JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Monitoring and Evaluation System and Performance of Rwanda Dairy Development Project in Rwamagana District

Elie Ndayisenga[1], **Dr Eugenia Nkechi Irechukwu**[2]
MBA/0482/2013
Mount Kenya University.
Mount Kigali University

Abstract
This study examined the influence of the Monitoring & Evaluation (M&E) system on the performance of the Rwanda Dairy Development Project (RDDP) in Rwamagana District from 2021 to 2022. The research focused on four objectives: assessing the impact of the M&E plan and logical framework, evaluating formal surveys' effects, identifying gaps between planned and achieved activities, and determining changes in beneficiaries' well-being. Using a sample of 75 respondents, both qualitative and quantitative methods were employed, with data analyzed via SPSS. Pearson correlation results showed a strong relationship between M&E practices and RDDP performance, with 40% strongly affirming this link. Regression analysis revealed that M&E design, quality assurance, capacity building, information sharing, and budgeting significantly influenced project outcomes at 5% and 1% significance levels. The findings conclude that robust M&E components critically enhance RDDP's overall effectiveness and impact in the district.

Keywords: Evaluation, Monitoring and Evaluation plan, Monitoring and Evaluation, Monitoring and Evaluation System, Monitoring, Planning for Monitoring and Evaluation, Project performance

1.Introduction

Monitoring and Evaluation (M&E) has increasingly become a vital tool in advancing environmental, economic, and social sustainability worldwide. It serves as an essential mechanism for assessing project implementation, improving service delivery, and ensuring accountability in various sectors. The importance of M&E has been recognized across different continents and institutional contexts, with governments, development agencies, and non-governmental organizations (NGOs) relying on it to enhance project outcomes and optimize resource use.In Canada, for example, M&E is deeply embedded in government and charitable organizations, focusing largely on financial accountability and service delivery improvements (Crawford & Bryce, 2018). Donor agencies like the Canadian International Development Agency (CIDA) have exerted pressure on NGOs to adopt robust M&E frameworks to improve project performance and community impact. Similarly, in Spain and France, M&E has evolved as a core instrument in sustainable development efforts, with clear phases marking the expansion of its scope and expectations (Armonia et al., 2016).

Within the African context, countries have increasingly recognized the importance of M&E for project success, although challenges remain. In South Africa, growing attention to monitoring emerged during the country's third democratic term, with studies indicating that poor supervision, inadequate skilled manpower, and equipment breakdowns resulting from weak M&E practices contributed to project delays (Agaba & Mulyungi, 2018). In East Africa, Uganda's M&E system is largely donor-driven, with weak institutional capacity to systematically manage and utilize evaluation data, undermining government efforts to track program effectiveness (Andove & Mike, 2015). Non-governmental organizations in developing countries play a pivotal role in delivering development aid to improve livelihoods, health, and education (Kang et al., 2020; UNDP, 2019). However, many NGOs in Rwanda

struggle to meet their objectives, largely due to resource constraints, insufficient management commitment, and inadequate M&E systems (Rwanda Governance Board, 2021). Studies by Niwagaba and Mulyungi (2018) found that poor M&E planning led to low project success rates, with NGOs often failing to complete projects within scope or meet beneficiary needs. Murorunkwere and Munene (2022) also highlighted that technical capacity gaps in monitoring and evaluation caused delays and budget overruns. Moreover, the Rwanda Governance Board (RGB, 2021) reported that over half of NGO programs in Rwanda have not effectively targeted beneficiaries due to weak M&E efforts.

