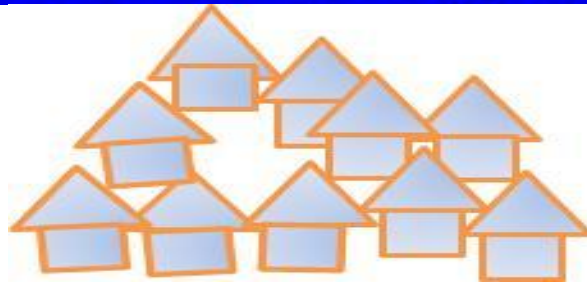
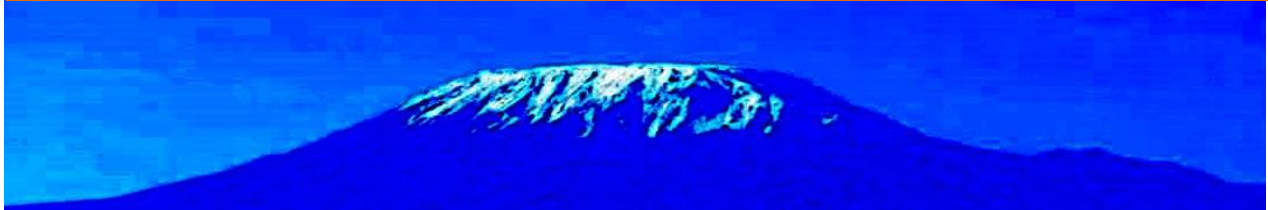


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Monitoring and Evaluation vis-a-vis Sustainability of Forest Conservation Projects in Voi Sub-County, Kenya

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Abstract

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This study analysed the influence of monitoring and evaluation on sustainability of forest conservation projects. It assessed the extent to which monitoring and evaluation influences sustainability of forest conservation projects. The study hypothesis was that there was no statistically significant relationship between monitoring and evaluation on one hand and sustainability of forest conservation projects on the other. Monitoring and evaluation is integral in project cycle management and sustainability. The study site was Mbololo and Mwambirwa forest areas in Taita Taveta County, Kenya. The county is located about 360 Kilometres South-East of Nairobi and 200 kilometres North-West of Mombasa. A population of 28984 people distributed in 4,138 households was targeted. Mixed methods were used in data collection and analysis. A sample size of 365 household heads for quantitative data was determined using Yamane formulae. Data was collected using cluster and systematic sampling techniques. Purposive sampling facilitated selection of six respondents interviewed. Descriptive and inferential analysis techniques were used in data analysis. The study discovered that monitoring and evaluation had statistically significant influence on sustainability of forest conservation projects ($F(1,351) = 3.930; p < 0.05$). The null hypothesis was rejected. It concluded that monitoring and evaluation enhances sustainability of projects. It recommended that all forest conservation projects should prioritize monitoring and evaluation practices for enhanced sustainability.

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1.0. Introduction

Many forest conservation projects fail to attain sustainability because they tend to cease operations as soon as funding period lapses. Project proposals show that sustainability mechanisms are inbuilt yet the projects cease operations following donor's departure. As the projects fail to continue operating, the forest resources suffer because of unsustainable practices that injure its health. The community adjacent the forests occasionally take advantage of such situations by unsustainably exploiting the forest resources to earn a living. Such practices imply a reduction in the size of the forest and the likely disappearance of some genetic material. In Taita-Taveta County, a reduction of approximately 23.2% in forest cover was noted between 1973 and 2016 (Wekesa et al., 2020). The United Nations Development Program (UNDP) (2020) observes that decline in agricultural productivity and hydroelectricity generation in Kenya are evidence of inadequate water because of decline in forest cover despite continued implementation of forest conservation projects.

As the quantity of genetic material decline due to unsustainable forestry practices, the ability to manage emerging health challenges is reduced. This is because most drugs are derived from genetic material found in forests. The challenge of climate change increases as forests decline in size and functionality. The magnitude of such challenges decrease as forest projects become sustainable.

Monitoring and Evaluation is a key activity in project management. It evolved alongside project management that began during industrial development period (Jeremiah & Kabeyi, 2019). Its significance varies in different projects. As such, there is a need to understand how monitoring and evaluation affects sustainability. In Europe, there is a challenge of attaining sustainability in agriculture partly fuelled by climate change, socio-economic challenges and general soil degradation (Pe et al., 2020). Specific measures to monitor changes in different aspects of the environment are required alongside keen implementation and continuous monitoring to record changes that inform decisions (Pe et al., 2020). To obtain actionable information, a study by Peter et.al , (2024) showed that that monitoring indicators should be specific and fit for purpose. Based on this, Europe requires different monitoring and evaluation systems and approaches geared towards providing information likely to aid sustainability of resources. In China, monitoring of ecological restoration activities after mining showed success when all stakeholders got involved and contributed resources (Wang et al., 2021). The challenges that cropped up including different viewpoints and strategies for addressing emerging issues are relatively difficult to handle especially in non-homogeneous communities. Participatory monitoring and evaluation of community water projects were successful in Tanzania when all stakeholders inputs resulted in the final key performance indicators (Kabote, 2020). This implies that voluntary stakeholder participation is important to achieve expected results. In Kenya, a study by Okwemba, (2021) showed that there was a strong connection between strategy evaluation and project performance. This implies that projects that keep on evaluating their implementation strategies were likely to adjust their approaches based on ever changing project environments.

