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WORKING PAPER

Assessment of the monitoring and evaluation system's effectiveness in a forest and landscape restoration project under Ethiopia's REDD+ Investment Program

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Working Papers contain preliminary research, analysis, findings, and recommendations. They are circulated to stimulate timely discussion and critical feedback, and to influence ongoing debate on emerging issues.

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HIGHLIGHTS

- This study analyzed the monitoring and evaluation (M&E) system of a forest and landscape restoration (FLR) project under Ethiopia's REDD+ Investment Program (RIP-FLR) to identify the key challenges that hinder its effectiveness.
- The study evaluated factors including staff technical capacity, availability of budget, knowledge management, management support, engagement of stakeholders, and perception by surveying the project staff.
- The study identified challenges in the M&E system, such as skill deficiencies in data analysis and gender-responsive practices, limited training opportunities, budget constraints, limited authority over decisions regarding the use of funds for M&E activities, insufficient use of knowledge management by managers, weak managerial support, and inadequate stakeholder engagement. Some staff view M&E as a burdensome task rather than a beneficial feedback mechanism, showing perception gaps.
- Addressing these challenges with tailored measures can improve the M&E system and contribute to the successful implementation of FLR projects.
- A robust M&E system plays a vital role in fostering accountability and transparency, as well as facilitating resource mobilization for scaling up FLR to achieve the targets outlined in the Bonn Challenge, the New York Declaration, and AFR100 at global, continental, and national levels.

EXECUTIVE SUMMARY

Context

Effective M&E ensures the successful implementation of projects by allowing for timely adjustments to address implementation challenges and deviations from the original plan. A strong M&E system also encourages learning and adaptive management, enabling projects to adapt to new situations and the dynamics of both internal and external environments. Enhancing the effectiveness of M&E systems in FLR and other development initiatives requires research-based evidence. Without sufficient research, one cannot properly understand which elements of the M&E system work and which don't. Research to examine the key challenges that impact the effectiveness of the M&E system is crucial for providing guidance to policymakers, project managers, and practitioners to design a robust M&E system. Enhanced accountability and transparency provided through a robust M&E system play a key role in catalyzing the flow of capital to scale and expanding efforts to restore degraded forests and landscapes and realize targets outlined at global, continental, and national levels.

About this working paper

This study investigated the factors that determine the effectiveness of the M&E system of the FLR project under the REDD+ Investment Program (RIP) in Ethiopia (MEFCC 2017). The RIP, with a budget of US$75 million, was implemented from 2017 to 2022 in six regions and one city administration in Ethiopia, covering 113 woredas (administrative units equivalent to districts). The second phase of the RIP program has been implemented since 2023. The RIP has three main components: afforestation and reafforestation (FLR), reversing degradation and deforestation (DD), and forest sector transformation (FST), which is mandated to transform the forest sector through innovative models. This study focused on the M&E system of the RIP's FLR component (RIP-FLR), which was implemented in 54 woredas.

Based on the survey responses of the RIP-FLR project staff, this study assessed staff technical capacity and competence, budget allocation, knowledge management, management support, stakeholder engagement, and perception as factors that influence the effectiveness of the M&E system. Data were collected through an email questionnaire sent to the project staff working in the project coordination offices at federal, regional, and woreda levels. Email survey questionnaires were sent to 112 respondents and 66 (59 percent) were properly completed and returned. Of the total valid responses, 55 were from woreda offices, while 9 and 2 respondents were from the three regional and federal coordination offices, respectively. More than 95 percent of the respondents were project coordinators, foresters, or socioeconomists. Data were collected as the responses of project staff to statements on a Likert scale. The collected data from the different geographic locations were pooled and analyzed using descriptive statistics in the Statistical Package for the Social Sciences (SPSS) software, version 29. Examining the possible differences among the different geographic locations was beyond the scope of this research.

Research gaps in FLR M&E

Ethiopia is one of the countries at the forefront of large-scale regreening and FLR programs, aiming to achieve sustainable development, build a resilient green economy, and tackle the challenges posed by climate change. The country's Green Legacy Initiative (GLI), led by the Prime Minister's Office, has announced that over 25 billion seedlings were planted in just four years, illustrating Ethiopia's significant efforts toward achieving its global and continental landscape restoration targets (GLI 2024). However, FLR initiatives in Ethiopia face common challenges, such as inadequate postplanting management and a lack of systems to track survival, growth, and productivity (Boissière et al. 2021; Kassa et al. 2017). The absence of an effective M&E system hinders the ability to track results and generate credible evidence for adaptive learning. A report by the Ministry of Finance (2022) on the RIP program highlighted insufficient project management skills and the lack of a participatory and effective M&E system as the main challenges. Empirical studies like research in this working paper are essential for guiding policymakers in designing restoration projects with robust M&E systems. While the silvicultural aspects of FLR programs in Ethiopia have been relatively well researched, there is limited focus on project management aspects, such as M&E practices. Establishing strong evidence on major challenges is essential for enhancing the current M&E systems of FLR projects in Ethiopia.

Key findings

The study offers insights on the challenges that hinder the effectiveness of the M&E system of the RIP-FLR project:

- Most of the survey respondents indicated that there is some level of satisfaction among the RIP-FLR project staff with the current M&E system. However, an in-depth analysis of the different elements of the M&E system revealed gaps that need further improvement. Improvement measures to address the gaps can foster stakeholder satisfaction, enable actions to correct budget and schedule discrepancies, and facilitate better use of lessons from successful practices.

