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Abstract

Agricultural grant-funded projects play an integral role in supporting Kakamega County's economic development and achieving food security and poverty alleviation. The County Government of Kakamega has implemented agricultural interventions to aid farmers and provide extension services to support its economic growth. Project management has been considered effective and efficient in enhancing project outcomes. The study investigated the effect of project management techniques on the performance of agricultural grant-funded projects in Kakamega County, Kenya. Specific objectives were to determine the effect of stakeholder participation on performance, to establish the effect of project managers' competency on performance, to determine the effect of communication management on performance and to establish the effect of monitoring and evaluation on the performance of agricultural grant-funded projects in Kakamega County, Kenya. The balanced scorecard, program theory, and stakeholder theories guided the study. A descriptive research design was adopted, targeting 338 agricultural cooperatives in Kakamega County. Identification of 183 project managers was achieved through systematic random sampling using the Yamane sample size formula. A self-administered closed-ended questionnaire aided in primary data collection. Content and face validity were used to assess the instrument's validity, while Cronbach's alpha was used to assess reliability. Descriptive and multiple regression were used to aid primary data analysis, and the results were presented using frequency tables, means, standard deviations, and percentages. Confidentiality and voluntary participation of respondents were observed. The study found a positive and significant effect of monitoring and evaluation on project performance with conclusion that monitoring and evaluation plays a crucial role in the enhancement of grant-funded project performance in Kakamega County, Kenya. Future studies may target farmers and to establish any variation in the findings.

Keywords: *Monitoring and Evaluation, Performance, Agriculture, Grant-Funded Projects, Kakamega County*

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1.0 Background of the Study

Agriculture is critical to a country's economic development by enhancing productivity, eradicating poverty, and fostering competitive advantage (Lemunge & Jackson, 2021). Agricultural projects in Kenya contribute 25% to GDP (Simiyu, 2018), generate 75% of employment, and support 80% of the rural population (Ronoh, 2022). However, the performance of agricultural grant-funded projects has been limited, as evidenced by the low success rate worldwide, with many failing to meet customer and stakeholder expectations (Richard et al., 2022). Lemunge and Jackson (2021) observe that the performance of agricultural projects in Latin America has contributed to employment generation, national economic growth, innovation development, and wealth creation. However, the sector's contribution to GDP over the last 50 years has been 10-12%, which is minimal, as agriculture has been considered secondary in the country's productive activities and has thus not attained its full potential. The trend in performance is also witnessed in the observation by World Bank-funded agricultural projects in Nigeria; Fadama I, II and III, where the intention of the projects was to improve the welfare of rural communities by supporting small-scale farmers with farm inputs, enhancing rural infrastructure, providing assets and boosting food production to improve rural livelihood. These projects consisted of livestock, processing, fisheries, crop production, establishment of market stalls, and agro-processing, as well as extension services including livestock management, special communication strategies, human resource management, fishery technologies, and partnership and credit facilitators. However, Fadama projects faced inadequate extension services, human resource deficiencies, environmental resource management challenges, inadequate stakeholder engagement, farmer illiteracy, and poor monitoring and evaluation, resulting in poor performance (Ovharhe, 2019).

Gerba et al. (2017) recognize the role of agricultural extension services in Ethiopia in meeting rising demand for food, foreign currency, and industrial raw materials. Additionally, the Ethiopian government has adopted extension services to support agricultural projects, thereby improving its socio-economic growth through rural transformation. The government has also made an effort to allocate 10% of its national budget to agriculture-funded projects. However, GFSI (2019) indicates that adoption of agricultural technologies remains low, as they are not associated with irrigation, enhanced seed varieties, disease management, or fertilizer, leading to low agricultural productivity. In Rwanda, farmers have a well-developed agricultural research system. MINAGRI (2018) adds that, despite improvements in research, there has been limited technological advancement, and most farmers lack information on how to use farm inputs. The World Bank (2019) points out that, despite Rwanda receiving project funding to address food security challenges, performance remains very low due to inadequate monitoring, limited implementation capacity, unstandardized methodologies, inadequate stakeholder participation, and weak project design (Mutesi & Madichie, 2023).

