri (2015) conducted a study on the influence of monitoring and evaluation on project performance based on African Virtual University in Kenya. Winiko (2018) focused on monitoring and evaluation processes, project management maturity and performance of digital education technology project in Malawi while Osman and Kimutai (2020) sought to establish factors influencing implementation of road projects in Wajir County, Kenya.

As noted in the reviewed studies, most studies dwelled on the role of M&E in influencing performance of development projects. Further, literature shows that most of the studies were conducted in projects such as community development initiatives, digital education technology project and road projects but none considered maize farming projects. This study thus identified that gaps in literature and sought to fill them by answering the question: what the influence of monitoring and evaluation approaches on the performance of maize production projects?

Research Objectives

- i. To evaluate the effects of result-oriented approach on performance of Galana Kulalu maize production irrigation project, Kenya
- ii. To establish the influence of logical framework approach on performance of Galana Kulalu maize production irrigation project, Kenya

Research Question

This study sought to answer the following research questions

- i. To what extent does Result Oriented Approach affect the performance of Galana Kulalu maize production irrigation project, Kenya?
- ii. How does logical framework approach influence the performance of Galana Kulalu maize production irrigation project, Kenya?

LITERATURE REVIEW

Theoretical Review

Theory of Change

The theory of change, published by Carol Weiss in 1995, is defined simply as a theory of how and why an initiative works. It concentrated not only on creating understanding about the effectiveness of a project, but also on explaining why and how it utilizes techniques to be efficient (Cox, 2009). Change theory offers a template of how a project should operate. It offers a road map, in other words, where the project is attempting to achieve. Monitoring and assessment tests and refining the road map while communications help to reach the target by helping change. In addition, the change theory offers the foundation to argue that the intervention is making a difference (Msila& Setlhako, 2013). This theory indicates that by knowing what the project is attempting to accomplish, how and why it will be possible for project employees and evaluators to monitor and evaluate the required outcomes and compare them against the initial change theory (Alcock, 2009). A change theory helps to define alternatives to tackle efficiently the causes of issues that hinder progress and guide choices on which strategy should be taken, taking into account the relative benefits, efficiency, feasibility and uncertainties that are part of any change process. This theory also helps the organizations undertaking monitoring and evaluation recognize the underlying assumptions and hazards that will be essential to understanding and reviewing throughout the process to guarantee that the strategy contributes to the required change.

Change Theory is mainly an extensive description and illustration of how and why in a specific context a required change is anticipated to occur. In specific, it focuses on mapping out or filling what has been defined as the absent centre between what a programs or change project does and how they contribute to the achievement of required objectives. It does this by first defining the required long-term objectives and then working back from them to define all the circumstances (results) that must be in location for the objectives to happen (and how they are causally related to each other). All of these are mapped out in a framework for results. The Outcomes Framework then provides the basis for identifying what sort of activity or intervention will result in the results being identified as prerequisites for achieving the long-term goal.

The accurate connection between operations and achieving the long-term objectives is more fully grasped through this strategy. This leads to better organisation in which activities are associated with a detailed understanding of how change actually occurs. It also contributes to

better assessment, as progress towards achieving longer-term objectives that go past identifying program outputs can be measured. It is necessary to acknowledge how procedures of change shape the scenario and properly adjust the practice (Reeler, 2007). It is therefore important to re-examine the assumptions taken at the start during the execution of the project. Change Theory is useful not only in measuring results, but also in understanding the function of the project and other variables in contributing to results. Mid-term review's primary goal is to check whether the project contributes to the planned transformation according to the fundamental theory of change and whether the theory needs to be amended (Hinchcliffe et al., 1996). For this reasons therefore, this theory will be used in the study to support Result Oriented Approach.

Results Based Management Theory

Results Based Management (RBM) Theory is a broad management approach which started with the Australian government in the mid-1980s; the theory became increasingly important in the 1990s spearheaded by the Organisation for Economic Co-operation and Development (OECD). The core focus is achieving results. It is a management strategy that helps procedures, outputs and services achieve obviously stated anticipated achievements and goals. It focuses on outcomes, performance improvement, and integration of lessons learned into management choices and tracking and reporting on performance.

