

# Project Planning and Performance of Farm Forestry Projects in Kuresoi South Sub-County, Kenya

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## Abstract

The main objective of the study was to assess the influence of project planning, project communication, project schedule management and monitoring and evaluation practices on performance of farm forestry projects in Kuresoi South Sub-County, Nakuru County. The study was based on resource-based theory, communication accommodation theory, theory of constraints, theory of change. Descriptive research design was used for this study. The study main target was 96 farm forestry farmers in Kuresoi South Sub County. The study adopted purposive sampling technique. The study's data was gathered via structured questionnaires. Statistical Package for the Social Sciences Version 25 was used for analysis. Descriptive as well as inferential statistics was used to examine the data. For inferential statistics, Pearson's Product Moment correlation and multiple regression models was employed to understand more about the relationships between the variables. Tables displayed the results of the analysis. The study results showed a strong positive statistically significant correlation between planning and project performance ( $r=0.780$ ;  $p=0.000<0.05$ ). From the regression  $R^2 = 0.537$  which shows performance of farm forestry project is 53.7% as explained by the independent variables under this study while 46.3 % is the variation due to other factors which have not been covered in this study.

**Keywords:** Farm Forestry Projects, Project Management Practices, Project Performance

## I. INTRODUCTION

### 1.1 Background

Sustainable land management, environmental protection, and rural development may all benefit greatly from farm forestry operations. Successful project completion is dependent on good project management techniques (Edum-Fotwe and McCaffer, 2020). Millicent (2020) argues that the difficulty of incorporating tree planting into existing agricultural systems has traditionally been a hindrance to farm forestry activities. In many cases, farm forestry projects are carried out in very fluid and unpredictable settings. Scope creep, cost overruns, deadline pressures, stakeholder management, resource allocation, risk management, communication and cooperation difficulties, change management, quality assurance, and external influences are just some of the obstacles that every project faces. Project management practices arose as a reaction to these difficulties, offering systematic ways to the preparation, execution, and oversight of farm forestry endeavours. Project management practices in farm forestry projects are the guiding concepts, methods, and tactics used to properly design, carry out, and monitor these endeavours. For a farm forestry project to be regarded successful, it must achieve specific performance indicators, including being completed on schedule, producing high-quality forest products, minimising risk, sticking to the established budget and meeting the requirements of all involved parties (Muthoni,2020).

The Kenyan Government has also undertaken various initiatives such as development of National Forest Programme 2016 – 2030 that is a strategic framework for forest policy, planning and implementation to coordinate sustainable forest management and forest sector development. According to the fourth schedule of the new constitution, farm forestry extension services are a devolved function in Kenya undertaken by the County Governments with the support of Kenya Forest Service. As a result, the country has a great chance to reap the benefits of farm forestry if the County Governments and the National Government work together (Mugo, 2019).

Many landowners in the Kuresoi Sub-County have been cultivating tree crops without the proper training or understanding of farm forestry. When initiating farm forestry projects, most farmers choose to do so on their own

without the support of forest officers who have the requisite expertise in farm forestry. Due to the lack of these pre requisite project practices in farm forestry projects, such as proper planning, budgeting, scheduling of activities, risk management, quality management, scope management, monitoring and evaluation, communication, among others, the farmers who acts as project managers end up with frustrations at the end of the project due to high costs, long implementation times, low-quality wood materials that don't meet market demand, and inadvertent mistakes. Some farmers are interested in farm forestry as a project, but they don't have the knowledge or resources to make it a reality. This is a major contributor to the country's low tree cover, which in turn exacerbates the problem of climate change. Since forest officers have the necessary practices to undertake the farm forestry projects (Mugo, 2019), improving the situation of tree growing projects in Kuresoi South Sub-County through capacity building of farmers and/or seeking consultancy of forest officers as farm forestry project managers can have a significant impact.