This study sought to understand why donor funded projects within community areas fail to attain sustainability. Despite many interventions including incorporating sustainability activity components during project planning and putting in place risk mitigation mechanisms, many projects have remained unsustainable hence the significance of this study in trying to unearth the contribution of monitoring and evaluation to sustainability of projects. The Objective of the study was to assess the extent to which monitoring and evaluation influences sustainability of forest conservation projects. The study hypothesis was monitoring and evaluation did not statistically significantly influence sustainability of forest conservation projects. The findings of this study support project designers in developing projects with strong components of monitoring and evaluation to enhance sustainability. The community benefits from the findings of the study as they get project benefits for longer periods. The project teams, among other things embrace participatory monitoring and evaluation which encourages sharing of knowledge and skills amongst all stakeholders. The project is unique because it explored a new angle of monitoring

and evaluation. In many instances, monitoring and evaluation is considered beneficial in tracking project progress and evaluations but its contribution to sustainability of such projects is a new dimension.

Literature review

Monitoring is continuous and purposeful gathering and verification of information on the progress of a project. Evaluation is considered as the logical and impartial assessment of an ongoing or completed project or programme (Kibukho, 2021). Ambient monitoring considers the status and variations in the ambient environment (social as well as ecological situations) prior to the project intervention (Akugizibwe & Kintu, 2021). Management evaluation gauges' managerial inputs, activities, and outputs as management contribution towards capacity for the project to achieve results and sustainability. Impact evaluation refers to the logical process of gauging the envisioned and unintended causal effects of a forest conservation project (Akugizibwe & Kintu, 2021). The causal effects have profound effect on the achievement of the desired project results (Kibukho, 2021). The study by Akugizibwe and Kintu, (2021) has similarities with that of Kibukho, (2021) because both scholars sought to clarify monitoring and evaluation in an effort to achieve common understanding and application. However, none of the studies went further to propose circumstances under which monitoring and evaluation would yield or fail to yield desired results.

Monitoring and evaluation calls for the implementation of explicit practices including planning, indicator setting, field visits and feedback (Onencan & Enserink, 2019). Monitoring and evaluation provide programmatic feedback that enhances learning, supports accountability, helps identify strengths and weaknesses, offers an opportunity for timely adjustments and corrective actions for better performance and checks on project context (Ochiewo et al., 2020). Evaluation practices in projects enhances learning from experience when successes and failures are interpreted; transparency which implies open accountability for project resources; deepen understanding through generation of knowledge and lastly it fosters communication between and among community members (Muthomi & Kurt, 2020). A clear picture of the target beneficiary and purpose of feedback is paramount in monitoring and evaluation. Akugizibwe and Kintu, (2021) argued that participatory monitoring and evaluation practices requires full involvement of the target community to achieve project sustainability. The study by Onencan and Enserink, (2019) explored some of the activities in monitoring and evaluation including field visits while that by Muthomi and Kurt, (2020) brought out the benefits of those practices. This implies that in a way the two studies support each other.

In determining project direction many project implementers embrace joint diagnosis of issues, setting priorities and planning for better results (Muthomi & Kurt, 2020). Communities obtain higher satisfaction from project outcomes when they participate in monitoring and evaluation (Macharia & Omondi, 2020). Contemporary society embraces participatory monitoring and evaluation because it involves all project stakeholders in developing frameworks for measuring results and implementing tasks based on local environment and realities. Participatory monitoring and evaluation practices brings on board stakeholders at different levels to share control over activity implementation and results of the work and jointly engage in identifying solutions to emerging project challenges. It also involves brainstorming for purposes of taking advantage of the opportunities that presented in the course of project implementation (Macharia & Omondi, 2020). The findings of Muthomi and Kurt, (2020) show that monitoring and evaluation fosters common project understanding among stakeholders which is different from the study by Macharia and Omondi, (2020) which argued that monitoring and evaluation enhances community satisfaction on project work. However, the study by Macharia and Omondi, (2020) failed to explore further the influence of material benefits on community satisfaction.

Planning for monitoring and evaluation activities entails developing a detailed inception report complete with terms of reference for the activity; overview of the activities to be undertaken; proposed methods and additional procedures that include field trips, interviews schedules, discussions of the results, surveys and reporting (Adow et al., 2020). Planning also encompasses

developing indicators of success to determine performance in relation to quantity, quality, time, and cost for target community and other stakeholder's needs. Indicators are quantitative providing numbers and percentages and qualitative where opinions and perceptions are provided (Ochiewo et al., 2020). A key difference emerges between the work of Adow et al. (2020) and that of Ochiewo et al. (2020) because the former concentrates on procedures and plans for monitoring and evaluation while the latter is on quantitative indicators for monitoring and evaluation.

Field visits also referred to as instructional trips are organized with the intention of interacting with project environment, and benefit from experiential connection with the project activities (Ndah et al., 2020). Field visits require prior planning including visiting the site prior to actual activity to understand it better, determine the suitability of activities to be undertaken and lastly to prepare the community to be in an open space mentally sometimes called the "novelty space" (Ndah et al., 2020). During field visits, the community is fully engaged in the fieldwork activities and where possible take notes for future reference. After the field visit, the team including the community engage in discussions and other related activities to internalize and reinforce the knowledge gained (Eitzinger et al., 2019). Field trips accomplish various objectives including offering first-hand experience to the project implementers and evaluators and the associated interrelationships and reinforce direct observation of project work (Eitzinger et al., 2019). Field visits are multidimensional in the sense that in most times the project monitoring and evaluation team and community are involved contemporaneously. The study by Ndah et al. (2020) which concentrated on planning for field visits and preparing the community for the activity was very similar to that by Adow et al. (2020) which was on procedures and plans for monitoring and evaluation. Field visits fit as a component within the work of the latter scholar.