The trend of poor performance witnessed in the analysis by Irungu and Makori (2016) on Kenyan-funded agricultural projects, where the authors noted that, in 2012-2015, 110 projects were implemented in Nyeri County, focusing on horticultural farming, home economics, livestock farming, and beekeeping. However, 32 of the projects were terminated, while the "send a cow" project initiated by a non-governmental organization has been reduced by 25% in the last 8 years (MOALF, 2017). To boost farmers' project performance in Kakamega, the county government established 134 demonstration plots with 9 greenhouses at Bukura ATC and revived 338 cooperatives, providing grants to boost farmers' operations (County Government of Kakamega,

2023). Even though the county reduced its poverty index from 47% to 33.3% through agricultural interventions, the food poverty index remains higher than the country's 32%, and the multidimensional poverty rate is 70.8%, compared to the country's 35.1%. The county also planned to produce 200 million litres of milk but managed only 182.4 million litres. Additionally, Kakamega County aquaculture projects were expected to yield 2,177 tonnes but realized 1,245.6 tonnes (County Government of Kakamega, 2023). Monitoring and Evaluation are project management techniques that help realize objectives by tracking performance in agricultural grant-funded projects. Monitoring and evaluation consist of staff training, participation monitoring, scope management, sectoral coordination and partnership (Ocharo & Rambo, 2020). Monitoring and evaluation have been recognized as important in agricultural grant-funded projects to prevent failures and improve success (Levinson & Herforth, 2022). This study will use monitoring and evaluation elements, including staff training, sectoral coordination, partnerships, and scope management, given their prior application in Kilifi and their recognition as important for enhancing project success.

1.1 Problem Statement

Grant-funded agricultural projects play a pivotal role in socio-economic development by improving the livelihoods of rural populations, who constitute approximately 80% of the population, generating nearly 75% of employment opportunities (Ronoh, 2022), and contributing about 25% of Kenya's Gross Domestic Product (GDP) (Simiyu, 2018). Through these projects, county governments have been able to alleviate poverty, enhance food security, and create employment opportunities. Consequently, the effective performance of grant-funded agricultural projects is essential for achieving the objectives outlined in the County Government of Kakamega's 2023–2027 development blueprint (County Government of Kakamega, 2023) and for advancing the national aspirations articulated in Kenya's Vision 2030 (Richard et al., 2022). Despite their significance, the performance of agricultural grant-funded projects has remained suboptimal. Richard et al. (2022) observed that many of these projects have failed to meet stakeholder expectations and achieve their intended outcomes. For instance, the Ministry of Agriculture, Livestock and Fisheries (2017) reported that the "Send a Cow" project, initiated in Kakamega County in 2009 through the distribution of 16 dairy goats to community groups, has experienced a 25% decline in the number of goats distributed over the past eight years. Similarly, the County Government of Kakamega (2023) noted substantial performance gaps in several agricultural initiatives. Although the county had projected an aquaculture output of 2,177 tonnes, actual production reached only 1,245.6 tonnes. Likewise, the county targeted the production of 200 million litres of milk but realized only 182.4 million litres.

These performance deficiencies persist despite county government interventions aimed at revitalizing grant-supported cooperatives and strengthening agricultural productivity. Consequently, Kakamega County continues to experience high levels of poverty, with a food poverty index of 33.3%, exceeding the national average of 32%, and a multidimensional poverty index of 70.8%, nearly double the national rate of 35.1%. Existing literature suggests that robust project monitoring and evaluation (M&E) practices are instrumental in enhancing project performance by facilitating accountability, informed decision-making, and efficient resource utilization (Dissanayaka & Kumaraswamy, 2013).

Empirical studies from different contexts further underscore the importance of effective project management mechanisms. In Latin America, Lemunge and Jackson (2021) found that grant-

funded agricultural projects significantly contributed to employment creation, wealth generation, and economic development. Nevertheless, agriculture was often treated as a secondary economic activity, thereby constraining the sector's ability to realize its full potential. In Nigeria, Ovharhe (2019) examined the World Bank-funded Fadama I, II, and III projects and established that, despite improving rural livelihoods, project performance was undermined by inadequate stakeholder engagement, weak extension services, low levels of farmer literacy, and insufficient monitoring and evaluation systems. Similarly, Hailu et al. (2020) demonstrated that Ethiopia's adoption of agricultural extension services contributed positively to the socio-economic transformation of rural communities; however, low uptake of agricultural technologies continued to exacerbate food insecurity. In Rwanda, Mutesi and Madichie (2023) reported poor performance of World Bank grant-funded agricultural projects attributable to weak monitoring systems and limited stakeholder participation. Although these studies provide valuable insights into the factors affecting the performance of grant-funded agricultural projects, they were conducted in different geographical and socio-economic contexts and focused on diverse populations. Furthermore, they consistently reveal inefficiencies in the realization of project objectives arising from deficiencies in monitoring and evaluation practices. It is against this backdrop that the present study sought to determine the effect of monitoring and evaluation on the performance of agricultural grant-funded projects in Kakamega County, Kenya.

1.2 Research Objective

To establish how monitoring and evaluation affect the performance of grant-funded agricultural projects in Kakamega County, Kenya.