### **1.2 Statement of the Problem**

Farm Forestry projects like any other kind of projects are faced with management problems such as planning, communication, risk, budgeting, quality, scope, monitoring and evaluation that results to low tree survival rates, low supply of wood products to the market, high cost of project implementation, delay in project implementation, low quality wood products that don't meet stakeholder's satisfaction, (Mugo,2019). Given the growing population, it is not possible to meet all the demands of forest products from state forests and the main alternative source of these products is farm forestry. The potential impacts of scaling up farm forestry activities go far beyond meeting wood product demand in Kenya but also include value added to the economy, employment and income growth, tax revenue and increases in national carbon mitigation. The current national wood product demand is 41.7 million m<sup>3</sup> against a supply of 31.4 million m<sup>3</sup> creating a deficit of 10.3 million m<sup>3</sup> which can be met through farm forestry development. Long-term, the country's enlarged farm forests will also sequester around 28.7 million tonnes of Carbon dioxide equivalent, helping it achieve its climate change mitigation targets, (Cheboiwo et al.,2021). Over time, the Government has undertaken national and sector reforms through development of various legislative and legal frameworks to address some of the challenging issues in farm forestry. The Forests Act, 2005 was repealed to Forest Conservation and Management Act, 2016 which created KFS and gave it the responsibility of developing new approaches to forest management that put a premium on partnerships, community involvement, enhancing forest extension services, promoting linkages between farmers and markets for forests products, strengthening tree growers' associations and attracting private investment (Government of Kenya, 2020). In Kuresoi South Sub-County, most of the farm forestry farmers have been growing trees without proper understanding of farm forestry project practices (Global Forest Watch,2022). Due to lack of these pre requisite project practices in farm forestry, such as proper planning, risk management, quality management, communication, among others, the farmers become frustrated at the end of the project due to high costs, long implementation period, low supply of wood product, low-quality wood materials that don't meet market demand and stakeholders' satisfaction and inadvertent mistakes. Many empirical studies have looked at the influence of project management practices on outcomes, but none have looked at the influence of project planning on the success of farm forestry projects. Based on this gap, this study seeks to examine the influence of project planning on performance of farm forestry projects in Kuresoi South Sub-County, Nakuru County.

### **1.2 Specific Objective**

The specific objective was:

To analyse the influence of project planning on performance of farm forestry projects in Kuresoi South Sub-County.

### **1.3 Research Hypotheses**

H<sub>01</sub>: There is no statistically significant relationship between project planning and performance of farm forestry projects in Kuresoi South Sub-County.

## **II. LITERATURE REVIEW**

### **2.1 Theoretical Review**

#### **2.1.1 Resource-Based Theory**

The resource-based theory was developed by Barney (1991). The theory states that possession of strategic resources provides an organization with a golden opportunity to develop a competitive advantage over its rivals. This competitive

advantage can help the organization to enjoy strong profits compared to similar rival groups. Project managers are responsible for making the most of the available resources at each step of the project life cycle. This includes doing things like inventorying and categorising the company's assets and assessing its competitive strengths and weaknesses. Find ways to improve resource utilisation, catalogue the company's skillset, evaluate the long-term viability of each resource and skill, choose a strategy that makes the most of your internal strengths while compensating for external weaknesses and fill any gaps in your resource portfolio.

Using RBT, managers may learn more about the resources at their disposal and how to best put them to use in farm forest projects. Some of the steps involved include finding the right resources, figuring out how to use them together, investing in their growth and coordinating their efforts with the project's objectives. Managers of farm forest projects may improve the quality of their work and the results they get by adopting this strategy (Grant, 2019).

This theory explores the need for proper planning and implementation based on resources available. In this way, the management takes an advantage of the available resources and utilizes them to maximize performance. The theory hence addresses the independent variables project planning practice since it emphasizes proper planning of project resources.

### **2.1.2 Theory of Constraints**

The Theory of Constraints (TOC), a management philosophy developed by Eliyahu M. Goldratt (1990), provides a valuable framework for identifying and managing constraints that impede overall system performance. Theory of Constraints (TOC) places an emphasis on pinpointing the most important tasks, allocating sufficient resources, and eliminating any potential bottlenecks. This paper delves into the use of TOC in scheduling and its usefulness in achieving optimum efficiency and productivity.

The first step in TOC is to identify the obstacles that slow down or otherwise hamper a project. The term "constraints" is used to describe any circumstance that slows down or stops forward motion. Project managers may determine which tasks have the most influence on the total length of the project by doing a thorough analysis of the project's activities and dependencies (Leach, 2019).