Field visits or trips are generally experiential, genuine social actions that generate additional angle or understanding of project process. Field visits tend to inculcate deeper interest and understanding of project activities by the evaluators and the community. An individual's capacity to learn determines the uptake and utilization of lessons from the field. In cases where capacity is not well developed the lessons are not fully utilized thus creating a gap in project management even where the community has required information (Umar et al., 2021). There are different kinds of field visits including formal field visits guided by a documented process or format and informal field visits that are unstructured with a lot of freedom in the choice of activities. Informal field visits tend to bring out the team and the community's cognitive abilities to identify issues in project work (Eitzinger et al., 2019). The study by Eitzinger et al. (2019) explored different kinds of field visits but failed to rank them in terms of which one was most appropriate for different kinds of projects or situations.

Indicator development is an important activity in monitoring and evaluation of projects. Indicators are specific measures for systematically tracking progress towards achievement of expected project results (Onencan & Enserink, 2019). Indicators are benchmarks for demonstrating achievement of project results. Indicators reduce large amounts of data into simple forms that are easily tracked to demonstrate results (Olago, 2019). Indicators do not provide full truth or picture and therefore are used in sets each measuring a specific aspect of the project (Abu & Elliott, 2020). Project indicators are either quantitative or qualitative. Resource indicators track usage of project finances, labour, and materials while process indicators examine the strategy used in conversion of resources into results. Results indicators show how well the project progresses towards achievement of its intended goal. Impact indicators are mostly used to measure the long term changes of a project (Olago, 2019). Provision of good and reliable information is key in measuring success of a project or programme. The indicators must be valid, reliable, precise, independent, measurable and time bound (Abu & Elliott, 2020). Information obtained from indicators of a project has to be analysed to obtain meaning that supports decision-making. The three studies explored indicators in detail, which is a major similarity. The studies are by Abu and Elliott (2020) who observed that indicators do not provide the full picture of a

situation, Adow et al. (2020) whose study explained procedures and plans for field visits including developing clear indicators and Olago, (2019) whose study was on quantitative indicators.

Data analysis refers to the practice of examining data, cleaning, transforming, and modelling with main goal of arriving at conclusions about a particular occurrence(s). Data from field visits comprises of textual content including structured content and images on multiple platforms such as social media sites, cyber-physical systems and machine to machine communication (Karimi et al., 2021). Worldwide, a lot of data is generated daily with approximately 90% being unstructured (Qi, 2020). The huge amount of data generated daily requires processing and analysing to generate new knowledge and facilitate appropriate responses to emerging challenges including climate change (Karimi et al., 2021). The opportunities available include enhancement of flexibility and visibility in projects, resources allocation, and value creation. Challenges are also abound including those related to data integration, unskilled or semi-skilled personnel, data security and issues related to ethics and inadequate infrastructure (Aubin et al., 2020). The study by Karimi et al., (2021) is in line with that of Qi, (2020) which stressed that data ought to be analysed and interpreted to be meaningful. The two studies failed to address the need for acquisition of data analysis skills by the local community.

The main goal of qualitative research is to understand the experiences of individuals and their contexts. The quality of project findings may seriously be compromised by inadequate or incorrect reporting of key elements including purpose of the project (Casterlé et al., 2020). Quality of a project report is very important in relaying the information already gathered and processed. Quality of project reports has many facets including examination of the significance of research objectives and questions, precision of methods adopted and the suitability of conclusions as well as lucidity of project reports (Misra & Bilkisu, 2020). Good project reporting facilitates evaluators to clearly interrogate the work and apply the findings including verifying and replicating the findings. The need for clear reporting calls for development of reporting guidelines or criteria for different reports. Some scholars noted that there are twenty one (21) subsections of a good report grouped into six main sections following scientific writing requirements (Misra & Bilkisu, 2020).

Qualitative project results consider relationships between available literature or conceptual and theoretical frameworks, scope and limits of outcomes and the confines of the project evaluation. Johansson et al., (2020) argues that qualitative studies seek to answer the “How” and “Why” questions relating to a phenomenon. It provides meaning from the respondent’s perspectives, understanding of the nature and surroundings of project activity. It also provides an understanding leading to a given occurrence. Qualitative approaches have a key advantage in affording flexibility and adaptability in the entire data collection, analysis and reporting (Matin et al., 2021). The strengths of qualitative approaches are clearly elucidated by scholars including Matin et al.,(2021) but failed to explore major weaknesses of qualitative approaches including introduction of bias as well as personal experiences that varies meaning of data and information.

Sustainability of forest projects

Sustainability is all about respecting “people” and their needs, “planet” earth and “proceeds”, the three “P’s”. Based on this perspective, sustainability in forestry is about supplying the reasonable needs of the forest adjacent people, taking into consideration the needs and requirements of the forest resource to continue providing those benefits and lastly there must be some economic benefits trickling to the society (Mansell & Philbin, 2020). The global community has embraced and emphasized sustainability through adoption of Sustainable Development Goals (SDGs) that builds on achievements of Millennium Development Goals (MDGs) (Ruggerio, 2021). The findings on sustainability as espoused by Mansell and Philbin, (2020) requires balancing of the current needs without compromising future needs are slightly different from the views of Wentling et al. (2021) who in addition to human needs considers the need for the continued flourishing of the forest resource. The consideration of the forest resource by Wentling et al. (2021) are ingenious because in the event the health of the resource is compromised, the future needs of the community will also get compromised.