The Results Based Management Group (RBMG) observed that earlier concepts such as Public Sector Management in the 1960s, Program Management by Activity in the 1970s to 1980s, Management by Objective (MBO) and Logical Framework Approach in the mid-1970s, New Public Management (NPM) and Total Quality Management (TQM) in the 1980s evolved from results-based theory. As defined by the United Nations Development Group (UNDG), Results-based management is a management strategy through which all actors, directly or indirectly contributing to the achievement of a set of outcomes, ensure that their products and services contribute to the achievement of desired outcomes (outputs, outcomes and higher-level or impact goals). The actors themselves use the information and evidence to inform decision-making on the design, resource building and delivery of programs and operations as well as accountability and reporting on the actual results.

This theory is about first choosing a location and then deciding on the path to check against a map and making changes as needed to accomplish the desired outcomes. The RBM approach moves from focusing on input operations and procedures to focusing on advantages and accomplishments that directly impact the intervention. The theory also highlights the use of results data to enhance decision-making. The strategy of the theories requires that leadership continuously reflect on the extent to which activity and output execution will lead to the achievement of desired results. RBM is one of the leadership approaches. All ground actors, directly or indirectly promoting the accomplishment of specific development outcomes, ensure that their processes, goods and output contribute to achieving viable outcomes (Crawford and Bryce, 2013). RBM based on responsibilities obviously identified. It describes the ultimate outcomes and involves both surveillance and self-assessment of progress towards sustainable outcomes, including recording performance United Nations Development Program (UNDP), 2012). RBM is a continuous approach—the main aspects of which all intensify M&E elements—

beginning with the basics of detailed planning, including the definition of vision, mission and outcome-based framework instruments. Once agreed, execution begins with running a sequence of outcomes through a program, with monitoring now becoming a critical exercise to promote the achievement of sustainable outcomes. RBM is an on-going method requiring periodic feedback from the respondents; feedback supports learning a process enhancement lesson (UNDP, 2012).

In RBM theory, monitoring is viewed as a continuous process, and the results from the monitoring process are discussed frequently. They inform activities and choices for the execution of the project. Assessments carried out for continuous improvement of the project. Implementing the adjustments made for the continuing projects as well as scheduled future projects. It is about effectiveness of implementation accordingly management is supposed to continually make necessary adjustments to ensure that planned or desired results realised. According to Robert (2010), an assessment should provide evidence-based data that is proven to be credible, reliable and helpful, and should also allow for the timely inclusion of results, suggestions and lessons in the decision-making process. In the course of the assessment, key stakeholders should be engaged in a number of ways to improve the usefulness of the results along with suggestions (Clarke, 2011). Evaluations have main features that are important; they are but no limited to use, accountability, and efficiency. In this study, the resource Based Management Theory will be used to support Logical Framework Approach.

Empirical Literature Review

Result-oriented approach and performance

Buli (2016) carried out a survey in Ethiopia to examine the perception of teachers, the execution, tracking and assessment scheme and the difficulties experienced in the application of ROTPA in the Ministry of National Defence / Education and Training Main Department/College of Joint Military Staff College towards the results-oriented performance evaluation scheme. The research used a descriptive technique of survey. The research target population included 40 college professors, 12 heads of departments, 45 students and 2 college deans. The results of the research showed that educators did not engage in the ROTPA criteria formulation and that those involved in teacher evaluation did not have appropriate ROTPA training. The performance assessment feedback scheme was considered to be characterized by criticism, lack of incentives and delay in providing educators with feedback.

Xue, Turner, Lecoivre and Anbari (2013) attempted to examine the impacts of results orientation on project performance by implementing a results-based surveillance and assessment scheme to identify and realize advantages throughout the life cycle of the project and by creating a project organization with clear obligations for project owners, sponsors and other stakeholders. The research embraced the results-based M&E scheme for analyzing nine main infrastructure projects at different phases of their life cycle, including design, construction and operation. The findings showed that project efficiency can be enhanced by adopting a result orientation throughout the life cycle of the project and providing it with a governance framework through which clear duties are allocated for delivery of outcomes and realization of advantages.