When constraints are discovered, TOC suggests using them to your advantage. Strategic use of time and energy guarantees continuous output from the limited tasks with little downtime. By putting their attention where it's needed most, the project team may maximise efficiency and progress, cutting down on time spent on the project. It also acknowledges that non-constraints, or non-critical activities, should be subjugated to the constraints. Non-constrained activities' scheduling and resource allocation are aligned to facilitate the smooth running of essential processes. This helps keep WIP levels down and guarantees access to necessary resources at all the right times. When non-constraints are brought into line with constraints, the overall performance of the system improves, and delays and disruptions are less likely to occur. Ramadhan and Gindy (2019) looked at the effect of TOC on construction project performance and emphasised its possible advantages in boosting project success rates. The objective of the Theory of Constraint (TOC) is to "raise constraints" in order to improve their efficiency and effectiveness (Project Management Institute, 2019). In order to make the limited operations more productive, project managers often make changes to processes or reallocate resources. Constraints have less of an effect on the project's overall timeline when they are higher up, allowing for better flow and overall performance.

The use of the TOC in scheduling is a recurring one. As the impact of a limitation on the schedule is mitigated by careful management, project managers will inevitably return to the system in search of the next major bottleneck. Constraints may be managed effectively and efficiently via a repeated cycle of identification, exploitation, subordination, and elevation. (Schrageheim et al., 2022).

Using the tools provided by the Theory of Constraints, project managers may zero in on the tasks that matter most when it comes to the overall timeline of a given endeavour. This method helps in ensuring that resources are assigned properly, that bottlenecks are eliminated and that the project schedule is optimised for timely completion. Applying the Theory of Constraints (TOC) principles to farm forest projects can help identify and address critical constraints that impact project performance. Effective project planning is essential in optimizing resource allocation, mitigating risks, and ensuring timely execution, controlling costs, maintaining quality, and engaging stakeholders— all of which contribute to the successful implementation of farm forest projects.

## 2.2 Conceptual Framework

Mugenda and Mugenda (2019) describe conceptual frameworks as hypothesized models that specify the model under research and the nature of the relationship between independent and dependent variables.

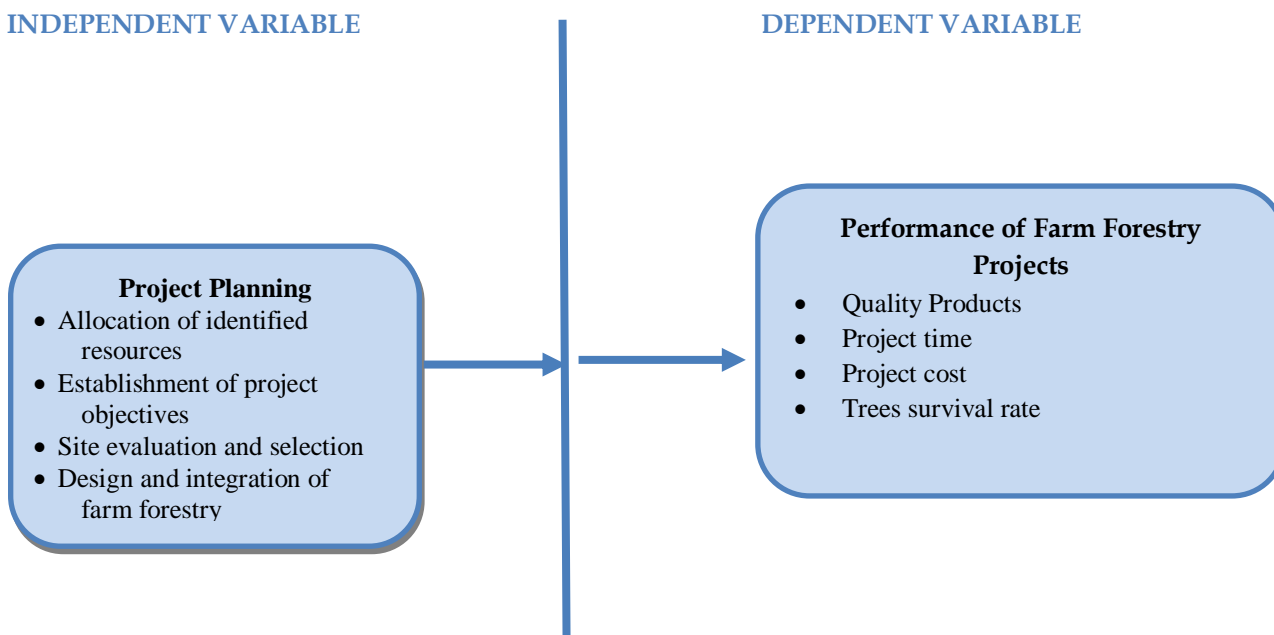


Fig 2.1: Conceptual Framework

## 2.3 Review of Literature on Variables

Planning a project requires you to think creatively and laboriously as you figure out the what, how, when and who of getting the task done. According to the PMI (Project Management Institute), this stage of a project's life cycle is crucial. Preparation is the key to a successful launch of the project. Implementation relies heavily on the thoroughness of the planning phase. Project planning, as outlined by Belassi and Tukel (2019), offers a framework within which teams may operate effectively and efficiently in pursuit of the project's objectives. It is useful for forecasting problems, organising resources and reducing danger. Thorough planning practices significantly increase project performance, minimise risks, improve communication and improve overall project results, according to research by Kapsali and Pantouvakis (2019).