- More than a third of the respondents said skill gaps in M&E data analysis and gender-responsive M&E practices, as well as the lack of on-the-job capacity-building trainings, are major challenges facing the M&E system of the RIP-FLR project.
- More than two-thirds of the respondents believe that the budget allocated for M&E activities is insufficient, that project staff lack full authority to manage and make decisions regarding the budget, and that the budget is not exclusively used for M&E activities.
- More than a third of the respondents feel that the use of knowledge management (KM) for M&E data collection, analysis, generating valuable information, and documenting lessons and best practices for adaptive management is very limited.
- Most of the respondents considered managers' support for the planning and implementation of M&E activities and facilitation of skill development trainings to be inadequate. Furthermore, they found managers' use of M&E findings in day-to-day communication and decision-making to be weak.
- More than a third of the respondents believe that engagement of stakeholders in planning M&E activities, identifying indicators, collecting data, and making decisions is limited. Moreover, more than half of the respondents feel that the RIP-FLR project does not provide clearly defined M&E roles for stakeholders.
- More than a quarter of the project staff tend to perceive M&E as a task intended to capture mistakes rather than a tool that provides useful feedback for decision-making by project managers. There is also a tendency to consider it as an additional task that burdens project staff, showing a misconception of the benefits of M&E.

Recommendations

The effectiveness of the M&E system of FLR projects can be significantly improved by implementing targeted adjustments to some of the elements. A robust M&E system is crucial for promoting accountability and transparency, ultimately facilitating the flow of funding for restoration initiatives. This study offers insights that can enhance the effectiveness of M&E systems for FLR projects in Ethiopia, contributing to the country's efforts to improve access to capital and scale up restoration efforts to meet national, regional, and global targets. To ensure a functioning M&E system that supports the successful implementation of FLR projects in Ethiopia, we recommend the following improvements:

- Design and provide regular, need-based skill development trainings for project staff, with a focus on data analysis techniques and gender-responsive M&E systems.
- Allocate a sufficient budget for M&E activities and ensure that the project management unit responsible for M&E has decision-making authority over the financial resources allocated to these activities. Resources designated for M&E should be used solely for their intended purposes. Decentralizing budget decision-making with the necessary capacity support will empower lower-level project managers to make informed budgeting decisions for M&E activities based on actual needs on the ground, promoting greater flexibility and responsiveness to local contexts.
- Strengthen KM capacity—focusing on information technologies that support data collection and analysis, as well as infrastructure for storing, retrieving, and utilizing data and information—to enhance the effectiveness of the M&E system and promote learning and informed decision-making in FLR projects.
- Enhance managers' understanding of M&E systems as a valuable tool for decision-making and achieving project goals. Emphasize the need to provide necessary support to project staff involved in planning and implementing M&E activities. Such support should lead to the generation of high-quality data for decision-making in FLR projects.
- Strengthen stakeholder engagement throughout the entire M&E process by providing capacity-building support to key stakeholders and ensuring participatory M&E.
- Improve staff perceptions and cultivate a shared understanding of the value of M&E through awareness creation and peer-to-pear learning exchanges. Engaging project staff from the planning phase can enhance their understanding of the importance of a strong M&E system and help improve their perceptions.

INTRODUCTION

Monitoring and evaluation (M&E) is an integral element of project management (PMI 2017). As the science of project management has become more complex and relevant, the project's M&E systems have developed more sophisticated methods (Maijo 2020). Donors who support development projects are increasingly acknowledging the significance of M&E and demanding its integration into project design. Monitoring involves collecting data regularly to inform all stakeholders about how well the project activities are being implemented and the degree to which they are leading to the expected results (Singh et al. 2017). Evaluation is a systematic, objective, and often independent assessment of the ongoing or completed projects or programs in terms of design, implementation, and results to measure the relevance, effectiveness, efficiency, impact, and sustainability of project results and impacts (Kusek and Rist 2004). Project M&E includes project activities that aim to inform project managers and financiers

about the progress and performance of a project, identify implementation challenges, and reveal any deviations from the initial plan.

Improving the effectiveness of a project M&E system requires research-based evidence, a major gap in development projects (Murcia et al. 2016). An effective M&E system helps project managers plan and use resources better, achieve better results (Njama 2015), and ensure project sustainability (Wabwoba and Wakhungu 2013; Wanjohi 2010). It also enables learning and adaptive management and improves a project's accountability and transparency (Bornstein 2006; Gualandris et al. 2015). Effective M&E requires investments in capacity-building (Cavens 2019). Analyzing the key factors that influence the effective functioning of M&E systems provides information to help address the challenges and build a more robust system for current and future forest and landscape restoration (FLR) projects.

An M&E system's effectiveness is influenced by several factors. One is the M&E staff's skill and competence (Ba 2021; Kithinji et al. 2017). Another is the budget allocation for M&E activities—insufficient budgets can weaken the performance and outcomes of projects (Njama 2015; Oluoch 2012; Hagens et al. 2008). Stakeholder participation in the M&E system is also important, as it enhances the execution of the M&E plan (Waithera and Wanyoike 2015). Management support is critical for the credibility and acceptance of the M&E findings (Njama 2015). The effectiveness of the M&E system also relies on the presence of a knowledge management structure and system that facilitates learning and the sharing of experiences (Odiwuor 2013). The perceptions of people who carry out project M&E likewise influence the effectiveness of the M&E system. The views of the project staff may differ according to their cultural and social backgrounds and affect their roles and responsibilities in the work environment. Mebrahtu (2002) noted the perception difference between senior and junior staff members in M&E practices and roles, and its impact on the effectiveness of M&E systems. He noted that high-ranking officials see M&E as a strategic tool for informing decision-making, while junior staff perceive it either as a tool for evaluating their performance or as an additional burden in their workload. These differing perspectives may be attributed to the varying levels of experience of the two groups.