Gobena (2012) conducted a study to assess the result oriented performance appraisal. the study sought Specifically identify the problems that being faced by the bank on evaluation system. The study targeted a population comprising of staff members of commercial bank of Ethiopia Worabe Branch. The study utilised primary data that was collected through questionnaire and interview and secondary data was collected from internet, books, and documents of the organization. The study findings showed that the main problem of result oriented performance appraisal in the bank was discrimination and evaluate based on most recent performance.

Verbeeten and Speklé (2015) performed a survey to theoretically and empirically examine the validity of efficient management control concepts. The research found that it was necessary to reconsider the reform program of the New Public Management (NPM). The study found that performance is favourably associated with a results-oriented culture. Furthermore, the findings proposed that both the impacts of decentralization and the dependence on laws and processes are contrary to the expectations of NPM.

Logical Framework Approach and performance

Oyola and Odhiambo (2018) performed a survey in Alego Usonga Sub-County to explore the impact of the logical framework approach on early childhood development performance and education initiatives. The study's layout was cross-sectional. The target population was 1217 participants, consisting of members of the county executive committee, county chief executives, departmental executives, members of the project management committee, sub-county administrators, ward administrators, ECDE coordinators and ECDE Instructors. Simple stratified sampling has been done at random. The study information was to be collected by a sample of 297. Data were analysed using version 21 of the SPSS software package. There was a calculation of both descriptive and inferential statistics. The study's finding was that the logical framework approach and results of ECDE projects ($r=0.395$ $P<0.01$) had a substantial positive association.

Myrick (2013) discussed the monitoring and evaluation theoretical methods that are streamlined and altered over time for real-world application. The study design used was an investigation. 40 program officers and five program executives were targeted in the research. The study data was collected using a questionnaire. Data analysis in the form of frequencies and proportion was descriptive. The research results showed that logical frameworks and reasonable approaches to monitoring and evaluation (M&E) often enable the need to alter procedures that can be used in cases where restricted funds, restricted economic capital and restricted human capital are available to define if programs and initiatives have had an effect.

Barasa (2014) sought to investigate influence of monitoring and evaluation tools on project completion of surveillance and assessment instruments. The research focused on key surveillance and assessment instruments that were: Strategic Plan, Logical Framework, Analysis of Budget and Stakeholders. The study's target population was 120 members of the CDF projects from which five committee members were purposely sampled from each of the CDF projects. Questionnaires were used to collect the study data; analysis of documents, checklists and scheduled interviews. Using the SPSS and Microsoft office suite, data was analyzed both descriptively and inferentially. The results showed that instruments for

monitoring and evaluation impact the completion of the project. The study specifically revealed the logical framework has highest influence over project as compared to other tools.

Ouma (2015) sought to examine the effects of M&E logical framework tool on the program performance of selected NGOs in Nairobi County. Descriptive survey research design was adopted for the study and gathered information through a structured self-administered questionnaire. A sample size of 97 NGOs was chosen from a target population of 3650 NGOs using stratified sampling. The research used 194 participants from chosen NGOs who were made up of project executives and M&E staff. Data were evaluated using SPSS computer software, descriptive statistics, and correlation analysis. The research discovered that logical framework is an invaluable instrument for controlling program efficiency with 81% providing a node with a coefficient of 0.983 correlations.