In Kuresoi South Sub-County, the success of farm forestry projects is intricately intertwined with the meticulous process of project planning. This relationship is profound and multifaceted, influencing every facet of project performance. Through proper project planning, resources are allocated efficiently, ensuring that valuable assets like land, quality seedlings, labour and financial investments are utilized to their fullest potential. This optimized resource allocation directly contributes to heightened productivity and cost-effectiveness, factors critical for the success of farm forestry project in this region. Furthermore, project planning sets clear, measurable objectives that serve as guiding beacons throughout the project's journey. These objectives not only keep the project on track but also ensure that all efforts are aligned with the desired outcomes fostering focus and cohesion among project stakeholders.

## 2.4 Empirical review

In their study Telsang and Raymond (2019) examined how the planning phase of a project affected how well it turned out. The study used a descriptive research strategy. The research focused on Indian project funding. The research concluded that planning defines the steps and activities, cost and time goals, and performance milestones that would lead to the effective execution and attainment of project objectives. Research also revealed that the plan should detail the people, machines, supplies, and infrastructure that would be needed to carry out the project successfully. It's not always the case that if you put in the time and effort, you'll get the results you want. It almost never goes that way, since unexpected things happen no matter how meticulously you prepare.

Nzioka (2017) evaluated the influence of project managers' pre-project preparation in Nairobi, Kenya. This inquiry used Kenya Power Infrastructure Development Projects as a case study. A nationwide sample survey of all project managers was done for this study. The study identified project-planning functions and investigated several approaches to planning.

Furthermore, Mkutano and Sang (2018) evaluated the influence of project management methodologies on the results of non-governmental organisation (NGO) projects in Nairobi County, Kenya. The descriptive approach was employed to analyse this study. The article was created with the 201 non-governmental organisations (NGOs) in Nairobi County in mind. In Nairobi County, Kenya, 100 non-governmental organisations (NGOs) were chosen using stratified random selection to represent 50% of the target population. Projects that used project planning were more effective overall, according to the findings.

### III RESEARCH METHODOLOGY

#### 3.1 Research Design

Research designs, as defined by Eriksson and Kivalina (2018), "describe the procedures and tools for collecting and analysing data to answer a study's research questions." The study adopted a descriptive research design. Descriptive research answers research questions; who, what, where, when and how (Saunders, Lewis & Thornhill, 2019).

#### 3.2 Population

A target population is an accurately defined group of people or things that are expected to have comparable traits and be measured using the same criteria. The study mainly targeted farm forestry farmers in Kuresoi South Sub County.

**Table 3. 1: Target Population**

Ward	Number of Households
Keringet	20,746
Amalo	8,702
Tinet	2,691
Kiptagich	4,973
<b>Total</b>	<b>37,112</b>

Source: KNBS (2019)

#### 3.3 Sampling Frame

The unit of analysis was farmers practising farm forestry. These are the main actors, beneficiaries and decision makers with regard to adoption of farm forestry practices. In this context, farmers who practice farm forestry were the respondents since they are the decision makers on how land should be managed and therefore, farm forestry being one of the land management systems, they will be of great importance.

Fishers et al., (1998 ) Formula was used to calculate the sampling frame;

$$n = \frac{Z^2 P(1-P)}{I^2}$$

Where: n= Sample size [where population > 10,000]

Z= Normal deviation at the desired confidence interval. In this case it will be taken at 95%, Z value at 95% is 1.96

P= Proportion of the population with the desired characteristic.

Since the proportion of the population with the characteristic is not known, then 50% was be used

I= Degree of precision; was taken to be 10%.