An effective M&E system is essential to the successful implementation of FLR projects, as it is for other development areas. To ensure the success of restoration efforts, it is crucial to monitor progress, detect any changes, and assess whether they are in line with the initial management objectives (Perrow and Davy 2009). Effective M&E also helps track changes in biomass and infrastructure (de Jong et al. 1997) and monitor establishment and survival, environmental values and ecosystem functions, and socioeconomic changes (Moges et al. 2021). FLR projects require effective M&E systems due to the considerable time needed to restore degraded landscapes. Effective M&E can help avoid problems resulting from poor design and implementation of restoration interventions and provide feedback for timely corrections (Nilsson et al. 2016). And yet, despite their value, FLR projects often lack effective M&E systems (Stanturf et al. 2014).

Despite global recognition of FLR as a comprehensive approach to enhancing environmental and human well-being, the potential of monitoring to drive learning and improve management outcomes remains largely untapped (Evans et al. 2023). Mansourian and Vallauri (2022) have emphasized the need for a standardized monitoring framework for FLR that is both effective and user-friendly. Such a framework would enable practitioners to provide accurate information to stakeholders, share impactful stories beyond mere statistics on tree planting or hectares restored, and facilitate the tracking of progress, informed decision-making, and refinement of efforts. As Chazdon and Guariguata (2018) underscored, a significant gap in decision-making tools for large-scale restoration initiatives hinders monitoring and adaptive management practices. Evans et al. (2023) have noted that participatory monitoring in FLR is underutilized due to inadequate local participation, limited knowledge-sharing networks, and a lack of training in data collection and interpretation in Latin America. Murcia et al. (2016) analyzed 119 ecological restoration projects in Colombia and assessed their planning, governance, and monitoring aspects. They found that most projects had monitoring plans but little monitoring in practice, and almost no participatory monitoring. They also underlined that social outcomes were monitored by only 5 percent of the projects. These studies indicate the limited attention that many restoration projects pay to effective M&E. Given the growing understanding of the valuable roles it can fulfill, international and bilateral donors have started emphasizing the importance of an effective M&E system. This shift in focus is due to increased experience, techniques, and awareness on the benefits of robust M&E. Given the rapid shifts toward a focus on effective M&E, donor agencies may be reluctant to release funds unless restoration project developers can demonstrate an appropriate M&E system and framework (Njama 2015).

Ethiopia is actively pursuing large-scale regreening and FLR programs to achieve sustainable development, build a resilient green economy, and address challenges posed by climate change. The country is at the forefront of landscape restoration and climate change initiatives in Africa, demonstrating a strong commitment to global and continental targets. The Green Legacy Initiative (GLI), led by the Prime Minister's Office, has announced that over 25 billion seedlings were planted in just four years, demonstrating the significant efforts Ethiopia is undertaking to achieve its global and continental landscape restoration targets (GLI 2024). Despite these achievements, FLR programs in Ethiopia face common

challenges, such as inadequate postplanting management and a lack of tracking systems. The absence of an effective M&E system in Ethiopian FLR projects hampers the ability to track results and generate credible evidence for adaptive learning. The Ministry of Finance's report on the REDD+ Investment Program (RIP), a flagship FLR program valued at US$75 million, highlighted project management issues. These include inadequate project management skills to engage key partners and the absence of an effective M&E system (Ministry of Finance 2022).

Understanding the processes and factors that make the M&E systems of FLR projects in Ethiopia more or less effective is crucial to identifying areas for improvement and bridging gaps. Strengthening the M&E system supports Ethiopia's ongoing efforts to restore degraded lands through government-led, ambitious restoration programs such as the GLI (2024). It is essential that a robust M&E system be put in place and regularly updated based on systematic research. Although research efforts in Ethiopia's regreening programs have attempted to address the biophysical, social, and economic aspects of restoration, little attention has been paid to project management aspects, particularly the effectiveness of M&E systems. This study specifically examined the M&E system of the FLR component within Ethiopia's REDD+ Investment Program (the RIP-FLR project). The purpose of the study was to investigate the factors that determine the effectiveness of the M&E system in tracking the performance of the RIP-FLR project, and to provide recommendations to policymakers, managers, project developers, and monitoring specialists for designing and implementing a robust M&E system for FLR projects. The specific objectives of the study were to evaluate project staff's rating of the effectiveness of the RIP-FLR project's M&E system and to assess major factors that influence the effectiveness of that system. This study fills a significant knowledge gap, as it is one of the few studies that has specifically investigated the effectiveness of M&E systems of FLR projects in Ethiopia.

METHODOLOGY

Description of the studied project

The government of Norway funded the REDD+ Investment Program (RIP), a major forest sector initiative in Ethiopia. The program covers six regional states and one city administration (Amhara; Oromia; Gambella; the then Southern Nations, Nationalities, and Peoples (SNNP), currently split into four regional states; the Tigray and Somali regional states; and the Dire Dawa City Administration). The RIP project is led by Ethiopian Forestry Development, a government institution, with the UN Development Programme (UNDP) as a partner. The RIP seeks to prevent and reverse deforestation and degradation, and expand forest cover, through tree-based FLR. The program reaches 113 woredas (administrative units equivalent to districts) in these geographic areas. The RIP had a budget of $75 million and was implemented from 2017 to 2022. Its three components aimed to increase the benefits of forested landscapes and reduce emissions from existing forests. These components are afforestation and reforestation (FLR), reversing degradation and deforestation (DD), and forest sector transformation (FST), which is mandated to transform the forest sector through innovative models. This study focuses on the 54 woredas of the regional states that have implemented the RIP's FLR component.