2.0 Literature Review

2.1. Balance Scorecard Theory

The Balanced Scorecard (BSC) was proposed by Robert S. Kaplan and David P. Norton in 1992. The proponent's aim in developing the theory was to recommend to management a model for measuring an organization's activities and comparing them to objectives. The BSC model incorporates four dimensions: financial dimension, which is the main motive that drives an organization's story to support growth in shareholder value, cost reduction and revenue enhancement (Nivea, 2011), measured by looking at the historical perspective of the organization to determine areas of growth, cash flow and return on investment. The customer dimension seeks to answer the question "who are the customers of the organization and what is the value proposition in meeting the needs of customers? with measures including customer compliments, satisfaction levels, customer churn, and retention (Panicker & Seshadri, 2013). The internal dimension consists of business processes aimed at meeting quality needs in project performance (Dan, 2017), while learning and growth (Narayanamma & Lalitha, 2016) is geared towards building internal skills and employee capabilities (Khaled & Nani-Ahmad, 2019).

The advantage of the BSC model is the incorporation of the four dimensions into the organization's mission and strategy, which drives better performance results (Nugrahayu, 2015). The model has been applied in large organizations in the USA, such as Apple, Intel, and Microsoft. In project management, the BSC is used in dashboard development to monitor and manage project service operations (Christian et al., 2022). However, critics of the theory argue that the model is not linked to the strategy map, which makes it difficult for organizations to identify the causal model (Othman, 2008). The success rate in the theory drove its application in the current research, which

used it to measure project management success. The theory was used to determine the dependent variable, performance measurement.

2.2. Program Theory

The theory of Program was proposed by Suchman (1960) to support organisations' project planning, implementation and completion. Program theory has been defined by Rossi et al. (2014) as an organisational strategy for resource deployment and activity management to ensure the intended purpose of the project is realised (J-Pal, 2003). Program theory supports project evaluation by highlighting critical project elements and their dependencies (Lipsey, 1990). The theory presents ideas regarding project inputs and how they determine outcomes. Lipsey (1993) adds that program theory provides an understanding of the causal relationships between outcomes and program elements. Rossi (2004) notes that the theory concerns an organization's strategies for system maintenance through resource allocation and the coordination of operations. The theory was improved by Weiss (1995), who proposed the theory of change to demonstrate how an initiative works, with an understanding of the effectiveness of a project (Cox, 2009). The theory provides guidance on measures to realise the project goal by elaborating on the project's foundations for change (Msila & Sethako, 2013). The theory was used in project evaluation to address emerging issues and to determine the causes and effects of existing problems to improve project outcomes (Sethi & Philipines, 2012).

2.3 Monitoring, Evaluation, and Performance

An investigation by Ndothya and Chege (2023) examined how M&E techniques influenced project performance across five projects: climate justice, gender equality, health, crisis response, and economic justice. Top-level management totalling 155 were identified through a census; hence, all were included in the study. M&E was measured using planning, training, financial support, and stakeholders' management. The questionnaire aided in data collection. Regression enabled primary data analysis using SPSS. The study found that stakeholder involvement had a strong relationship ($r=0.835$), training had a moderate relationship ($r=0.516$), and financial support had a strong relationship ($r=0.850$). This study was a case study of Care International, hence limiting the generalizability of the findings. The current study deviated from a case study by involving multiple agricultural grant projects in Kakamega County.

Chege and Bowa (2020) investigated monitoring and evaluation using staff strength, staff experience, the total number of staffs in M&E, and the frequency of M&E. The study targeted 393 education projects, of which 10% were sampled, yielding 39 NGO projects. The findings indicated a moderate relationship with project performance. M&E had a significant effect on project performance, with the M&E team being committed to the work, which enhanced performance. This study worked with NGOs implementing education projects in Nairobi City County, which differed from the current study, which was conducted in Kakamega County.

Chepkemoi and Otieno (2020) focused on performance reviews, budgetary allocations, baseline surveys, and capacity building for M&E in Bomet County construction projects. All project management heads who were engaged in monitoring and evaluation were included in the study, which was sampled purposively. Directors, fund account managers and departmental heads were part of the study. A total of 30% of the 297 population was used to generate 100 samples. Self-administered semi-structured questionnaires supported data gathering. The study established that there was budget allocation for M & E of construction projects, including stakeholder information

requirements, stakeholder expectations, scope of M & E, and events. This study targeted construction projects in Bomet County. The current research focused on agricultural grant projects in Kakamega County.

Gaibo and Mbugua (2019) employed a descriptive design to examine the influence of M&E on the performance of Marsabit County's infrastructural projects. The population of interest comprised 165 personnel engaged in 34 infrastructure projects in the county. A census was employed that included all respondents. A self-administered questionnaire was used to obtain responses. The findings revealed disagreement among respondents about whether the information obtained at the starting point was due to the baseline survey. It was established that the county government did not conduct baseline surveys before the commencement of projects. The correlation showed a weak value ($r = 0.003$), which was significant; hence, no relationship was found, leading to the conclusion that the baseline survey does not influence the implementation of infrastructural projects in Marsabit County. This study measured M&E using a baseline survey and established a weak correlation. The current study incorporated additional M&E measures to assess the strength of the relationship between M&E and project performance.