Sustainability of forest projects is significant because it partly entails spatial and biophysical components of the environment. Socio-cultural requirements and aspirations of forest adjacent population dictates that land management be accorded a lot of attention because it carries with it many economic connotations and forms a way of life (Wentling et al., 2021). The propensity of forest adjacent community to blend significant rites and ceremonies with important occasions within their agricultural schedules demonstrates that land and by extension sustainable forest management is considered as a way of life (Marcello et al., 2020). Forest conservation projects implemented in different areas for instance the Marakwet region in Kenya incorporates traditional knowledge as way of tapping into local capital thus ensuring sustainability of the forest (Wanjohi et al., 2020). Protection and management of Kaya forests at the Kenyan coast is intensely entrenched in customary Mijikenda culture. It's integrity and purity is assured by the assembly of Kaya elders backed by a system of cultural prohibitions and rules aimed at conserving the forests (Keida, 2022). The local sacred forest management system practices incorporated into forest conservation projects entails a compromise between conservation objectives and local community culture thus forestalling possible conflict of interests on either side. Such a compromise ensures a strong buy-in of the forest adjacent community thus enhancing project sustainability (Keida, 2022). However, occasional commercial interests bolstered by legal system that permit extraction of forest resources challenges the local forest management system. Many tropical forests including eastern arc chain of mountains to which Mbololo and Mwambirwa forests belong (study sites) are home to many plant and animal species some endemic hence the need for continued protection (Adebiyi et al., 2020). Some scholars including Wanjohi et al. (2020) consider incorporation of cultural practices into project activities to achieve sustainability of forest conservation projects while Keida, (2022) advocates for a compromise between cultural aspects and project objectives to attain sustainability. Despite similarities of the two studies in terms of blending cultural practices with scientific practices to achieve sustainability of projects, both studies did not balance current and future community needs as argued by Mansell and Philbin., (2020).

Stakeholder Theory

This study relied on stakeholder theory. The theory avers that enterprises should create value for all those who have a stake in the enterprise and not just shareholders (Schaltegger et al., 2020). It recognizes the fact that the success of any enterprise hinges partly on the external environment composed of stakeholders. Some stakeholders lack direct investments in the enterprise but have considerable interest because of the interconnectedness of the enterprises operations (Freeman & Phillips, 2021). Edward Freeman originated the stakeholder theory in 1984. Stakeholder theory has roots in the field of strategic management (Freeman & Phillips, 2021). Since its inception, stakeholder theory gained prominence with some scholars questioning its sustainability because it placed emphasis on stakeholder's interests instead of the business objectives (Schaltegger et al., 2020). However, it is noteworthy that businesses have substantial effect on those around it including adjacent community even when they do not utilize the businesses products. Stakeholder theory mainly addresses morals and values in the conduct of the business (Schaltegger et al., 2020). A stakeholder is any entity either affected by or affecting the business or has interest in the business (Freudenreich et al., 2019).

Context of the study

The study area was Mbololo and Mwambirwa in Taita Taveta County about 360 Kilometres South-East of Nairobi and 200 kilometres North-West of Mombasa. Taita Taveta County borders Tana-River, Kitui, and Makueni to the northern side while Kwale and Kilifi are on the eastern side. Kajiado County is on the northern side and the United Republic of Tanzania is on the south-western side. The study site is hilly with poor road infrastructure. Average temperature ranges between 18° C and 32° C while rainfall averages 1200 mm annually (County Government of Taita Taveta, 2023). The main economic activities of the area are subsistence farming and pastoralism. The study area has a primary and a secondary school infrastructure but no college of higher education or university. Mbololo and Mwambirwa forest, the study site is listed among the United Nations Educational, Scientific and Cultural Organization (UNESCO) world heritage sites under criteria vii and x (Mwadime & Mbataru, 2022).

2.0. Methodology

The study adopted survey design in which mixed methods approach were used in data collection and analysis. The study used purposive sampling for qualitative data and cluster and systematic sampling methods for quantitative data. The study population comprised of 28,984 residents distributed into 4,138 community households who were members of Mwambirwa and Mbololo (MWAMBO) community forest association (CFA) which covers Mbololo and Mwambirwa forests. Yamane formulae was used to determine a sample size of 365 household heads who responded to quantitative research questions. The qualitative data was collected using interviews, observation and document analysis. The qualitative data was analysed thematically. Quantitative data was collected through self-reported questionnaire with Likert scale type of questions. Quantitative data was analysed descriptively and inferentially using simple linear regression analysis. The criteria for rejection of null hypothesis was when P value was less than or equal to 0.05. Analysis of data was systematic where the quantitative data findings were bolstered by qualitative data findings thus informing findings.

3.0. Results and Discussions

The findings on sustainability of forest projects were presented succeeded by the findings on the influence of monitoring and evaluation on sustainability of forest conservation projects

3.1. Sustainability of forest conservation projects

To assess the extent to which forest conservation projects were sustainable, the study assessed achievement of a number of indicators of sustainability. The study assessed achievement of sustainability of forest conservation projects based on responses to research items. The responses on Likert scale were from 05, which represented strongly agree to 01 representing strongly disagree. Table 1 is on descriptive data on sustainability of forest conservation projects.