The RIP's M&E system

The M&E system of the RIP was designed to align with the M&E framework of the Climate Resilient Green Economy Facility. In the system, quarterly and annual progress reports were set to track physical and financial progress. Regular monitoring involved local technicians and regional coordination offices, with annual learning events aimed at facilitating the sharing of lessons learned. Midterm and final evaluations were set to assess results and recommend measures to ensure long-term sustainability, while annual joint monitoring missions engaged a broader range of stakeholders. The M&E plan was designed to track indicators across afforestation, deforestation, sector transformation, and partnerships. Key impact indicators included achieving a 0.7 percent contribution from the forest sector to the country's gross domestic product (GDP) and sequestering 8 million metric tons of carbon dioxide equivalent of carbon annually by 2020, as well as increasing forest sector GDP from $38 million in 2017 to $664 million by 2020. Outcome indicators considered in the M&E plan included expanding community forestry programs, covering Ethiopia's high forest areas with participatory forest management (PFM), reducing deforestation rates, and establishing the Forest Sector Transformation Unit. Additionally, the project aimed to secure match funding, grow public-private partnerships and civil society organization partnerships, increase community-based forestry enterprises, and improve livelihoods for households with women's participation exceeding 40 percent. Evaluating the level of implementation of the targets set in the M&E system is beyond the scope of this study, which instead focuses on assessing the key factors determining the effectiveness of the M&E system.

Selection of regional states and woredas

This study was conducted in three regional states of Ethiopia (Amhara; Oromia; and the then Southern Nations, Nationalities, and Peoples (SNNP), currently split into four new regional states) that implemented the RIP-FLR project. These regional states were selected based on a consultation with the project office to ensure geographic representation.

Of the total 54 woredas implementing the RIP-FLR, 40 (74 percent) are in these three regional states. The study looked at 32 woredas in the three regional states. These woredas make up 80 percent of those targeted by the RIP-FLR project in the selected regions, and almost 60 percent of all the woredas involved in the entire RIP-FLR project. The number of woredas implementing the RIP-FLR project differed across the three regional states. To ensure unbiased sampling, a stratified random sampling method was employed to allocate samples within regional states in proportion to the number of woredas that implemented the project in each region (Saunders et al. 2009). This resulted in the selection of 20 woredas from Amhara (out of 24), 7 from Oromia (out of 9), and 5 from the SNNP (out of 7) regional states, ensuring a balanced and representative sample distribution across the regions. The implementation of RIP-FLR across diverse geographies in Ethiopia allows this study to provide recommendations based on representative samples.

Research design

Survey research was used to assess the factors that affect the effectiveness of the M&E system of the RIP-FLR project. Based on a comprehensive literature review, staff capacity and technical competence (SCTC), availability of budget (AB), knowledge management (KM), management support (MS), engagement of stakeholders (ES), and perception (P) were considered to be key factors that affect the effectiveness of M&E (EME). The EME of the RIP-FLR was evaluated based on respondents' perceptions of the M&E system's ability to track project performance. The study also evaluated the factors that strengthen or weaken the effectiveness of the M&E system in tracking the performance of the RIP-FLR project based on these responses. Each factor was assessed by calculating the percentage of project staff responses to relevant survey statements. However, relating the effectiveness of the M&E system to the project's progress and its impacts on the landscape and the community was beyond the scope of this study.

Data collection and sampling method

The primary data collection method employed in this study was an email survey that asked project staff to rate various aspects of the RIP-FLR project's M&E system on a five-point Likert scale (1, strongly disagree; 2, disagree; 3, don't know; 4, agree; 5, strongly agree) (Beleiu et al. 2015; Ibbs and Kwak 2000). However, the Likert rating was assigned in reverse order for the perception factor, with the highest value indicating strong disagreement, as the questions were phrased in the negative form (i.e., higher values indicated more favorable responses). The survey was designed on KoboToolbox and sent to selected respondents via email. Email surveys are cost-effective and suitable for researchers with limited resources (Michaelidou and Dibb 2006; Simsek 1999). The study surveyed project staff who had relevant information on the M&E system of the RIP-FLR project. According to Kumar (2012) and Saunders et al. (2009), researchers should approach people who have the required information and are willing to share it. Therefore, project coordinators, foresters, and socioeconomic experts of the RIP-FLR project participated in the survey, as they are the primary technical experts in the project offices. Prior to distribution to the respondents, the questionnaires were shared with selected project management experts who have experience in FLR and M&E for feedback and adjustments were made accordingly.

A survey questionnaire, created on KoboToolbox, was emailed to a random sample of 112 staff members from the project coordination offices at woreda, regional, and federal levels. These offices have a total of 128 staff members. As mentioned in the research design subsection above, woredas were selected using a stratified random sampling technique. All respondents were full-time employees of the RIP-FLR project offices at various levels. Of the 112 selected respondents, 92 (82 percent) responded, but only 66 responses (59 percent) were complete and consistent. The data were analyzed using the 66 valid responses, a response rate found to be acceptable (Wu et al. 2022; Kothari 2004). Of the total valid responses, 55 were from woreda offices, while 9 and 2 respondents were from the three regional and federal coordination offices, respectively. Furthermore, the M&E section of the project document was thoroughly reviewed to provide context on the M&E system of the RIP. Additionally, phone discussions were conducted with national-, regional-, and project-level coordinators involved in the RIP project during questionnaire development and at the analysis stage. This has helped to contextualize interpretations and triangulate responses obtained through the formal survey.

Data analysis

The data collected from the Likert scale responses for each statement were analyzed using descriptive statistical analysis. The responses were consolidated by tabulating the frequency of the Likert scale ratings and summarized as percentages (Tables 3, 4, 5, 6, 7, and 8). Furthermore, the mean and standard deviation (SD) of the Likert scale ratings were calculated for the six factors influencing the effectiveness of the M&E system by averaging responses to statements within each factor. A similar method was applied to evaluate the overall effectiveness of the M&E system, which was also determined based on Likert scale responses to a set of six statements. Responses were considered significantly negative if there was a disagreement threshold of at least 20 percent (meaning at least 20 percent gave responses of "disagree" or "strongly disagree") or at last 30 percent lack of agreement (meaning at least 30 percent gave responses of "not sure," "disagree," or "strongly disagree") on each statement to identify critical challenges

within the M&E system of the RIP-FLR project. Likewise, agreement is defined by responses of "agree" or "strongly agree" for the responses that exceed the thresholds.