Therefore;

$$n = \frac{Z^2 P(1-P)}{I^2}$$

$$n = \frac{1.96^2 * X0.5(1-0.5)}{0.1^2}$$

$$n = 96$$

The respondents were divided proportionally by using Robison formula to size from each ward (Robbinson, 2010)

$$A/b \times c = z$$

A - No. of households in the ward

b - Is the total No. of targeted household in Kuresoi South

c - Is the total sample frame

z - Is the number of respondents obtained from each ward

**Table 3. 2: Sample Frame**

Ward	Number of Households	Sample
Keringet	20,746	54
Amalo	8,702	22
Tinet	2,691	7
Kiptagich	4,973	13
<b>Total</b>	<b>37,112</b>	<b>96</b>

### 3.4 Sampling size and Sampling technique

The sample size refers to the proportion of the population used for the study. When selecting a sample, the researcher kept the study's population in mind. A sample is a representative group drawn from a larger population (Simarjeet ,2021). The sample size was 96 respondents from the four wards within Kuresoi South Sub-County.

The study adopted purposive sampling technique in selecting the sample. Purposive sampling is a valuable and strategic method of selecting research participants or sampling units based on specific criteria or characteristics (Plinks etal.,2019). In the context of farm forestry projects, purposive sampling was important in selecting farmers practising farm forestry. Purposive sampling is important in farm forestry projects because it enables researchers and project managers to select participants that align closely with project goals, utilize resources efficiently, capture diverse perspectives, and focus on critical areas or groups.

### 3.5 Data analysis and presentation.

Data obtained from the questionnaires was first cleaned and edited before being coded. The analysis was done using SPSS (Statistical Package for Social Sciences) Version 25. The data was analysed using both descriptive and inferential statistical methods. Descriptive analysis was done using means and standard deviations to describe the basic characteristics of the population. Inferential statistics involved the use of Pearson's Product Moment correlation and multiple regression models to determine the nature of the relationship between the variables. The multiple regression model was assumed to hold under the equation;

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where;

Y = Performance of Farm Forestry Projects

$\beta_0$  = Constant

$X_1$  = Project planning practice

$\beta_1$  is the regression coefficient

$\varepsilon$  = the estimated error of the regression model.

## IV RESEARCH FINDINGS AND DISCUSSION

### 4.1 Response Rate

**Table 4.1: Response Rate**

Responses	Frequency	Percentage
Expected Responses	96	100
Received Responses	90	94
None Responses	6	6
<b>Total</b>	<b>96</b>	<b>100</b>

A total of 96 questionnaires were issued to the respondents out of which 90 questionnaires were successfully and duly returned. This represented 93% response rate. This surpassed the recommended threshold of 75% recommended by Nulty (2008). The significantly high response rate was largely attributed to well trained research assistants and close supervision by the main researcher.

### 4.2 Descriptive Analysis

The study analysed the views of farmers practising farm forestry on various aspects of project management practices and performance of farm forestry projects. The data collected and subsequently analyzed was on a 5-point Likert scale which ranged from Strongly Agree (SA) to Strongly Disagree (SD). The descriptive statistics employed comprised of percentages, means and standard deviations (std).

#### 4.2.1 Descriptive Analysis for Project Planning Practice

The researcher sought to find out the views of respondents on the influence of project planning practices on performance of farm forestry projects in Kuresoi South Sub-County. The results to this effect are shown in Table 4.2

**Table 4. 2: Project Planning Practices**

<b>Statement</b>	<b>N</b>	<b>SA</b> <b>(%)</b>	<b>A</b> <b>(%)</b>	<b>N</b> <b>(%)</b>	<b>D</b> <b>(%)</b>	<b>SD</b> <b>(%)</b>	<b>Mean</b>	<b>Std.</b> <b>Dev</b>
Resources needed for the farm forestry project are determined and assigned by the project team during the planning phase	90	(18)	(19)	(2)	(36)	(26)	2.68	1.483
The project team describes the expected results and outlines the objectives	90	(41)	(30)	(1)	(13)	(14)	3.78	1.480
The project team employs the results of the site evaluation to choose the best tree species for the area	90	(16)	(17)	(4)	(33)	(30)	2.54	1.462
The farm forestry projects in the sub county receive sufficient resources	90	(5)	(3)	(0)	(54)	(38)	2.17	1.300
The project team conducted a detailed site evaluation to determine whether or not the property was suitable for tree planting.	90	(18)	(14)	(6)	(40)	(22)	2.62	1.387
The project team integrates farm forestry into local livelihood systems after taking into account the desires and needs of the local population	90	(28)	(40)	(7)	(10)	(13)	3.61	1.347
During planning the project team determines the optimal tree spacing, arrangement, and design based on the selected species and objectives	90	()	(14)	(6)	(40)	(22)	2.62	1.387