Table 1: Descriptive data on sustainability of forest conservation projects

	Research item	SA	A	N	D	SD	Mean	σ
1	Project activities continue being implemented despite the donor(s) stopping to support the project through provision of finances and other inputs including technical support	43	36	106	131	37	2.76	1.152
2	Project activities have remained in my daily plan of activities after the donor stopped providing finances	35	48	120	119	31	2.82	1.092
3	The community has continued to enjoy benefits from forest conservation projects including exchange visits after donor stopped his involvement with the project	40	59	89	119	46	2.80	1.201

4	Community champions trained by past projects remained a source of beneficial information for new forest conservation projects	63	60	98	90	42	3.03	1.272
5	There have been new donors supporting forest conservation activities initiated by previous donors	56	67	91	95	44	2.99	1.264
6	New forest based activities including butterfly farming and beekeeping had received increased investments owing to improved forest cover supported by former projects	41	45	86	126	55	2.69	1.217
7	The membership of MWAMBO CFA responsible for conservation of the forest has continued to increase despite exit of former project donors	44	55	83	100	71	2.72	1.292
8	More community members have expressed interest in the forest conservation activities of MWAMBO CFA even after exit of former project donors	52	68	88	93	52	2.93	1.288
9	The number of forest conservation partners has increased after exit of previous donors	46	77	83	102	45	2.93	1.240
10	Former project partners have remained good ambassadors for the forests influencing new partners to join forest conservation activities	57	61	77	114	44	2.92	1.280
11	Peer learning visits from other forest projects have continued after the project donor stopped supporting forest conservation activities	51	50	81	104	67	2.76	1.311
12	Peer learning activities continued to build skills base of MWAMBO CFA	50	55	79	90	79	2.74	1.345

Source: Field Data (2023)

Descriptive data in Table 1 shows that responses were distributed in all the Likert scale options. The highest frequencies represented neither agree nor disagree and disagree as shown by the second research item that had 120 and 119. The lowest frequencies were observed on the strongly agree and agree for example in the first research item which had 43 and 36 respectively. The lowest mean value was 2.69 with a standard deviation of 1.277 for research item six (6) "New forest based activities including butterfly farming and beekeeping had received increased investments owing to improved forest cover supported by former projects". The highest mean value was 3.04 with standard deviation of 1.319 for research item four (4) "Community champions trained by past projects remained a source of beneficial information for new forest conservation projects". This meant there was a concentration of responses around the value three (03) of Likert scale, which represented neither agree nor disagree that forest conservation projects were sustainable. The results implied that many respondents were not certain of forest project sustainability even though some respondents strongly agreed while others strongly disagreed. The findings meant that achievement of sustainability of forest conservation projects was relatively elusive in the research area.

Qualitative data from the six respondents indicated that forest conservation projects were barely sustainable. The forester in charge of Mbololo and Mwambirwa forests as well as the Ecosystem Manager from Kenya Forest Service (KFS) reported that forest conservation projects had mixed results in sustainability. The forester for instance said "...many forest conservation projects

introduced new aspects of community livelihoods which reduced pressure on protected forests for goods and services. The incomes motivated community to carry-on with project activities. However, a big percentage of the income generating activities stopped operating as soon as the project sponsor exited". The bamboo agro-forestry project that supported local furniture industry for instance remained operational after donor exit attesting to the fact that some activities were sustainable.

Some project activities including tree nurseries occasionally faced challenges ranging from inadequate water and market for seedlings resulting in losses that negatively influenced sustainability. Dry periods increased cost of tree nursery maintenance. Two respondents reported that the forest conservation projects experienced a range of challenges that worsened with donor exit. One respondent for instance averred, "...all forest conservation activities initiated and supported by community continued to perform at impressive levels when the donor's funds were still available but the scenario changed dramatically as the resources dwindled."

Secondary data had evidence of project sustainability. The documents showed that some activities continued performing well despite lapse of donor funding. One respondent argued that close to 70% of the activities did not continue past three years after donor funding lapsed. Observations showed evidence of farm forestry and income generating activities including traditional and modern beehives. There were seven beehives and five tree nurseries of different tree species counted in individual farmlands.

It is worth noting that bee keeping had cultural significance because it provided honey necessary for traditional brews used in libation. Cultural practices tend to support some forest project activities although there were other economic interests, which played out as community strived to earn a living. The findings were supported a study by Nastis, (2020) whose research showed that balancing of three pillars of sustainability is a challenging undertaking despite its importance. Scholars including Nishant et al., (2020) concurred that self-interests could easily derail sustainability which negatively affects forest projects. The study observed that sustainability of forest conservation projects remained a challenge although some activities such as bee keeping showed signs of sustainability possibly because of cultural support. Other activities including agroforestry also thrived possibly because they required little support after a few years of planting. Such developments meant that the trees would rely on seasonal rains and prospered with little input from the farmers. Activities that required continued input and support from the community including maintaining fire lines seriously suffered after donor exit as community members abandoned them or scaled down support.

Influence of monitoring and evaluation on sustainability of forest conservation projects

To assess the extent to which monitoring and evaluation influenced sustainability of forest conservation projects, the study answered the question "To what extent does monitoring and evaluation influence sustainability of forest conservation projects?" The study hypothesized that there was no statistically significant relationship between monitoring and evaluation and sustainability of forest conservation projects. Table 2 shows descriptive results.