2.4. Conceptual Framework

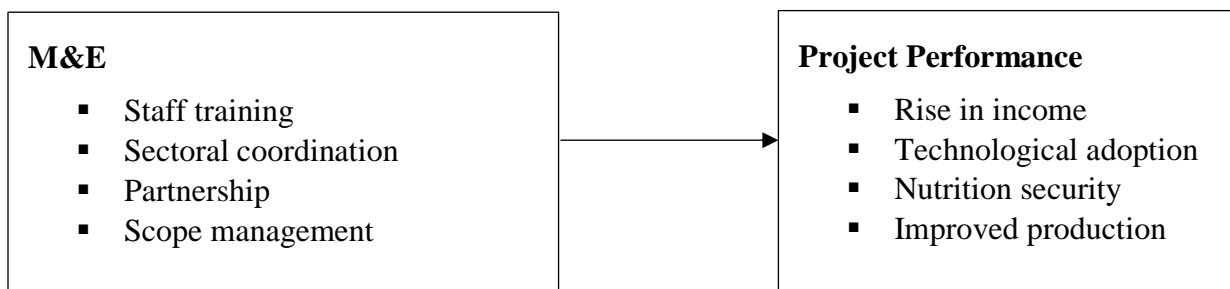


Figure 2.1. Conceptual Framework

3.0. Research Methodology

The study employed a descriptive research design to capture respondents' opinions, feelings, and thoughts without researcher interference, providing an adequate overview of the research phenomena (Pawar, 2020). The target population comprised 338 project managers drawn from 338 agricultural cooperatives in Kakamega County, selected because the county government had revived these cooperatives and provided grants to enhance their growth following documented performance challenges. Systematic random sampling was used to draw a sample of 183 respondents using Taro Yamane's (1967) formula, given its relative ease of administration compared to simple random sampling. A face-to-face, closed-ended questionnaire served as the primary data collection instrument due to its cost-effectiveness and capacity to gather large volumes of data efficiently, and it was constructed using clear, simple sentences to facilitate respondent comprehension. A pilot study involving 10% of the sample was conducted in Vihiga County to refine the instrument prior to the main data collection. Content and face validity were applied to ensure conceptual coverage and readability, while Cronbach's alpha confirmed internal consistency, with values exceeding 0.7 deemed acceptable (Abideen et al., 2022). Data analysis employed descriptive statistics, including means, standard deviations, and frequency distributions, alongside inferential techniques, specifically Pearson's correlation and multiple linear regression,

to examine the causal relationship between monitoring and evaluation and project performance, with prior tests conducted for normality and multicollinearity.

4.0 Findings

Response rates in research demonstrate quality, as they reinforce the validity and representativeness of the data. The researcher distributed 183 closed-ended questionnaires to respondents, of whom 155 provided feedback, as shown in Table 1.

Table 1. Response Rate

Questionnaires	No of Questionnaires	Percentage
Returned	155	85%
Not returned	28	15%
Total	183	100%

According to Table 1, the study achieved a response rate of 85%, with a non-response rate of 15%. Sataloft and Vontela (2021) note that a response rate of 75% is acceptable in research. The current findings recorded a high response rate, demonstrating their acceptability for further analysis. It also indicates that the findings were valid for generalization to other populations.

4.1 Gender of Respondents

Gender refers to the differences between male and females based on cultural and biological characteristics (Khan et al., 2013). The researcher analysed the gender of respondents to establish existing dynamics, as in Figure 1.

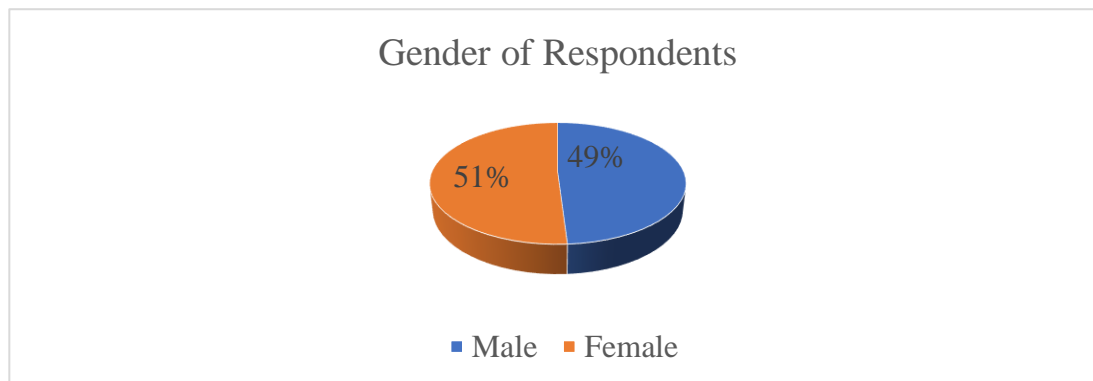


Figure 1. Gender of Respondents

The outcome in Figure 1 shows that females accounted for 51% and males for 49%. This implies that the study provided equal representation of the population and balanced feedback. Abudaqqa (2024) notes that although men are preferred by organizations to perform work effectively, women may improve productivity. The outcome demonstrates that both genders are involved in project management, thereby enhancing the performance of agricultural grant-funded projects in Kakamega County.