In Rwanda, while M&E practices have been promoted by development partners, NGOs, and government institutions, they are often treated as donor requirements rather than management tools. This perception undermines their effectiveness in improving project implementation. The World Bank (2017) noted that inadequate M&E and financial controls have led to resource misallocation and project delays, particularly affecting sectors like education. Weak institutional capacity, lack of accountability, and poor transparency are root causes of these challenges, which affect the success of projects implemented by government entities. This study, therefore, focuses on the Rwanda Dairy Development Project (RDDP) in Rwamagana District to assess how M&E practices influence project performance. The Rwanda Dairy Development Project (RDDP) is a large-scale initiative spanning 12 districts and funded by various stakeholders, including the International Fund for Agricultural Development (IFAD), Heifer International, the Government of Rwanda, the private sector, and beneficiaries themselves. With an investment exceeding US$65 million, RDDP aims to develop Rwanda's dairy sector, which is critical for improving nutrition and income, especially in rural areas. Despite devastating losses to the dairy herd during the 1994 genocide, the sector has seen significant growth over the past two decades through government programs like Vision 2020 and initiatives such as Girinka ("One Cow per Poor Family"), which targets poverty reduction through dairy cattle ownership (Izoza & Simons, 2019; Karinganire et al., 2017).

Rwanda's dairy sector now contributes approximately 10.5% to agricultural GDP, with annual milk production valued at around $162 million. Nevertheless, challenges remain, including limited access to veterinary services, low farmer knowledge, weak collective marketing, seasonal water shortages, and restricted access to finance (Rwamuhizi et al., 2024). Given the sector's critical role in poverty alleviation and food security, enhancing project performance through effective M&E is essential. Previous assessments have noted gaps in linking M&E efforts to actual improvements in productivity, soil fertility, and beneficiary livelihoods. Reports from the Office of the Auditor General (OAG, 2018) indicate persistent issues with planning, resource management, and communication, which weaken M&E effectiveness in projects like RDDP. The 2021 RDDP impact assessment reported some gains but lacked detailed data necessary for robust evaluation, highlighting the need for further study. This study therefore seeks to fill this knowledge gap by examining the effects of monitoring and evaluation systems on the performance of the Rwanda Dairy Development Project in Rwamagana District. It aims to understand how M&E design, budgeting, capacity building, and baseline studies influence project success.

Research Objectives

The general objective of this study is to examine the effects of Monitoring and Evaluation systems on project performance, using the RDDP in Rwamagana District as a case study. The specific objectives include:

(i) To assess the effect of the M&E plan on the performance of the RDDP project in Rwamagana District.
(ii) To establish the effect of M&E budgeting on the performance of the RDDP project in Rwamagana District.
(iii) To evaluate the impact of M&E for capacity building on project performance.
(iv) To analyze the relationship between baseline studies and the performance of the RDDP project in Rwamagana District.

2. Review of Related Literature

2.1 Empirical Review

The empirical review of existing literature provides insights into the current understanding and gaps concerning Monitoring and Evaluation (M&E) systems and their influence on project performance. Through these studies, it becomes evident how different components of M&E, such as planning, budgeting, leadership, stakeholder participation, and capacity building, affect project success across various contexts. Hulme (2000) emphasized the importance of selecting appropriate M&E methods aligned with user needs, baseline data availability, and indicators to ensure the relevance and effectiveness of monitoring systems. This highlights the necessity of contextualizing

M&E frameworks based on specific project requirements and stakeholder expectations. Ndegwa (2021) studied the influence of M&E processes on water, sanitation, and hygiene (WASH) projects in Kajiado County, Kenya, focusing on UNICEF programs. The study revealed a strong positive correlation between M&E leadership and project implementation, with a coefficient of 0.736. Additionally, funding for M&E (correlation = 0.489) and stakeholder participation (correlation = 0.565) also positively influenced project implementation. These findings demonstrate the integral role of leadership, adequate financing, and inclusive stakeholder engagement in successful project delivery. The study further noted that both project implementers and beneficiaries were well aware of project policies and guidelines, indicating that knowledge dissemination contributes to project success.