Table 2: Descriptive analysis of responses

S/N	Research item	SA	A	N	D	SD	Mean	Σ
1	Monitoring and evaluation experts from project partners and Kenya Forest Service (KFS) involved different household members within MWAMBO CFA area in planning for monitoring and evaluation during implementation of forest conservation projects	33	43	98	120	59	2.63	1.172
2	Household members within MWAMBO CFA area benefited from knowledge and skills imparted during planning for monitoring and evaluation activity by project partners	50	57	113	87	46	2.94	1.223

3	KFS and project partners conducted regular field monitoring visits within MWAMBO CFA area during implementation of forest conservation projects	27	52	113	102	59	2.68	1.145
4	Most households within MWAMBO CFA area benefitted from knowledge and skills from project partners and KFS during their field visits to forest conservation projects	34	71	88	113	47	2.81	1.186
5	Monitoring and evaluation indicator development for forest conservation projects within MWAMBO CFA area were done collaboratively during implementation of forest conservation projects	48	55	116	93	41	2.93	1.195
6	Monitoring and evaluation indicator development for forest conservation projects was community led	26	57	96	126	48	2.68	1.122
7	Monitoring and evaluation data collected from the forest conservation projects within MWAMBO CFA area was analysed by project experts only	40	54	102	103	54	2.78	1.211
8	Analysis of monitoring and evaluation data from the forest conservation projects within MWAMBO CFA area by project partners and KFS was of great value to household members involved	38	57	92	115	51	2.76	1.201
9	Monitoring and evaluation feedback meetings with all stakeholders has been conducted at all time by project partners and KFS during implementation of forest conservation projects	37	68	88	104	56	2.79	1.225
10	Many monitoring and evaluation feedback meetings were ever conducted by KFS and Project partners during implementation of forest conservation projects within MWAMBO CFA area	44	72	83	103	51	2.87	1.249
11	Monitoring and evaluation reports on forest conservation projects were developed by project partners and KFS	45	49	102	93	64	2.77	1.260
12	Monitoring and evaluation reports for the forest conservation projects within MWAMBO CFA area were of great help to households within the CFA area	43	49	104	95	62	2.76	1.243

Source: Field Data (2023)

Figures in Table 2 shows distribution of responses across the five options of the Likert scale starting with strongly agree and ending with strongly disagree. The responses were on all the twelve (12) research items. The highest frequencies across all the study items were on options "Neutral" and "Disagree" respectively while the lowest frequencies were found on extreme ends of strongly agree and strongly disagree. The results show the highest mean of 2.94 with standard deviation of 1.223 while the lowest mean was 2.63 with standard deviation of 1.172. This meant there were small variations between individual responses because all responses were concentrated between the two means. From the Likert scale, two (02) represented disagree while three (03) represented neither agree nor disagree. This meant that the responses were not evenly distributed as higher figures were on Neutral (03) and Disagree (04) options. However, there were extreme observations evidenced by respondents who strongly agreed while others disagreed as shown on Table 2. This meant there was a variation of respondent's views on the influence of monitoring and evaluation on sustainability of forest conservation projects.

To determine the strength and direction of the relationship (positive or negative) as well as understand the level to which monitoring and evaluation contributed to sustainability of forest conservation projects, the study used simple linear regression analysis. Tables 3 (Simple linear regression model summary), Table 4 (Statistical significance of the simple linear regression model) and Table 5 (Estimated regression coefficients) show the simple linear regression model analysis results.

Table 3: Simple linear regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.105 ^a	.011	.008	.71129

a. Predictors: (Constant), Monitoring and evaluation

Source: Field Data (2023)

Table 4: Statistical significance of the simple linear regression model

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.988	1	1.988	3.930	.048 ^b
	Residual	177.584	351	.506		
	Total	179.572	352			

a. Dependent Variable: Sustainability of forest conservation projects

b. Predictors: (Constant), Monitoring and evaluation

Source: Field Data (2023)

Table 5: Simple linear regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.158	.164		19.264	.000
	Monitoring and evaluation	-.114	.057	-.105	-1.982	.048

a. Dependent Variable: Sustainability of forest conservation projects

Source: Field Data (2023)

Figures in Table 3 shows R-value of +0.105, which is a weak positive linear relationship between monitoring and evaluation and sustainability of projects. The R² -value obtained was +0.011 implying the regression model explained at least 1.1% of variations in sustainability of forest conservation projects. Table 4. shows F-ratio values of F (1,351) = 3.930; p < 0.05. It was found that monitoring and evaluation statistically significantly predicted sustainability of forest conservation projects ($\beta = -0.114$, P < 0.05). Using figures in Table 5 the fitted regression model was; Sustainability of forest conservation projects = 3.158 – 0.114*monitoring and evaluation + (e) error term

Results meant that monitoring and evaluation practices positively influences sustainability of forest conservation projects. The findings were corroborated by literature that showed participation in monitoring and evaluation resulted in better understanding of projects in addition to enhancing ownership which was important in sustainability of forest conservation projects

(Macharia & Omondi, 2020). Ochiwo et al., (2020) also observed that adoption of monitoring and evaluation meant projects placed currency on the views and priorities of the target community aimed at ensuring project sustainability, which was in line with this research. Other scholars whose findings corroborated this research include Muthomi and Kurt, (2020) who noted that different techniques for monitoring and evaluation as well as data analysis served different purposes and required different skills that helped in understanding forest conservation projects leading to sustainability. Ochiwo et al., (2020) observed that monitoring and evaluation calls for implementation of explicit practices including planning, indicator setting, field visits and feedback that contribute to better understanding of project activities resulting in sustainability. Individuals appreciate project activities more when they are involved in monitoring and evaluation practices at all stages (Muthomi & Kurt, 2020). Scholars including Jonyo and Bonn, (2019) posited that monitoring and evaluation practices not only enhanced understanding of project activities but provided experiential learning opportunities which supported sustainability of projects as revealed in this research.