Conceptual Framework

Figure 1 shows the conceptual framework for the study

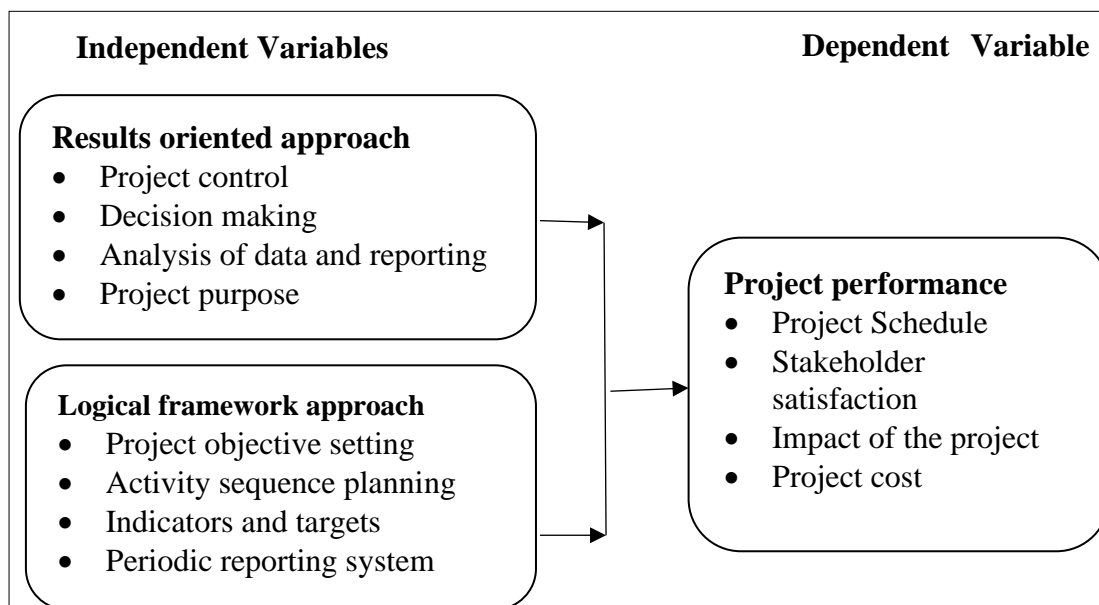


Figure 1: Conceptual Framework

Source: Author and Literature review (2020)

RESEARCH METHODOLOGY

Research Design

Research design is the overall strategy that the researcher can choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring that the researcher effectively address the research problem (Nassaji 2015). This study adopted a descriptive research design. For this research, this design was best suited as it describes features connected with the subject population, and in specific variables that make them act the way they do. The

descriptive design, according to Maxwell (2012), finds and measures the cause and effect of variables interactions

Target Population

A target population is categorized as all the members of a specified group to which the inquiry relates, according to Howitt (2016). It is a complete set of persons, instances or items with some prevalent observable characteristics and target population as the population to which a scientist wishes to generalize the research outcomes. The target population for this study comprised of 133 officials from the top management level in the ministry of water and sanitation. The study target population is as outlined in Table 1

Table 1: Target Population

Management level	Frequency	Percentage
Top level management	21	15.9
Middle level management	43	32.6
Lower level management	68	51.5
Total	132	100.0

Source: Ministry of Water and Sanitation (2020)

Sampling Technique

Sampling is the use of a few members of the population to collect the information required for the research. According to results Etikan, Musa and Alkassim (2016) the sample acts as the representative of the entire population and the researcher can then draw conclusions from this sample's results. The sample size is taken as a depiction of the population being studied (Bryman & Bell, 2015). First, the population was stratified into three levels of leadership, including lower, middle and top management levels. The researcher used the easy random technique to sample the participants of the study in each of the stratum. Stratified random sampling technique for selecting a sample of 71 participants was used in this research. This sample size was accomplished by using the specified formulae suggested by Kothari (2004) to take the population of 132 participants using a 95 percent confidence level and an error of 0.05.

$$n = \frac{z^2 \cdot N \cdot \partial_p^2}{(N - 1)e^2 + z^2 \partial_p^2}$$

Where; n = Sample size,

N = Study Population (132)

e = Error term often taken as 0.05

∂_p = Standard deviation represented by 0.5 if not known

Z = Standard variation of 1.96 at 95% confidence level.

The sample population was as shown in table 2

Table 2: Sample Size

Management level	Population	Ratio	Sample size
Top management	21	0.54	11
Middle level management	43	0.54	23
Lower level management	68	0.54	37
Total	132		71

Source: Author (2020)

Research Instrument

This study used a semi-structured self-administered questionnaire to obtain primary data with both closed-ended questions and open-ended questions. As noted by Mutandwa, Grala and Grebner (2016), open-ended questions enable the participants to provide in-depth responses while the investigator readily assessed the closed-ended questions. The open-ended questions provided well-structured answers from which it was simpler to analyse and draw conclusions. The close-ended questions gave more information that was missing in the open-ended questions. A self-administered questionnaire is a suitable instrument for obtaining self-report on the opinions, attitudes, beliefs and values of people, according to (Taylor, Bogdan & DeVault 2015). The questionnaire was split into two parts section A representing the demographic segment and section B representing the different variables taken for research.