2.1.1 The Effect of M&E Plan on Project Performance

Niyongira (2021) examined the impact of M&E on agricultural projects, specifically focusing on a capacity-building initiative at the Horticultural Centre of Excellence in Rwanda. Using a sample of 267 participants from a population of 1507, the study employed both the program theory and stakeholder theory as frameworks. Findings emphasized the importance of a conducive work environment including safety, adequate materials, and strategic documentation—to enhance project performance. This study underscores that well-structured M&E plans, aligned with organizational and beneficiary needs, drive better outcomes. Mulwa (2018) conducted a study in Uasin Gishu County, Kenya, on how reporting systems influence the monitoring and assessment of water projects. Utilizing descriptive and inferential statistics, the research revealed a significant positive impact of reporting mechanisms on project performance ($\beta = 0.408$, $p < 0.05$). The study further concluded that active community involvement through modernization theory concepts enhances project success by promoting participatory decision-making.

In Rwanda, Musanabaganwa (2020) investigated M&E practices in community health projects under the PIGS program in Kicukiro District. The study found that 99% of respondents acknowledged the use of M&E in these projects and its critical role in improving project performance, although challenges persisted. This confirms that strong M&E systems contribute substantially to project success, albeit with room for improvement.

Mbaziira and Nduta (2021) studied the influence of M&E planning on government programs in Uganda, specifically the Women Entrepreneurship Program in Busoga Sub-Region. Their findings indicated a strong positive influence of M&E planning on project performance, aligning with broader evidence suggesting that structured M&E frameworks enhance governmental project outcomes. Nyaboke and Atikiya (2022) evaluated capacity building for M&E within low-cost housing projects in Nairobi County. They concluded that ongoing capacity development, routine monitoring, formative assessments, and data-driven decision-making significantly improve project performance. These findings advocate for continuous learning and adaptive management as core components of effective M&E systems. Nyangwara and Datche (2015) highlighted the importance of employee competence and workplace cohesion in road construction projects, directly affecting productivity, costs, and timelines. This complements M&E studies by illustrating that human resource development is a vital aspect of project success.

2.1.2 The Effect of Monitoring and Evaluation Budget on Performance

Financial allocation toward M&E activities plays a critical role in project success. Mogo and Oleche (2015), using a probit model, identified budgetary allocation as a key determinant of M&E implementation and subsequent project success. Their findings showed a robust coefficient of 0.6569 ($Z = 4.92$) and a marginal effect of 0.131 ($Z = 5.44$), suggesting that a 13.1% increase in M&E budget significantly enhances implementation effectiveness. Kissi et al. (2019) further validated the importance of M&E practices in construction projects, linking well-funded M&E to successful project outcomes. Musanabaganwa's (2020) study on community health projects reaffirmed these conclusions, emphasizing the role of financial support in sustaining M&E systems.Mbaziira and Nduta's (2021) research on Ugandan government programs similarly identified a strong correlation (Pearson's $r = 0.755$, $p < 0.05$) between M&E planning, which inherently includes budgeting considerations, and program success.Abebe (2018) also emphasized the importance of the project monitoring and control process, noting that higher levels of oversight and control correlate with improved project results. These findings collectively underscore the theory that adequate and dedicated M&E budgets are essential for comprehensive monitoring, timely evaluation, and corrective action implementation.

2.1.3 The Relationship Between M&E System and Project Performance

Stronza (2019) discussed the technological tools available for impact reporting, data collection, and analysis, highlighting the challenges small organizations face in scaling M&E systems for multiple programs. She pointed out the frequent absence of standardized processes for transforming raw data into actionable information, which limits learning and adaptive management. Mulwa (2018) echoed this concern by emphasizing the role of citizen involvement through reporting systems in tracking project progress and fostering accountability.These insights highlight the critical need for efficient data management and communication systems within M&E frameworks to enhance project performance.

2.1.4 The Relationship Between M&E System and Capacity Building

Capacity building is a foundational element of sustainable M&E systems. Nyaboke and Atikiya (2022) found that capacity-building initiatives positively and significantly affect project performance in Nairobi's low-cost housing sector. They recommended routine performance monitoring, formative evaluations, and strategic use of data to optimize project outcomes. Murei et al. (2017) studied horticultural projects in Kenya and found that well-funded M&E functions, supported by capacity-building efforts, significantly contributed to successful project implementation. These studies confirm that developing the skills and knowledge of project personnel and stakeholders enables effective M&E, which in turn drives improved project results.