Interview sessions indicated that community members participated in monitoring and evaluation practices on their own as long as opportunities were available attested by varied responses in this research. The Monitoring and Evaluation Officer from MAZIDO said “...*community members who are involved in monitoring and evaluation practices often are more empowered and remain implementing project activities after exit of donor funding.*” The findings were supported by Akugizibwe and Kintu, (2021) who observed that participatory monitoring and evaluation practices were adopted where projects placed currency on the views and priorities of the target community aimed at ensuring sustainability. The Monitoring and Evaluation Officer from TTWF further argued that the organization’s culture requires them to implement monitoring and evaluation alongside the community. Project donors occasionally commissioned field visits as part of monitoring and evaluation. He said, “...*when donors visit our project sites we alert the community in advance to provide detailed and exhaustive project information including activity benefits and any challenges encountered. Such meetings occasionally serve as fundraising opportunities that are taken very seriously by parties involved*”. The KFS Forester in charge of the forest area also reported that he monitored progress of all project activities irrespective of the lead organization because KFS reports had to be exhaustive. He stated “...*I am a committee member in all projects implemented in this forest and its environs*”. Being a committee member in all projects provided an opportunity to clearly understand the projects and explain any occurrences including monitoring and evaluation. Ndah et al., (2020) concurred that participation in monitoring and evaluation of projects supported individual learning and understanding of project issues.

The KFS Forester in Voi further reported that as much as community members were involved in monitoring and evaluation, there were certain technicalities that they did not understand thus requiring expert guidance. Those views were corroborated by Umar et al., (2021) who noted that monitoring and evaluation is a technical field that requires expert training. The Monitoring and Evaluation Officer from TTWF also noted that whenever they subcontracted external assessors they provided clear terms of reference and allowed them freedom in the execution of the activity. In such cases, external evaluators involved community members as guides and enumerators, thus gaining experience and employment. Such members had positive views about monitoring and evaluation and forest projects, which supported sustainability of the projects.

Interviews with KFS Forester showed that a big proportion of community members appreciated the fact that unless there was monitoring of forest conservation activities, they easily spiralled off-track. The views were in line with literature that noted involvement in monitoring and evaluation supported community understanding of the project resulting in sustainability of forest conservation projects (Jonyo & Bonn, 2019). When forest projects were sustainable, the forest resource improved in functionality thus contributing to tackling effects of climate change.

MAZIDO monitoring and Evaluation Officer explained “...community members are curious and interested in project activities because they gain understanding and financial returns as a result of participation in monitoring and evaluation which enhances project sustainability”. One way of understanding the project operations was through being inquisitive and participating in the project activities. This information was corroborated by Eitzinger et al., (2019) who noted that inquisitive information sourcing in project monitoring and evaluation contributed to stakeholder empowerment and consequently sustainability. Different interpretations of project scenarios played out when all stakeholders participated in monitoring and evaluation. The community learnt from project team while the project team understood the context better. The aspect of collaborative working and learning yielded quality and conclusive reports on the sustainability of the forest conservation projects.

Secondary data including project proposals and activity plans indicated that monitoring and evaluation practices were budget items in the forest conservation projects. This corroborated research finding that monitoring and evaluation practices happened in the projects site thus contributing towards sustainability of forest conservation projects. A KFS monitoring report showed that KFS worked with the community during monitoring and evaluation, which enhanced appreciation and ownership of forest conservation projects resulting in sustainability. Project implementation documents revealed that planning for monitoring and evaluation took place at different rates. External evaluation reports showed community involvement in monitoring and evaluation of forest conservation projects, which enhanced achievement of sustainability goals. There were reports attesting to community involvement in data collection and decision-making. This demonstrated that planning for monitoring and evaluation practices involved the community, which enhanced project sustainability.

4.0. CONCLUSION

The study concluded that sustainability of project activities was not fully achieved in the project site. This is because there were activities such as bee keeping and tree nursery management that continued being implemented beyond funding period. However, many other activities failed to achieve the same outcome especially those that did not have direct benefits to the community or primary stakeholders. Project activities did not become sustainable because of the implementation strategy adopted or the period activities received funding support. Other factors including direct benefits to stakeholders had a lot of significance and bearing on how project activities were adopted and continued to be implemented by the stakeholders beyond funding period. Monitoring and evaluation enhanced community or stakeholder understanding of the project activities which implied that those activities that remained operational beyond funding period had higher chances of strategy perfection because the stakeholders gained in-depth understanding and knowledge of the implementation processes.

Monitoring and evaluation, positively influences sustainability of forest conservation projects by contributing towards a deeper and clearer understanding of the project processes. Monitoring and evaluation, promotes mutual learning and cooperation amongst stakeholders. Cooperation amongst stakeholders promotes trust and mutual respect which is key in promoting activity efficiency and effectiveness. Efficient projects benefit from optimal utilization of resources including time and finances thus forestalling stakeholder burnout which results in ability to continue implementing projects activities for longer periods. Projects irrespective of context or even field such as construction or conservation employ similar approaches and face similar challenges of inadequate time, scarcity of resources and drive for the best quality. None of these can be achieved in the absence of monitoring and evaluation of processes and outputs which brings into focus the significance of the tracking and measuring progress within projects.