RESULTS AND DISCUSSION

Background of respondents

A comprehensive descriptive analysis was used to gain insights into the demographic composition of the respondents, the primary information sources for this study. Most respondents (95 percent) fell within the age group of 31 to 50 years. Extended exposure to FLR initiatives may have provided this age group with a deep understanding of M&E systems, enabling them to offer valuable insights on how the M&E system functions within the context of the RIP-FLR project. Notably, a significant portion (61 percent) of respondents possessed advanced degrees, including MSc and PhD, underscoring their potential to provide reliable and relevant data. Particularly in the context of email questionnaires, respondents with strong academic backgrounds and professional experience greatly enhance the quality of collected data. Approximately 83 percent of respondents had substantial involvement in the field of landscape restoration, with nearly a third of them having over nine years of experience. Most respondents (71 percent) have been employed in the RIP-FLR project for four to six years. The respondents' overall work experience and affiliation with the RIP-FLR project indicate their familiarity with the topic of this study and relevance as sources of information. The majority (95 percent) of respondents were project coordinators, foresters, and socioeconomists, with roughly equivalent distribution among these positions. The distribution of respondents across various backgrounds guarantees a broad range of professional perspectives in evaluating the factors influencing the effectiveness of the RIP-FLR project's M&E system. However, the limited representation of women in RIP-FLR project offices posed a challenge to achieving gender balance among respondents, with only 3 percent being female.

Staff's rating of M&E effectiveness

The survey evaluated staff perceptions of the effectiveness of the M&E system employed in the RIP-FLR project. The staff members gave varying ratings to different M&E functions. The M&E system received high ratings for providing valuable information to stakeholders (85 percent agreement). A majority (79 percent) (Table 1) agreed that the system helped in tracking progress and measuring results, while 86 percent believed it delivered information in a timely manner. Additionally, 88 percent of the respondents agreed that the system ensured accountability and transparency, and 81 percent confirmed that it effectively captured and documented lessons learned. Notably, 91 percent of the respondents affirmed that the M&E system contributes to local knowledge transfer and sustainability. Although these findings suggest a significant degree of satisfaction among the RIP-FLR project staff with the existing M&E system in terms of tracking progress and measuring performance, the overall Likert scale rating (mean 3.9, SD ± 0.6) falls short of the 4.0 agreement threshold (as shown in Table 2). This underscores the room for improvement of the system. Enhancing the effectiveness of the M&E system can foster stakeholder satisfaction, enable action to correct budget and schedule discrepancies, and facilitate better use of lessons from successful practices.

Table 1 | **Responses of project staff to statements regarding effectiveness of monitoring and evaluation (n = 66)**

STATEMENTS	RESPONSES				
	STRONGLY AGREE (%)	AGREE (%)	NOT SURE (%)	DISAGREE (%)	STRONGLY DISAGREE (%)
The M&E system of the project is very effective in tracking progress and measuring results.	26	53	15	5	1
The M&E system provides timely information.	21	65	8	5	1
The M&E system provides useful information accessible to stakeholders.	18	67	8	6	1
The M&E system effectively captures and documents lessons.	17	64	9	9	1
The M&E system ensures accountability and transparency to the beneficiaries and donors.	24	64	8	3	1
The M&E system contributes to local knowledge transfer and sustainability.	23	68	7	1	1

Note: M&E = monitoring and evaluation.

Table 2 | **Likert scale responses of FLR project staff to the different variables (n = 66)**

VARIABLE	MINIMUM	MAXIMUM	MEAN	STANDARD DEVIATION
SCTC	2	4.7	3.6	0.6
AB	1.3	4.5	3.3	0.7
KM	1	4.6	3.3	0.9
MS	1	4.8	3.3	0.7
ES	1.6	4.5	3.4	0.8
P	1.5	4.8	3	0.7
EME	1.1	4.6	3.9	0.6

Notes: FLR = forest and landscape restoration; SCTC = staff capacity and technical competence; AB = availability of budget; KM = knowledge management; MS = management support; ES = engagement of stakeholders; P = perception; EME = effectiveness of monitoring and evaluation. The highest Likert rating value for perception was assigned to strong disagreement, as the statements were phrased in the negative form (higher values indicating more favorable responses).

Factors affecting M&E effectiveness

Staff capacity and technical competence

The successful implementation of a project depends on the capacity and competence of the project management team and the staff members in charge of M&E (Ba 2021; Mushori et al. 2020; Kithinji et al. 2017). Table 3 presents staff capacity and technical competence (SCTC) in the M&E of the studied FLR project based on respondents' agreement with various statements. Most respondents (77 percent) agree that staff have strong skills in planning M&E and selecting indicators, and 76 percent agree that staff have strong skills in data collection methods. Also, 72 percent of the respondents agree that staff can prepare clear and useful reports for users and project managers. However, more than a third (38 percent) of respondents disagree or are neutral about staff capacity in M&E data analysis and gender-responsive M&E (32 percent). Moreover, more than half of respondents (53 percent) disagree or are neutral about the availability of tailored trainings. The overall Likert scale response for SCTC is just above the midpoint between "not sure" and "agree" (mean = 3.6, SD ± 0.6) (Table 2), indicating limitations in SCTC. The results reveal skill gaps in M&E data analysis and gender-responsive M&E practices, as well as a lack of on-the-job capacity-building trainings. These are major challenges facing the RIP-FLR project's M&E system.