4.2 Age of Respondents

Age is the period between an individual's birth and a predetermined time. For an organization, it is the composition of individuals with different age categories. The age of respondents was analyzed to reveal any pattern, as demonstrated in Figure 2.

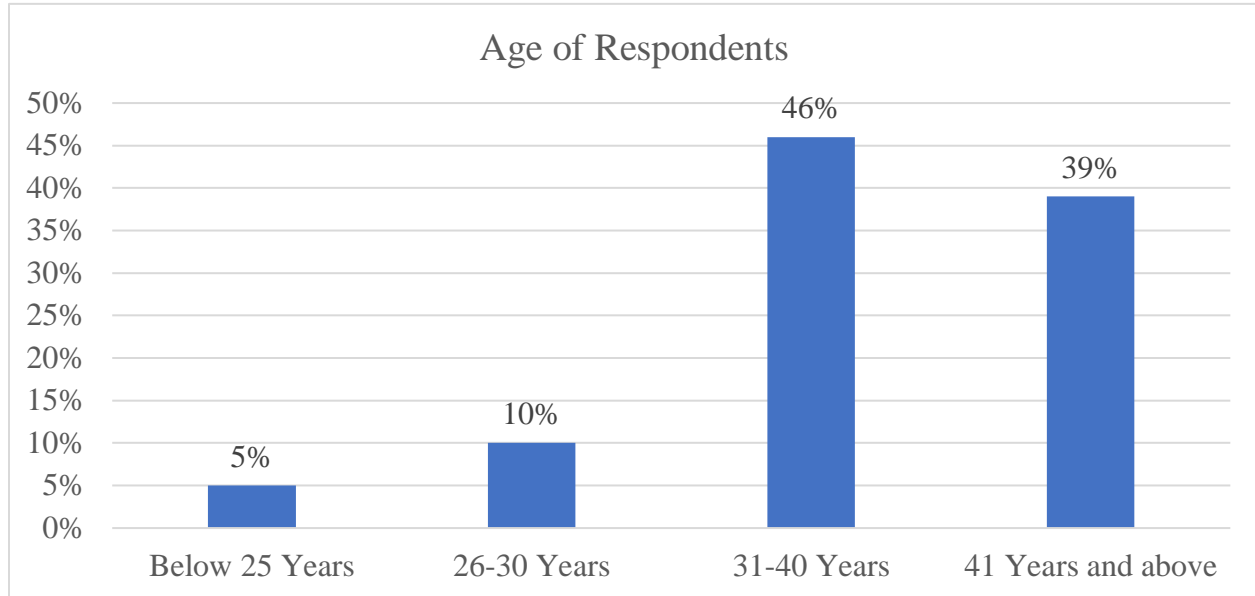


Figure 2. Age of Respondents

The results reveal that respondents below 25 years accounted for 5%, those aged 26-30 years for 10%, those aged 31-40 years for 46%, and those aged 41 years and above for 39%. This shows that 85% of respondents were 31 years old or older, with only 15% of the project managers being 30 years old or younger. Li et al. (2023) observe that younger employees are interested in learning new concepts, while the older workforce tends to have more experience and is more mature, with strong qualities in management. The findings indicate that the high representation of the older population in grant-funded agricultural projects demonstrates experience and quality management, thereby improving project performance.

4.3 Education of Respondents

Education is the acquisition of skills and knowledge that empowers an individual to make the best choices, make informed decisions, communicate, and offer solutions to problems. The study analysed respondents' education with an aim of revealing any variation in the pattern as demonstrated in Figure 3.