Technical and operational shortcomings amongst different stakeholders that affect pace, effectiveness and duration project activities are implemented are minimised under cooperation situations which results in smooth activity implementation process. Such process, result in achievement of desired project outcomes. Different approaches in monitoring and evaluation do

emphasise on different aspects but maintain key focus of tracking and assessing progress and results. Participatory monitoring and evaluation which stresses involvement of all stakeholders in the process has a slight variation from the results based approach as it focuses mainly on the project results. However, irrespective of monitoring and evaluation approach adopted by a project, they all empower the local community as well as the project implementation team. Empowered individuals gain and retain the ability to undertake different project activities at optimum levels which has a great bearing on sustainability of projects. The findings of this study clearly showed that monitoring and evaluations influences sustainability of projects. Any project that lays emphasis on monitoring and evaluation enhances chances of attaining sustainability.

Recommendations

The study made the following recommendations

- i) The study recommends that all forest conservation projects should prioritize monitoring and evaluation practices for enhanced chances of sustainability
- ii) Monitoring and evaluation should involve all stakeholders to enhance learning and empower the local community who remain implementing the project activities after donor funding lapses.

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Policy Brief

This study shows that monitoring and evaluation, is an important activity which enhances sustainability of project activities. As stakeholders engage in monitoring and evaluation, they are empowered to implement the activities without relying on external assistance. Further, stakeholders contribute additional resources to project activities, which enriches the process resulting in improved quality of outputs. The context of the project becomes clearer as stakeholders engage in monitoring and evaluation, which serves to enhance cohesiveness amongst different parties thus reducing chances of conflicts that derail achievement of project outcomes.

Based on the findings of this study, it is recommended that policy makers should develop policies that incorporate aspects of monitoring and evaluation to harness the benefits of contributions from all stakeholders. In addition, there should be a policy compelling project funders, designers and implementers to set aside dedicated budget lines for monitoring and evaluation, which should encompass training of the local community on aspects of monitoring and evaluation that require strengthening for better results of the process and the project.

The practitioners of projects should seek opportunities to continuously engage in capacity building activities to keep up with changing trends in the field of project planning and management and monitoring and evaluation given the technological advancements that take place in the field. Such knowledge acquired should be shared all local stakeholders for improved efficiency, effectiveness and sustainability of project activities. Such an outcome results in win-win situation for all stakeholders involved in the project.

The local community should develop a home-grown mechanism for holding project teams accountable for the activities implemented in the projects within their areas. Further, they should demand accountability not only for the resources utilised in projects but also for the expected outputs and outcomes. Such an empowered community will force a better process of project implementation, which yields the expected results within acceptable timeframes. The achievement of project results in good time saves resources and encourages all stakeholders to continuously monitor progress as they enjoy benefits that enhances project sustainability.

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Kiswahili Translation of the Abstract

Utafiti huu ulichambua athari za ufuatiliaji na tathmini juu ya uendeleu wa miradi ya uhifadhi wa misitu. Lengo lilikuwa kutathmini ni kwa kiasi gani ufuatiliaji na tathmini huathiri uendeleu wa miradi ya uhifadhi wa misitu. Dhana iliyojaribiwa ni kwamba hapakuwa na uhusiano muhimu wa kitakwimu kati ya ufuatiliaji na tathmini na uendeleu wa miradi ya uhifadhi wa misitu. Fasihi inaonyesha kwamba uendeleu ni vigumu kupatikana kwa sababu kufikiwa kwa nguzo yoyote kati ya hizo tatu zikiwemo za kijamii, kiuchumi na kimazingira kunaweza kusababisha kuyumba kwa nguzo nyingine. Ufuatiliaji na tathmini ni miongoni mwa vipengele muhimu vya usimamizi wa mzunguko wa mradi na kuelewa umuhimu wake katika uendeleu ni muhimu katika mradi wowote. Inajumuisha ziara za uga, ukuzaji wa viashiria na kuripoti miongoni mwa shughuli zingine. Utafiti huu ulifanyika katika maeneo ya misitu ya Mbololo na Mwambirwa ukilenga wakazi 28984 waliosambazwa katika kaya 4,138. Muundo wa utafiti ulikuwa uchunguzi. Mbinu mchanganyiko zilitumika katika ukusanyaji na uchambuzi wa data. Sampuli ya ukubwa wa wakuu wa kaya 365 kwa data ya kiasi ilibainishwa kwa kutumia fomula za Yamane na kukusanywa kwa

kutumia mbinu za sampuli za makundi na taratibu. Sampuli ya data ya ubora iliamuliwa kwa kutumia sampuli madhubuti ambapo watafitiwa sita walihojiwa. Mbinu zote mbili za uchanganuzi wa kimaelezo na wa kimazingira zilitumika katika uchanganuzi wa data. Utafiti uligundua kuwa uendeleu wa mradi ulikuwa na matokeo mchanganyiko katika eneo la utafiti. Hata hivyo, utafiti uligundua kuwa ufuatiliaji na tathmini ulikuwa na ushawishi mkubwa wa kitakwimu katika uendeleu wa miradi ya uhifadhi wa misitu ($F(1,351) = 3.930; p < 0.05$). Dhana potofu ilikataliwa. Utafiti ulihitimisha kuwa ufuatiliaji na tathmini huongeza uendeleu wa miradi. Ilipendekeza kwamba miradi yote ya uhifadhi wa misitu inapaswa kutanguliza ufuatiliaji na tathmini kwa uwezekano wa kuimarishwa kwa uendeleu.

Maneno Muhimu: Uendeleu, Ufuatiliaji na Tathmini, misitu, Mradi, jamii