These findings align with Wanjiku (2015), who reported that inadequate skill in data analysis hampers the effectiveness of the M&E system in Kenya's road infrastructure projects. Other studies conducted in Kenya's health sector also report that inadequate technical skills in M&E weaken its effectiveness; they suggest regular and tailored trainings to enhance M&E capacity (Sawadogo-Lewis et al. 2022; Gachanja Kinyua and Njoroge 2021; Micah and Luketero 2017). The results also imply the need to improve staff capacity in designing and implementing gender-responsive M&E, which involves understanding the processes and contents of gender-responsive M&E tools (Jansen Van Rensburg and Blaser Mapitsa 2017). Gender equality and rights must be integrated into restoration efforts to prevent continuing gender inequalities and to incentivize contributions from both women and men. This will provide enhanced well-being and greater opportunities for all (Basnett et al. 2017). A gender-responsive, socially inclusive approach ensures equitable and sustainable resource use with diverse knowledge bases, promoting the sustainability of restoration initiatives (Bradley 2023). Regular need-based skill development trainings should be designed and provided to the project staff. Data analysis techniques should be emphasized. Gender-responsive M&E systems should also be the focus of capacity-building training programs.

Availability of budget

The survey results reveal how the project staff perceive the budget availability for M&E activities. Most respondents (73 percent) (Table 4) have information on the overall project budget, and 79 percent are informed on the budget allocated for M&E activities. However, the majority (70 percent) are neutral or disagree regarding the adequacy of the budget allocated for M&E activities. Only a third of the respondents think the funding of M&E is adequate. Furthermore, it is important to note that 70 percent and 73 percent of respondents expressed neutrality or disagreement, respectively, in response to statements about the autonomy of M&E budget use and the allocation of funds for their intended purposes,

Table 3 | **Responses of project staff to statements regarding staff capacity and technical competence (n = 66)**

STATEMENTS	RESPONSES				
	STRONGLY AGREE (%)	AGREE (%)	NOT SURE (%)	DISAGREE (%)	STRONGLY DISAGREE (%)
Staff skill in M&E planning, including the selection of indicators, is strong.	10	67	14	9	0
Staff skill in data collection tools and methods is strong.	12	64	12	12	0
Staff skill in data analysis is adequate.	5	57	15	23	0
Staff is capable of preparing an M&E report that can be easily understood by manager.	8	64	14	14	0
M&E is planned to capture gender-disaggregated data and to develop information that help decision-making to ensure gender equality.	7	61	18	12	2
There are need-based trainings provided to improve skill in M&E.	21	26	21	24	8

Note: M&E = monitoring and evaluation.

Table 4 | **Responses of project staff to statements regarding availability of budget (n = 66)**

STATEMENTS	RESPONSES				
	STRONGLY AGREE (%)	AGREE (%)	NOT SURE (%)	DISAGREE (%)	STRONGLY DISAGREE (%)
You have very clear knowledge on the project budget.		62	11	11	5
There is a fund allocated by the project for M&E activities.	12	67	11	9	1
The project allocates enough funds for project M&E activities.	0	30	18	47	5
The M&E unit has independence in budget decisions.	3	24	23	41	9
The budget allocated for M&E is used for that specific purpose only.	12	35	21	29	3

Note: M&E = monitoring and evaluation.

respectively, highlighting gaps in budget availability. The overall Likert scale response for availability of budget (AB) is barely above neutral (mean 3.3, SD ± 0.7) (Table 2), which shows an unsatisfactory rating for AB. These findings indicate that project staff are aware of the M&E budget but dissatisfied with both the amount and its management. These concerns suggest that M&E funding is insufficient, not independent, and not exclusively used for M&E activities. These limitations hinder the AB for M&E activities and affect the effectiveness of the M&E system. Effective project implementation requires a specific and dedicated budget for M&E (Gyorkos 2003). Many studies have also reported the significance of AB on the effectiveness of an M&E system of different development projects (Gachanja Kinyua and Njoroge 2021; Jahid 2019; Biscaye et al. 2015). These findings suggest the importance of allocating a sufficient budget for M&E activities. Crucially, the project management units operating at the grassroots level who oversee M&E should possess the authority to make decisions regarding the financial resources that have been allocated for these tasks. This authority is vital for ensuring effective and efficient use of resources in alignment with the project's objectives. Decentralizing budget

decision-making with the necessary capacity support will empower lower-level project managers to make informed budgeting decisions for M&E activities based on actual needs on the ground, thus promoting greater flexibility and responsiveness to local contexts.

Knowledge management

Knowledge management (KM) can improve project performance by granting access to project information (Phiri 2015) and serving as a tool to document lessons learned through M&E, making them easily accessible for decision-making and informing the planning of future projects. This study assessed the views of the project staff on the availability and use of KM systems and tools for effective M&E. Just over half of participants (51 percent) responded neutrally or negatively regarding the use of varied software and applications for M&E data analysis to generate actionable insights for the project (Table 5). Moreover, approximately one-third of the respondents (33 percent) responded neutrally or disagreed when asked whether the project incorporates KM information technologies like tablets, mobile devices, and GIS tools to collect M&E data. Similarly, 44 percent of the respondents either disagreed or were neutral about whether the project uses an effective KM system to generate, archive, and leverage lessons derived from the M&E system. The overall Likert scale rating of KM for M&E was also not much above neutral or "not sure" (mean 3.3, SD ± 0.9) (Table 2), indicating inadequate use of the KM system to improve the effectiveness of M&E in the RIP-FLR project. The results indicate that the use of KM for M&E data collection, analysis, generating valuable information, and documenting lessons and best practices for adaptive management is very limited. It is important to link M&E findings with a KM system to strengthen the effectiveness of the M&E system by facilitating learning and the dissemination of information (Odiwuor 2013).