Validity and Reliability of Research Instrument

Validity of Research Instrument

Bryman and Cramer (2011) opined that the validity of a questionnaire relates to the accuracy of the data obtained as compared to what the questionnaire was designed to collect and measure. Therefore, it is the extent to which a questionnaire measures what it is meant to measure. Further, it is noted that validity concerns itself with the precision and significance of inferences based on the outcomes of the studies (Hammer, 2011). To guarantee that content validity items are selected in order to comply with the test specification drawn up by a thorough examination of the topic domain. A pilot study was conducted at the Tana Irrigation Scheme which is also in Tana River County where Galana Kulalu Project is. This was aimed at improving on the data collection instruments.

Reliability of the Research Instrument

Reliability refers to the extent to which a test's measurement remains consistent under identical conditions over repeated tests of the same subject (Churchill & Iacobucci, 2006). An experiment is reliable if the same measure produces coherent outcomes. That is, results are stable or consistent over time (Arghode, 2012). The reliability of the research tool was evaluated using internal consistency testing in this study. The internal consistency test in this study was measured using Cronbach's alpha coefficient (α).

Data Collection Procedure

The questionnaires were self-administered. Self-administered questionnaire allowed one to explain more responses to the questions or probe. This makes it clear and is likely to provide appropriate answers. The investigator left the questionnaire to be collected later in cases where self-administered questionnaire were not relevant. To increase the response rate, a University introductory letter was attached to ensure the safety, confidence and confidentiality of the respondents. The investigator also received a license to conduct the study from the National Commission for Science, Technology and Innovation (NACOSTI).

Data Analysis and Presentation

Data analysis, according to Hox, Moerbeek and van de Schoot (2010) is the method of statistical breakdown of the information collected to see if the variables under research are related. It is a method by which researchers convert raw data into helpful information for decision-making. Once the questionnaires were collected, they were checked for completeness and consistency before the data entry process, coding and information entry of close-questions were then conducted. Data cleaning involving checking for data entry mistakes accompanied the entry of information. The research variables' descriptive statistics included frequencies, percentages, mean score, and standard deviation with the aid of SPSS. For helpful interpretation, the descriptive statistics were helpful in determining the frequency, trend and pattern in the information gathered. Presentation of quantitative data was done using frequency in tables. Regression analysis was also conducted to show how monitoring and evaluation approaches influenced performance of maize production in Galana Kulalu irrigation project. The regression model were as follows

$$Y = B_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon_i$$

Where: Y = Performance of Maize Production (Dependent Variable)

B_0, β_1, β_2 constants

X_1 = Result Oriented Approach

X_2 = logical framework approach

ϵ_i = error term

RESEARCH FINDINGS AND DISCUSSIONS

Descriptive Findings

Result-oriented Approach

The first objective of the study was to establish the effect of result-oriented monitoring and evaluation approach on the performance of Galana Kulalu Irrigation Project. The respondents were further asked to indicate the extent to which they agreed on the following aspects of results oriented approach in affecting the performance of maize production projects based on Galana Kulalu irrigation project on a scale of 1-5 where 1=Strongly Disagree, 2= Disagree, 3=Not sure, 4=Agree and 5=Strongly Agree. The findings were as presented in Table 3;

Table 3: Result oriented M&E approach

Results oriented approach	Mean	Std. Dev
Project control	3.88	0.699
Decision making	3.61	0.759
Analysis of data and reporting	3.91	0.814
Project purpose	3.81	0.822

Source: Field data, 2020

The study respondents to a significant extent agreed that result oriented approach which involved project control, decision making, analysis of data and reporting and project purpose affected performance of Galana Kulalu Irrigation Project as indicated by a mean of 3.88, 3.61, 3.91 and 3.81 respectively. This indicates that result oriented approach was employed by the project M&E team and had a positive and significant effect on the performance of the project.