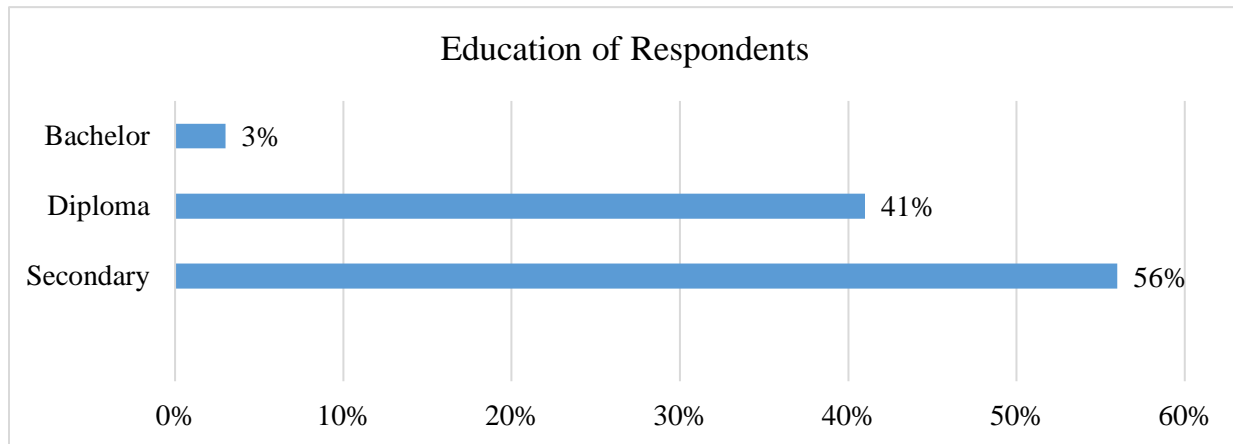


Figure 3. Education of Respondents

The analysis in Figure 3 indicates that 56% of respondents had secondary education, 41% had a diploma, and only 3% had a bachelor's degree. The results imply that the majority of the cooperative project managers have attained basic education. However, 41% of diploma holders indicate that project managers have the cognitive skills needed to comprehend project management techniques to improve agricultural grant-funded projects in Kakamega County. Ushara (2023) recognizes the benefit of educational background in enhancing employee responsiveness, while Graf and Nikzad-Terhune (2023) note that education is valuable in building relationships and organizational growth. The outcome shows that project managers have the crucial skills needed to respond to project management needs, as well as the capacity to network and build partnerships with the farmer community to gain knowledge and industry experience, thereby enhancing project performance. Bartolj (2023) adds that organizations with diverse specialized skills have a competitive advantage over competitors. The results, therefore, imply that project managers possess specialized skills that make them competitive in developing project management techniques to enhance project performance.

4.4 Experience of Respondents

Experience is knowledge gained over the years through work done in each field. The researcher investigated respondents' experiences and levels, as shown in Figure 4.

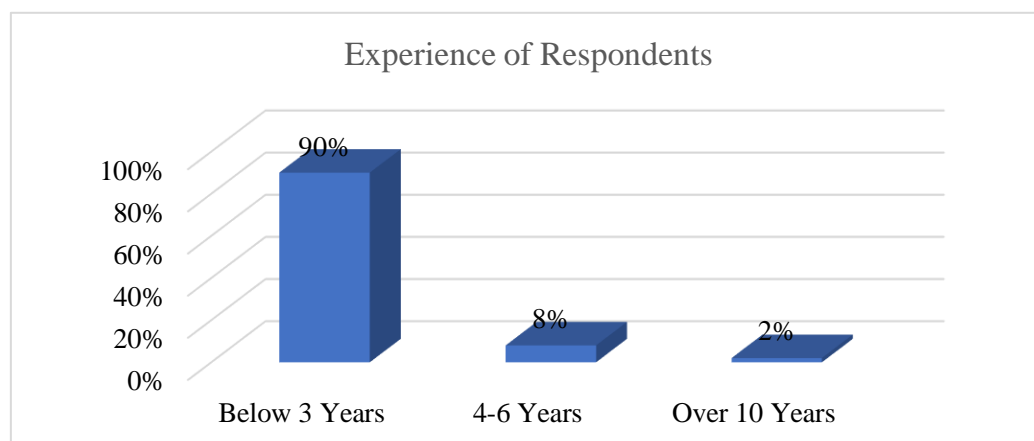


Figure 4. Experience of Respondents

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The findings in Figure 4 show that 90% of cooperative project managers have engaged in agricultural grant-funded projects for less than 3 years, 8% have 4-6 years of experience, and only 2% have over 10 years of experience in agricultural grant-funded projects in Kakamega County. This demonstrates that most project managers have minimal experience. Morgan (2015) states that individuals with experience are well informed about their work and understand the challenges, which are important for the success of any project (Tamang & Tamang, 2024). The outcome indicates that cooperative project managers may need capacity-building in their grant-funded projects to enhance project performance.

4.5 Monitoring and Evaluation

Monitoring and evaluation are paramount in project management and a strong indicator of good governance for enhancing project performance. The researcher analyzed how M & E influenced project performance, as in Table 2.