KM plays a key role in creating an enabling organizational culture for information-sharing, learning, and performance-driven decision-making. It ensures the flow of high-quality, tailored data for evidence-based decision-making in M&E. Effective KM practices enhance M&E by providing timely feedback on project opportunities, challenges, successes, and failures. Aligning KM and M&E systems is critical for project success, especially in complex and dynamic environments (USAID 2011). Saratchandra and Shrestha (2022) have highlighted the transformative potential of cloud-based KM systems in enhancing the efficiency of small and medium-sized enterprises. These systems offer improved availability, scalability, reliability, security, and cost-effectiveness, thereby positively impacting KM and M&E processes within these organizations. Strengthening KM capacities, particularly focusing on information technologies to collect and analyze data, as well as infrastructure for storing, retrieving, and utilizing data and information, is crucial for enhancing the effectiveness of the M&E system and promoting learning and informed decision-making in FLR projects.

Management support

The success of M&E systems relies on the backing of management, whereas sound managerial decision-making hinges on the information derived from M&E systems. A study conducted by Njama (2015) in a water, sanitation, and hygiene (WASH) project in Kenya indicated that management support has a significant impact on resource allocation for M&E systems. This includes planning, use of findings, system design, communication, and other related M&E activities within the project. In the present study, a notable proportion of respondents indicated disagreement or neutrality regarding how well management supports the planning and execution of M&E systems (40 percent) as well as how well management provides skill development training opportunities for project

Table 5 | **Responses of project staff to statements regarding knowledge management (n = 66)**

STATEMENTS	RESPONSES				
	STRONGLY AGREE (%)	AGREE (%)	NOT SURE (%)	DISAGREE (%)	STRONGLY DISAGREE (%)
The project utilizes an effective knowledge management system to create, store, and utilize lessons obtained through the M&E system.	9	47	14	24	6
The project utilizes facilities such as tablets, mobile devices, and GIS tools to acquire data and information for the M&E system.	14	53	7	23	3
The project utilizes apps and software to analyze M&E data and produce information useful to the project.	11	38	10	30	11

Note: M&E = monitoring and evaluation.

Table 6 | **Responses of project staff to statements regarding management support (n = 66)**

STATEMENTS	RESPONSES				
	STRONGLY AGREE (%)	AGREE (%)	NOT SURE (%)	DISAGREE (%)	STRONGLY DISAGREE (%)
There is good management support for effective planning and implementation of the M&E system.	6	54	20	14	6
The project management uses M&E findings in decision-making.	12	49	20	18	1
Managers always clearly communicate M&E results to internal and external stakeholders.	6	48	26	17	3
Managers ensure that staff are trained in M&E regularly.		30	21	41	8
The management takes part in some of the M&E activities.	3	74	15	5	3

Note: M&E = monitoring and evaluation.

staff (70 percent) (Table 6). The results also showed that 39 percent and 46 percent of the respondents expressed disagreement or responded neutrally, respectively, when asked whether managers use M&E findings to inform their decisions and communicate M&E findings to internal and external stakeholders. These findings highlight gaps in management support for an effective M&E system and reveal that managers fail to utilize M&E findings.

The overall Likert scale rating (mean 3.3, SD ± 0.7) (Table 2) also suggests limitations in management support and use of M&E information. Managers should provide necessary financial, material, and technical capacity-building support to enhance the effectiveness of the M&E system (Callistus and Clinton 2018). The results highlight the need to increase project managers' awareness regarding overall planning and implementation of M&E in FLR projects in Ethiopia. Project managers should be trained in the benefits of robust M&E systems and the importance of implementing them effectively. Skilled managers can significantly improve the effectiveness of the M&E system by allocating adequate resources and organizing need-based skill development training for staff involved in M&E activities.

Engagement of stakeholders

The engagement of stakeholders (ES) in M&E practices promotes inclusivity and community-driven evaluation by involving diverse stakeholders, fostering reflection and learning, enhancing understanding of project impacts, and empowering participants in decision-making and project direction (Estrella and Gaventa 1998). In this study, while 77 percent (Table 7) agreed that stakeholders are involved in M&E in general, significant discrepancies were observed regarding specific roles. Over half of the respondents (55 percent) disagreed or were neutral when asked whether stakeholders were engaged in M&E planning, and 38 percent shared similar opinions on whether clear M&E tasks were assigned to stakeholders. The study showed further limitations in ES, with a substantial proportion of the respondents disagreeing or neutral on whether stakeholders were involved with indicator identification (49 percent), data collection (38 percent), and decision-making (37 percent).

The overall Likert scale rating (mean 3.4, ± SD 0.8) (Table 2) further indicates limitations in some aspects of ES. Consistent with the findings of Micah and Luketero (2017) on a health project in Kenya, the effectiveness of ES in data analysis, dissemination, and decision-making was limited in the studied RIP-FLR project. Insufficient ES risks lack of ownership, rejection, and sustainability (Mushori et al. 2020). Conversely, strong ES can enhance data collection and analysis, while ensuring the active participation of key stakeholders in activities impacting their livelihoods (Simister 2009). The engagement of stakeholders also promotes organizational and societal learning and enables negotiation to improve M&E (Kariuki and Njuki 2013). Enhanced stakeholder participation throughout the M&E process could strengthen effectiveness in FLR projects by incorporating diverse needs. Further efforts to involve stakeholders, particularly in the planning and design of M&E frameworks and the identification of indicators, are important in FLR projects in Ethiopia. Projects should delineate roles and build the capacities of stakeholders to engage meaningfully. Engaging stakeholders in the design, planning, execution, and analysis of the M&E system can enhance the relevance, credibility, and ownership of the results and lead to improved learning, as well as project transparency and accountability (UNFPA 2004).