2.2 Theoretical Literature Review

2.2.1 Participatory Theory

Participatory theory focuses on the role of beneficiary involvement in development projects. Originating from ideas championed by Mahatma Gandhi and further developed by Robert Chambers, the theory critiques traditional top-down development models and advocates for inclusive, bottom-up approaches. Participation is seen as essential for improving project effectiveness and efficiency by ensuring that interventions align with community needs and priorities (Nelson & Wright, 1995). This theory underscores the importance of stakeholder engagement in M&E practices, promoting shared ownership and accountability.

2.2.2 Theory of Change

The theory of change (Stein & Valters, 2012) emerged as a flexible alternative to rigid planning models. It outlines the necessary steps and interventions to achieve long-term goals, emphasizing the importance of clear pathways and stakeholder buy-in. This theory supports the argument that capacity building and proper M&E practices create the right environment for desired changes. It also helps project managers and evaluators understand, monitor, and measure progress toward intended outcomes.

2.2.3 Resource-Based View (RBV) Theory

The RBV theory, developed through foundational work by Wernerfelt (1984), Prahalad, Hamel, and Barney (1991), focuses on an organization's internal resources as key drivers of competitive advantage and performance. In the context of M&E, RBV stresses the importance of adequate budgeting and resource allocation to support monitoring, evaluation, and capacity building. These resources financial, human, and technological—must be relevant, sufficient, and timely to positively influence project success (Jurevicius, 2013).

2.2.4 Social Learning Theory

Albert Bandura's Social Learning Theory highlights the role of observational learning, modeling, and imitation in acquiring behaviors and skills. This theory suggests that M&E capacity building should foster environments that promote continuous learning and adaptation (double-loop learning), rather than mere compliance (single-loop learning). It supports the view that knowledge transfer and stakeholder empowerment are critical to effective M&E and project success.

2.2.5 Theory of Performance

The Theory of Performance conceptualizes project success as a function of value creation, influenced by factors such as project context, skills, mindset, environment, and engagement practices. Effective performance improvement involves immersive learning and reflective practice, enabling individuals and teams to adapt and excel (Facilitators Institute). This theory provides a useful framework for assessing RDDP project performance through M&E.

2.2.6 Evaluation Theory

Originating from Ralph Tyler's objectives-oriented evaluation model (1932), evaluation theory stresses defining clear goals before assessing whether they are achieved. It focuses on accountability, learning, and decision-making, evaluating project performance based on quality, cost, and time (Lenfle, 2012). Formative evaluations identify mid-project challenges, while summative evaluations provide lessons for future programming (Passia, 2016). The use of multi-stakeholder dialogues and theory-based evaluation approaches enhances the reliability and relevance of findings (Jones et al., 2019; Rogers, 2018).

2.2.7 Program Theory

Program theory offers a conceptual framework explaining how and why a program is expected to work. It links activities, outcomes, and assumptions, serving as a hypothesis tested through M&E. This theory guides evaluators in assessing the validity of program design and implementation (Bickman, 1987; Rogers et al., 2018).

2.2.8 Theory of Constraints

Developed by Eliyahu Goldratt (1984), the Theory of Constraints identifies bottlenecks that limit organizational performance. It helps project managers focus on critical issues—whether policies, equipment, or personnel—that hinder progress and addresses them systematically to improve overall outcomes (Blackstone, 2017).

2.3 Conceptual framework

An effective M&E system is critical for project success, enabling progress tracking toward goals and informing stakeholders. When integrated early in project design with clear strategies and stakeholder collaboration, M&E fosters sustainability. Hunter (2009) highlights key components including purpose, evaluation questions, data tools, timelines, and dissemination.

If you want, I can also help you draft or design the diagram you mentioned illustrating the relationship between M&E system and project performance.