Table 2. Monitoring and Evaluation

Statement	N	SD (%)	D (%)	N(%)	A (%)	SA (%)
Staff have been trained to identify problem areas in project management	155	4 (2.6)	14 (9.0)	8(5.2)	103 (66.4)	26 (16.8)
My cooperative engages with other sectors to benchmark on best practice of project management	155	4(2.6)	8 (5.2)	22 (14.2)	107 (69.1)	14(9.0)
My cooperative society has partnered with other organizations to improve effectiveness in project delivery	155	2(1.3)	16 (9.0)	114(10.3)	116 (74.8)	7 (4.5)
There is monitoring project scope to identify areas of intervention		155(5.2)	22 (14.2)	63 (40.6)	56 (36.1)	6 (3.9)

The findings presented in Table 2 reveal that monitoring and evaluation practices were largely embraced across the agricultural grant-funded cooperatives in Kakamega County. A combined 83.2% of respondents agreed or strongly agreed that staff had been trained to identify problem areas in project management, indicating a strong emphasis on building M&E capacity among cooperative personnel. Regarding sectoral benchmarking, 78.1% of respondents agreed or strongly agreed that their cooperatives engaged with other sectors to identify best practices in project management, suggesting that cross-sectoral learning was an established feature of M&E practice. Partnership with other organizations to improve project delivery effectiveness recorded the highest level of agreement, with 79.3% of respondents agreeing or strongly agreeing, pointing to a collaborative orientation among cooperatives in pursuit of improved project outcomes. However, scope monitoring registered the weakest response, with only 40% of respondents agreeing or strongly agreeing that cooperative societies monitored project scope to identify areas for intervention, while 40.6% remained neutral, suggesting that this dimension of M&E was insufficiently internalized among project managers. These findings collectively indicate that while

staff training, benchmarking, and partnerships were well practiced, scope monitoring remained an underdeveloped component of M&E in agricultural grant-funded projects in Kakamega County, consistent with the observation by Koima and Mukulu (2020) that well-trained M&E staff are critical to improving project performance.

4.6 Project Performance

Project performance is the success or failure of a project, measured against the objectives to be realized, the budget set, the completion time, and the satisfaction of beneficiaries and stakeholders. The study analyzed the performance of agricultural grant-funded projects in Kakamega County, as shown in Table 3.

Table 3. Project Performance

Statement	N	SD (%)	D (%)	N (%)	A (%)	SA (%)
The farmers have experienced high income due to project management techniques	155	4(2.6)	14(9.0)	2(1.3)	63(40.6)	72(46.5)
There is high agricultural technology adoption among the farmers.	155	4(2.6)	6(3.8)	46(29.7)	81(52.3)	18(11.6)
There is improvement in nutritional security among our farmers.	155	2(1.3)	20(12.9)	6(3.8)	49(31.7)	78(50.3)
Our farmers have recorded improvements in their farm production.	155	4(2.6)	2(1.3)	6(3.9)	63(40.6)	80(51.6)

The findings presented in Table 3 demonstrate that project management techniques positively influenced performance across all measured indicators in agricultural grant-funded projects in Kakamega County. Income improvement recorded the highest level of agreement, with 87.1% of respondents agreeing or strongly agreeing that farmers experienced higher income because of project management techniques, with only 11.6% disagreeing or strongly disagreeing, reflecting a strong positive outcome at the household economic level. Agricultural technology adoption also registered notable agreement, with 63.9% of respondents agreeing or strongly agreeing that farmers in the county had embraced agricultural technologies, though 29.7% remained neutral, suggesting that technology uptake, while generally positive, was not yet universal across all cooperative members. Nutritional security recorded the strongest combined agreement, with 82% of respondents agreeing or strongly agreeing that cooperative farmers experienced improved nutritional outcomes, pointing to meaningful gains in food and nutrition outcomes attributable to project interventions. Farm production improvement similarly recorded high agreement, with 92.2% of respondents agreeing or strongly agreeing that cooperative farmers recorded better farm output, with only 3.9% disagreeing or strongly disagreeing, indicating broad-based productivity gains across the cooperatives. Taken together, these findings confirm that project management techniques contributed meaningfully to grant-funded agricultural project performance in

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Kakamega County, consistent with the balanced scorecard framework advanced by Kaplan and Norton (1992), which recognizes both financial metrics, such as income and productivity, and non-financial metrics, such as technology adoption and nutritional security, as integral dimensions of organizational and project performance measurement.

4.7 Correlation Analysis

Correlation analysis was used to establish any relationship between the independent and dependent variables. Pearson's correlation was used in this research due to its wide application in analyzing the strength of relationships, with coefficients ranging from -1 to +1 (Schober & Vetter, 2020). The study analyzed the correlation between project management techniques and project performance, as in Table 4.