According to the descriptive statistics shown in Table 4.2 it is evident that most of the respondents at 62% disagreed that resources needed for the farm forestry project are determined and assigned by the project team during the planning phase. (mean = 2.80) and also exhibited significant variation in their views (std dev = 1.468). The study findings are in contrast with findings by Makokha and Ngugi (2022) that concluded that proper allocation of resource during planning ensures that the project has the right staff, equipment, money, etc. as efficiently as possible and helps the project manager to identify problems, avoid over allocation and adapt to change. It was also shown that 71% of the respondents agreed that the project team describes the expected results and outlines the objectives (mean = 3.70; std dev =1.373).

The study also revealed that 63% of the respondents disagreed that the project team employs the results of the site evaluation to choose the best tree species for the area (mean = 2.54 std dev = 1.462). As per Kropp (2020) proper site evaluation is the foundation of any successful project. Generally, most (80%) of the respondents disagreed that the farm forestry projects in the sub-county receive sufficient resources (mean = 2.17; std dev = 1.3). The findings were in line with findings by with Matetai and Yugi (2016) who also showed that funds for Monitoring and Evaluation were not sufficient.

Moreover, the study found that 62% of the sampled respondents disagreed that the project team conducted a detailed site evaluation to determine whether or not the property was suitable for tree planting. (mean = 2.62; std dev = 1.387). According to Naeem and Muhammad (2020) during evaluation the most important features of the site are evaluated to determine whether a particular area or patch should be taken up for planting at all, and then if it is suitable for planting, then what are the chances of success.

Additionally, most (68%) of the respondents agreed that the project team integrates farm forestry into local livelihood systems after taking into account the desires and needs of the local population (mean=3.61) and their views were diverse (std=1.347). It was also revealed that 51.6% of the respondents believed that while scheduling of projects, unforeseen physical and weather conditions were considered (mean =2.887, std=1.450). The findings agree with Perez (2018) who reported that construction industry professionals plan in the medium- and long-term (beyond 2 weeks) considering the seasonal variation of weather.

Finally, 52% of the respondents disagreed that during planning the project team determines the optimal tree spacing, arrangement and design based on the selected species and objectives (mean = 2.87; std dev = 1.486). Rouhollahi (2022) reported that optimal tree space allocation helps to increase tree girth during growth.

### **4.3 Inferential Statistics Findings**

This section documents and discusses the inferential statistics findings analyzed from the data collected in respect of the influence of project planning and performance of farm forestry projects.

#### **4.3.1 Influence of Project Planning on Performance of farm forestry Project.**

The purpose was to examine the influence of Project Planning on Performance of farm forestry Project. The results are shown in Table 4.3

**Table 4.3: Pearson’s Correlation between Project Planning and Performance of Farm Forestry Project**

Variable		Project Performance
Planning	Pearson Correlation	.780*
	Sig. (2-tailed)	0.000
	N	90

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

From the results in Table 4.3 the correlation coefficient was (r) =0.780 while Significance (Sig.) (p) is 0.000. This coefficient indicated a strong positive correlation between project planning and performance of farm forestry projects. The p-value suggests that the correlation observed is statistically significant. This suggests that higher quality "Planning practices" are associated with improved "Project Performance" in farm forestry projects. In essence, enhancing planning practices could lead to better project outcomes, making this insight valuable for informed decision-making and the enhancement of project planning processes within the realm of farm forestry projects.

The analysis of the findings, since p-value (p=0.000) is less than  $\alpha$  value ( $\alpha=0.05$ ), we reject the null hypothesis and conclude that planning influences farm forestry project performance. These findings are in line with a study by Mavuti, Kising' u, and Oyoo (2019) that indicated that pre-implementation planning is critical for a successful project rollout.

#### 4.4 Regression Analysis

##### 4.4.1 Regression Model Summary

The study conducted a regression analysis to find out the strength of the relationship between independent and dependent variables as shown in Table 4.4

**Table 4. 4: Regression Model Summary**

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate	df1	df2	Sig. F Change
1	.733 <sup>a</sup>	.537	.068	.66461	4	85	.000

a. Dependent Variable: Performance of Farm Forestry Project

b. Predictors: (Constant), Planning, Communication, Schedule Management Practice, Monitoring and Evaluation

The regression model examines the relationship between project performance and predictor variable (Monitoring and Evaluation, Communication Practice, Planning Practice and Schedule Management Practice). The model moderately explains project performance variance (R Square = 0.537), This shows that performance of farm forestry project is 53.7% as explained by the independent variable under this study while 46.3% is the variation due to other factors which have not been covered in this study. As per Child & McGrath (2021) project management practices are becoming increasingly important as more and more work is organized through projects and programmes.