Perception

According to a study by Bamberger et al. (2012), staff attitudes and perceptions significantly impact the effectiveness of M&E in development projects. The results of this study offer valuable insights into how staff perceive the purpose and value of M&E processes in RIP-FLR projects. While some aspects scored positively, others were viewed negatively. On the one hand, 73 percent of respondents recognize that M&E is not solely the responsibility of designated M&E officers, and 77 percent believe it should not be carried out just to meet donor requirements (Table 8). On the other, 71 percent of respondents were neutral or agreed that the risks associated with failure detection outweighed the benefits, expressing concern that M&E is more focused on identifying mistakes than on facilitating early resolution of problems. Furthermore, 36 percent of the respondents either expressed neutrality or agreed with the statement that M&E is burdensome additional work rather than an integral element of project management, highlighting a noticeable perception gap. The overall Likert scale rating (mean 3.0, SD ± 0.7) (Table 2) clearly indicates the problems in perception. Negative attitudes or resistance

Table 7 | **Responses of project staff to statements regarding engagement of stakeholders (n = 66)**

STATEMENTS	RESPONSES				
	STRONGLY AGREE (%)	AGREE (%)	NOT SURE (%)	DISAGREE (%)	STRONGLY DISAGREE (%)
Stakeholders are involved in M&E practices.	9	68	6	14	3
Stakeholders are adequately involved in designing and planning of M&E systems and activities.	3	42	23	26	6
Stakeholders' feedback is sought during M&E processes.	3	64	15	14	4
Stakeholders are involved in M&E decision-making processes.	6	57	20	17	0
Stakeholders are involved in M&E data collection processes.	2	60	14	24	0
Stakeholders are involved in M&E in identification of indicators.	3	48	20	29	0
The project assigns clear responsibilities to stakeholders during M&E processes.	11	51	15	21	2

Note: M&E = monitoring and evaluation.

Table 8 | **Responses of project staff to statements regarding staff perception (n = 66)**

STATEMENTS	RESPONSES				
	STRONGLY AGREE (%)	AGREE (%)	NOT SURE (%)	DISAGREE (%)	STRONGLY DISAGREE (%)
M&E is extra work that takes time away from actual implementation.	7	23	6	47	17
M&E is a process that should be undertaken only by M&E officers.	1	18	8	56	17
The major purpose of M&E is to meet donors' reporting requirements.	1	18	4	62	15
The risks attached with M&E, such as detecting failure, outweigh its benefits.	3	45	23	26	3

Notes: M&E = monitoring and evaluation. The highest Likert rating value for perception was assigned to strong disagreement, as the statements were phrased in the negative form (higher values indicating more favorable responses).

from staff can undermine data quality, use of findings, and ultimately, the overall M&E system, as reported by Bamberger et al. (2012). Similarly, a study on tropical forest restoration in Indonesia by Angelsen et al. (2009) found that staff attitudes impacted the implementation of a monitoring plan. The current study offers clear evidence of the urgent need to improve staff perceptions and foster a shared understanding of the values of M&E through exchanges that increase awareness and promote peer learning. Targeted improvements in two-way communication and participation in M&E design could help shift these views and better leverage a strong M&E system to benefit FLR projects in Ethiopia.

CONCLUSIONS AND RECOMMENDATIONS

While the RIP-FLR project staff generally express satisfaction with the current M&E system, a closer examination reveals significant needs for improvement. Such gaps include skill deficiencies in M&E data analysis and gender-responsive practices, lack of on-the-job capacity-building opportunities, inadequate budget allocation and lack of full delegation on budget management, limited use of knowledge management, and weak managerial support. Stakeholder engagement in M&E activities is limited, with unclear roles for stakeholders in M&E activities. The study further revealed that some staff perceive M&E as a burdensome task rather than a valuable feedback tool, indicating perception gaps. Addressing these challenges through targeted improvements can enhance stakeholder satisfaction, enable better corrective actions, facilitate learning from successful practices, and ultimately strengthen the overall effectiveness of the M&E system in FLR projects.

To address these issues and improve the effectiveness of the M&E system of FLR projects, we offer the following recommendations:

- Provide regular, need-based capacity-building training for project staff, focusing on data collection techniques and gender-responsive M&E practices.
- Allocate sufficient budgets for M&E activities and ensure that the project management unit overseeing M&E has decision-making authority over financial resources dedicated to these activities. It is also important to ensure that the allocated budget is used for the intended purposes.
- Strengthen capacities in knowledge management to enhance data collection, analysis, storage, retrieval, and utilization.
- Enhance managers' understanding of M&E systems to provide better support for project staff and ensure high-quality data for decision-making.
- Increase stakeholder engagement throughout the M&E process and provide capacity-building support to key stakeholders to promote participatory M&E.
- Improve staff perceptions of M&E by raising awareness of its value and fostering a shared understanding of its benefits through peer learning exchanges and early involvement in the project planning phase.

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ABOUT WRI

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Our challenge

Natural resources are at the foundation of economic opportunity and human well-being. But today, we are depleting Earth's resources at rates that are not sustainable, endangering economies and people's lives. People depend on clean water, fertile land, healthy forests, and a stable climate. Livable cities and clean energy are essential for a sustainable planet. We must address these urgent, global challenges this decade.

Our vision

We envision an equitable and prosperous planet driven by the wise management of natural resources. We aspire to create a world where the actions of government, business, and communities combine to eliminate poverty and sustain the natural environment for all people.

Our approach

COUNT IT

We start with data. We conduct independent research and draw on the latest technology to develop new insights and recommendations. Our rigorous analysis identifies risks, unveils opportunities, and informs smart strategies. We focus our efforts on influential and emerging economies where the future of sustainability will be determined.

CHANGE IT

We use our research to influence government policies, business strategies, and civil society action. We test projects with communities, companies, and government agencies to build a strong evidence base. Then, we work with partners to deliver change on the ground that alleviates poverty and strengthens society. We hold ourselves accountable to ensure our outcomes will be bold and enduring.

SCALE IT

We don't think small. Once tested, we work with partners to adopt and expand our efforts regionally and globally. We engage with decision-makers to carry out our ideas and elevate our impact. We measure success through government and business actions that improve people's lives and sustain a healthy environment.