Table 4. Correlation Analysis

Correlations	Correlations	Monitoring & Evaluation	Performance
Monitoring & Evaluation	Pearson Correlation	1	.739**
	Sig. (2-tailed)		0
	N	50	50
Performance	Pearson Correlation	.739**	1
	Sig. (2-tailed)	0	
	N	50	50

As in Table 4, it was established that monitoring and evaluation have a strong, positive link ($r=0.739$) with the performance of grant-funded projects in Kakamega County, Kenya. The outcome, as reported by Ndothya and Chege (2023), was that training and planning were used as components of monitoring and evaluation, with a strong correlation ($r=0.835$) with project performance. The results, however, do not concur with Gaibo and Mbugua's investigation, which focused on Marsabit County projects and reported a weak connection ($r=0.003$) between monitoring and evaluation and project performance. The outcome is not in line with Chege and Bowa (2020), who recognized a moderate relationship between M&E and project success.

4.8 Regression Analysis

Regression is a widely used model for quantifying the relationship between variables and explaining how changes in the independent variable account for variations in the dependent variable. Multiple linear regression was used to predict the relationship between the explanatory and response variables. The model was preferred because it allows analysis with more than one variable. The summary of the regression model was used to analyse the quality of the model and the proportion of change in the dependent variable given the explanatory variables, as in Table 5.

Table 5. Summary of the Model

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	.739a	0.546	0.537	0.11613

The outcome in Table 5 shows that R was 0.739, indicating the model’s ability to predict project performance. R Square was 0.546, while Adjusted R Square was 0.537. This implies that 54.1% of project performance is due to M&E. The other 45.4% were, however, outside the scope of the investigation. The results align with Irungu and Makori (2016), who reported an R value of 0.789 in a model summary to demonstrate the model’s quality in predicting the performance of agricultural projects in Kenya. The researcher used the F-statistic to test whether there was an effect when all independent variables were simultaneously included in the model, as presented in Table 6.

Table 6. Analysis of Variance

Model	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.780	1	0.780	57.840	.000b
1	Residual	0.647	48	0.013		
1	Total	1.427	49			

The results in Table 6 show that $F(1, 48) = 57.840, p < 0.05$. The findings, therefore, revealed no difference in the mean, indicating that project monitoring and evaluation significantly affect the performance of grant-funded agricultural projects in Kakamega County. The study used beta coefficients and p-values to assess the individual contributions of the variables to project performance, as shown in Table 7.

Table 7. Regression Coefficient

Model	Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	0.181	0.164		1.106	0.274
1	Monitoring	0.956	0.126	0.739	7.605	0.000

The findings in Table 7 demonstrate that when all other variables are held constant, project performance increases ($\beta=0.181, p=0.274$). However, adding monitoring and evaluation to the model would result in a significant increase in project performance ($\beta=0.956, p=0.000$). This suggests that M&E plays a crucial role in improving the outcomes of grant-funded agricultural projects in Kakamega County. The results align with Koima and Mukulu (2020), who recognized how monitoring and evaluation had a significant effect on project performance. The findings

concur with Gathege and Yusuf (2019), who targeted women-based agricultural projects in Joywo, Uasin Gishu County, using monitoring and evaluation factors such as communication, advocacy, human capacity, and an M&E framework, and observed a significant effect of M&E on project performance. The findings support Waithera and Wanyoike (2015), who used M&E elements such as training, political influence, and stakeholder participation in a census study and observed that M&E training significantly contributed to project performance in youth-funded agribusiness projects in Bahati Sub-County. The outcome aligns with Nyakaru and Mungai (2022), who reported that M&E communication, advocacy, and financial capacity were used in county- and nationally funded agricultural projects, with results showing a positive and significant effect on project performance.

5.0 Conclusion

The study sought to determine the influence of monitoring and evaluation on the performance of agricultural grant-funded projects in Kakamega County, Kenya. The findings demonstrated that staff training was central to problem identification and project improvement, as cooperatives that invested in building M&E capacity among their personnel were better positioned to detect and address implementation challenges early. Benchmarking with other sectors and partnering with external organizations further strengthened project delivery effectiveness by exposing cooperatives to best practices and innovative solutions. Pearson correlation analysis confirmed a strong, positive relationship between M&E and project performance ($r=0.739$), while the regression model established that M&E accounted for 54.1% of the variation in project performance, underscoring its statistically significant and practically meaningful role in enhancing outcomes. It is therefore concluded that M&E is a critical driver of performance in agricultural grant-funded projects in Kakamega County.

6.0 Recommendations

Based on the findings, cooperatives are encouraged to deepen and broaden their partnerships with organizations whose missions align with agricultural development, as such collaborations introduce new ideas, resources, and expertise that strengthen project delivery and enhance overall performance. County government agencies and grant-awarding bodies should institutionalize mandatory M&E training programs for all cooperative project managers to address the limited experience observed among most respondents. Future studies should incorporate farmers as respondents to assess whether their perceptions of M&E and project performance align with or diverge from those of project managers, thereby providing a more comprehensive understanding of project outcomes. Additionally, similar investigations should be extended to other project types within Kakamega County or to other counties in Kenya to determine whether the findings of this study are generalizable across different geographical and sectoral contexts.

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