##### 4.4.2 Multiregression Analysis of Project Planning

The study also conducted a regression analysis to establish the regression coefficients. Table 4.5 demonstrates the results

**Table 4. 5: Regression Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1 (Constant)	1.022	.595		1.716	.000
Planning_Practice	.019	.098	.019	.189	.025

a. Dependent Variable: Project Performance

The study also conducted a regression analysis to establish the regression coefficients. Table 4.5 demonstrates the results. Generally, the indicated results were in tandem with the following regression model.

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

The results indicated the suitability of the regression model which was interpreted as follows.

$$Y = 1.022 + 0.019X_1 + \varepsilon$$

The results shown above implied that a change of 1 unit in performance of project was subject to a change of 0.019 unit in planning practice while at the same holding other factors (1.022) constant. Thus, while holding all other factors (including the variables) constant, 0.019 unit in planning practice would result in 1-unit change in performance of the projects. The model shows that planning practice had an influence on performance of farm forestry projects.

The findings on influence of planning on performance of farm forestry projects contrast with findings from a study by Mwanza, Namsonge and Makokha (2020) that found out that project planning practice had a negative significant influence on performance of construction projects.

### V. CONCLUSION

It was concluded that resources needed for the farm forestry project are not determined and assigned by the project team during the planning phase. The project team describes the expected results and outlines the objectives. The project team does not employ the results of the site evaluation to choose the best tree species for the area. In addition, the farm forestry projects in the sub county do not receive sufficient resources. Project team has not conducted a detailed site evaluation to determine whether or not the property was suitable for tree planting. Project team integrates farm forestry into local livelihood systems after taking into account the desires and needs of the local population. While scheduling of projects, unforeseen physical and weather conditions were considered. Finally, during planning, the project team determines the optimal tree spacing, arrangement, and design based on the objectives. The study concluded that project planning has a significant influence on performance of farm forestry projects in Kuresoi South Sub-County.

### VI. RECOMMENDATIONS

The study recommended that during the planning phase, resources needed for the farm forestry project be determined and assigned by the project team. This can be done by conducting a comprehensive inventory of the resources required for the project, including land, labour, equipment, quality seedlings, water and other materials. The project team should also clearly define the project's scope and objectives to identify the specific resources needed to achieve the desired outcomes. Also, the project team should employ the results of the site evaluation for site-species matching in order to ensure higher tree survival rate. The team should engage forestry experts, botanists and agricultural extension services to gain insights into native tree species that thrive in the area. Farm Forestry Farmers should also prepare work plans before commencement of tree planting in order to ensure that all activities are well facilitated in terms of resources. Management plans should also be in place indicating silvicultural activities to be carried out with their respective period.

This study was done in Kuresoi South Sub-County and filled the research gap on influence of project management practices (Planning) on performance of farm forestry projects. The findings from this study may not be readily generalized to urban sub-counties or other regions with different climatic conditions. A comparative study should be done on the influence of project management practices on performance of farm forestry projects across different sub-counties or regions to identify variations in outcomes factors affecting success. Finally, a study should be done to explore the gender dynamics and social equity considerations within farm forestry projects.

### REFERENCES

- [1] Edum-Fotwe, F.T., McCaffer, R., Developing project management competency: perspectives from the construction industry. *International Journal of Project Management*,2020
- [2] Millicent O. ,*impact of project management practices on organisational performance of small and medium size enterprises: a case of Letan limited*. Unpublished Project, University of Nairobi,2020.
- [3] Muthomi N. M. , *influence of project management practices on implementation of donor funded education projects in Kajiado County, Kenya*. Unpublished Project, University of Nairobi,2020.
- [4] Mugo E.,it is our duty to conserve the environment. *Daily Nation*,2019, pp 13.
- [5] Cheboiwo,J.,Kiprop.J& Macharia,A., Investment in Kenya's commercial forests has been shown to increase the country's GDP, improve manufacturing, food security, health outcomes, and tree cover to over 10%.. *Kenya Commercial Forestry Investment Conference And Expo Proceedings 23rd 26th November, Kenya Forestry Research Institute headquarters ,Muguga,Nairobi*
- [6] Government of Kenya,*Kenya forestry master plan* . Nairobi :Government of Kenya,2020
- [7] Global Forest Watch,*tree cover loss in Kuresoi South, Nakuru, Kenya* .Retrieved from <https://www.globalforestwatch.org/dashboards/country/KEN/31/4/?>,2022
- [8] Barney, J. ,Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17,1991, 99-120.
- [9] Grant, R. M. , *analysis of modern strategies (text and cases) (10th ed.)*(New York; Wiley,2019).
- [10] Goldratt, E.M., *essays on the theory of constraints*. (Great Barrington :North River Press,1990).
- [11] Leach, L. P. ., *managing projects on a critical path*(Norwood: Artech House.,2021)