Logical framework approach

The respondents were asked to indicate the extent to which they agreed on the following aspects of Logical framework approach in affecting the performance of maize production projects based on Galana Kulalu irrigation project on a scale of 1-5 where 1=Strongly Disagree, 2= Disagree, 3=Not sure, 4=Agree and 5=Strongly Agree. The findings were as presented below;

Table 4: Logical Framework Approach

Logical framework approach	Mean	Std. Dev
Project objective setting	3.78	0.822
Activity sequence planning	3.63	0.647
Indicators and targets	3.51	0.901
Periodic reporting system	3.57	0.823

Source: Field data, 2020

The respondents agreed that logical framework approach was applied in monitoring and evaluation of the Galana Kulalu Irrigation Project through project objective setting, activity sequence planning, indicators and targets and periodic reporting system as indicated by a mean of 3.78, 3.63, 3.51 and 3.57 respectively. This indicates that the project M&E team significantly embraced logical framework approach.

Inferential Statistics

The study conducted inferential statistics to establish the extent of correlation between monitoring and evaluation approaches and performance of Galana Kulalu Maize production Irrigation project, Kenya. The findings of coefficient of determination and coefficient of adjusted determination are as shown in Table 5.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.825 ^a	.826	.815	1.711241

The findings found out that coefficient of correlation R was 0.825 an indication of strong positive correlation between the variables. Coefficient of adjusted determination R² was 0.815 which changes to 81.5% an indication of changes of dependent variable can be explained by (result-oriented approach, logical framework approach, participatory approach, rapid appraisal approach). The residual of 18.5% can be explained by other factors beyond the scope of the current study. The study carried out an ANOVA at 95% level of significance. The findings of F_{Calculated} and F_{Critical} are as shown in Table 6.

Table 6: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	711.021	2	355.511	58.558	.000 ^b
Residual	352.123	58	6.071		
Total	1063.144	59			

Source: Field data, 2020

The findings show that $F_{\text{Calculated}}$ was 58.558 and F_{Critical} was 5.3166, this show that $F_{\text{Calculated}} > F_{\text{Critical}}$ ($6.0577 > 5.3166$) an indication that the overall regression mode was significant for the study. The p value was $0.000 < 0.05$ an indication that at least one variable significantly influenced performance of the project. The study used coefficient of regression to establish the individual influence of the variables to firm performance. The findings are indicated in Table 7.

Table 7: Coefficients of Regression

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	5.188	0.786		2.144	.000
Result oriented approach	0.809	.153	.147	9.124	.000
Logical framework approach	0.814	.161	.076	11.034	.000

The resultant equation was

$$Y = 5.188 + 0.809X_1 + 0.814X_2$$

Where: X_1 = Result oriented approach

X_2 = Logical framework approach

The study found out that by holding all the variables constant, performance of the Galana Kulalu Irrigation scheme will be at 5.188. A unit increase in result oriented monitoring and evaluation approach when holding all the other variables constant, project performance would be at 0.809. A unit increase in logical framework approach while holding other factors constant, project performance would be at 0.814. The findings pointed out that result-oriented approach and logical framework approach had a p value of $0.000 < 0.05$ an indication that the selected monitoring and evaluation approaches significantly influenced performance of the Galana Kulalu Irrigation Project. This is supported by Gobena (2012) who noted that the selected monitoring and evaluation approaches had a strong correlation with project performance by continuous, consistent, procedural, participatory and objective monitoring and evaluation framework.

CONCLUSION AND RECOMMENDATIONS

Conclusions

The study concluded that monitoring and evaluation approaches was a significant factor in determining performance of the Galana Kulalu Maize Production irrigation project, Kenya. The study concluded that the project significantly embraced monitoring and evaluation. The study further concluded that result oriented approach and logical framework approach was significantly employed by the project team and they had a positive and significant effect on performance of the project.

Recommendations

The study recommends that the project team needs to embrace continuous, regular and objective M&E to ensure the project is within schedule, budget and scope. Two monitoring and evaluation approaches for better results. The study recommends further that the project team needs to involve all stakeholders in the monitoring and evaluation and also share feedback for accountability and improvement.

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