- [12] Ramadhan, R., & Gindy, A., The Effect of Theory of Constraints on Project Performance in Construction Industry. *Journal of Construction Engineering and Management*, 145(11),2019
- [13] Schragenheim, E., Dettmer, H. W., & Patterson, S. ., *faster production with improved supply chain financial performance*. (Newyork: CRC Press,2021)
- [14] Mugenda,O and Mugenda,A.,*quantitative and qualitative approaches and mixed methods third edition*.(Nairobi:ACTS,2019)
- [15] Belassi, W. and Tukel, O.I. A New Framework for Determining Critical Success/Failure Factors in Projects. *International Journal of Project Management*, 14, 2019 ,141-151.
- [16] Kapsali, M., & Pantouvakis, J., An Analysis of the Literature on Project Planning's Effect on Project Outcomes. *Behavioral and Social Science Procedia*, 216,2019, 352-361
- [17] Telsang, B.M & Raymond M. H ., *exploiting organizational knowledge in developing is project cost and schedule estimates: an empirical study*. College of Business & Behavioral Sciences, Clemson University, 106 Sirrine Hall, Clemson, SC 296341305, United States,2019.
- [18] Nzioka, C., Role of Project Management Planning On Project Success In Kenya: A Case Of Kenya Power Infrastructure Development Projects. *International Journal of Novel Research in Engineering and Science*, 4(1), 2019,36
- [19] Mkutano, S. M. & Sang, P., Project management practices and performance of non-governmental organizations projects in Nairobi city county, Kenya. *International Academic Journal of Information Sciences and Project Management*, 3(3),2018, 1-22.
- [20] Fishers A,Laing J,.,Stoekel,E and Townsend, *handbook for family planning operations research design* (Newyork:Population Council,1998).
- [21] Robinson,J.,*categorical data analysis*(Newyork:John Willey,2010).
- [22] Simarjeet ,L., Sample Size Determination. *International Journal of Current Research*. 09. 2021, 48365-48367.
- [23] Palinkas ,L .,Horwitz,D., Green,J .,Wisdom,J & Naihua D., Kimberly H.,Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research . *Adm Policy Ment Health*,2020
- [24] Kropp,H,*conducting a site evaluation for commercial building construction*.Retrieved from <https://www.samuelsgroup.net/blog/conducting-a-site-evaluation-for-commercial-building-construction>,2020
- [25] Matetai, M., & Yugi, P. ,Assessment on the Use of Monitoring and Evaluation System in Constituency Development Fund, Nairobi County. *Journal of Public Policy and Administration*, 1(1), 2016,32-48.
- [26] Makokha ,T & Ngugi,L,Influence Of Resource Allocation On Project Implementation By Busia County Government, Kenya.*Internation Journal of Commerce and Management Innovation* 10(2),2022 pp 55-60
- [27] Naeem J and Muhammad .H.Evaluation of Site for Plantation Purposes. Retrieved from [orestryedia.com /evaluation-of-site-for-plantation-purposes](https://orestryedia.com/evaluation-of-site-for-plantation-purposes),2020.
- [28] Perez,P,Incorporating the effect of weather in construction scheduling and management with sine wave curves: application in the United Kingdom. *Construction Management and Economics* 36(12),2018
- [29] Rouhollahi,P,Potential residential tree arrangement to optimise dwelling energy efficiency. *Energy and Buildings* 261(15),2021
- [30] Mavuti, B. M., Kising'u, T. M. & Oyoo, J. J.,Effect of project management practices on implementation of Kenya Ports Authority Funded projects. *The Strategic Journal of Business & Change Management*, 6(2), 2019,1110-1129.