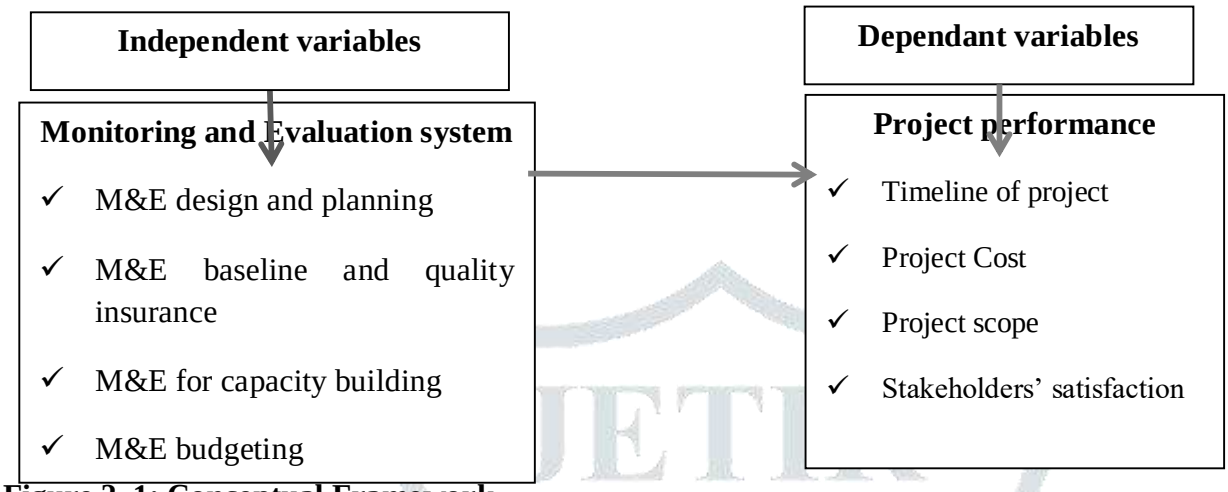


Figure 2. 1: Conceptual Framework
Source: Researcher 2024

Data collection's purpose, frequency, type, and methodology affect beneficiaries' lives, project sustainability, and time-cost management, influenced by government policies, resource availability, and environmental changes as intervening variables.

3.Research Design and Methodology

Research design is a structured plan that organizes observations to establish a logical basis for understanding causal relationships. This study adopted descriptive and correlational survey designs to describe and compare the state of the Monitoring and Evaluation (M&E) system in the Rwanda Dairy Development Project (RDDP). A quantitative paradigm based on frequencies and percentages was employed to investigate the relationship between the M&E system and project performance (Amin, 2005). According to Eyisi (2016), descriptive research facilitates the collection of both qualitative and quantitative in-depth data. Therefore, alongside quantitative data gathered through questionnaires, qualitative data were collected via interviews with project staff and subjected to thematic analysis to provide rich narratives complementing the numerical findings. The target population consists of a specific group identified as the intended recipient of the study (Business Dictionary, 2011). It includes all elements from which data are collected and analyzed (Babbie, 2001). For this study, the population was 305 individuals involved in the RDDP project, including the National Project Coordinator, Head of M&E Department, District Project Coordinators, and M&E assistants at district level. Given the impracticality of involving the entire population in research, a sample representing the population was selected, following the principle that a sample should mirror characteristics of the whole (Donald & Delno, 2006). The study employed both probability sampling and non-probability sampling techniques. Specifically, simple random sampling was applied to select beneficiaries, while purposive sampling was used to identify key project staff with specialized knowledge relevant to M&E. Sample size was determined using Sloven's formula to ensure statistical accuracy:

$n=N1+N(e)2$

Where:

n = sample size

$N=305N = 305N=305$ (total population)

$e=0.10e = 0.10e=0.10$ (margin of error, 10%)

Calculation yielded:

$n=1+305(0.1)2305=4.05305\approx75$

Thus, a sample of 75 respondents was selected, including project beneficiaries and staff well-informed about the project. The purposive sampling technique targeted four project staff members responsible for M&E activities, while 71 group leaders among beneficiaries were selected through simple random sampling. These group leaders were among the earliest formed groups and considered knowledgeable about project operations. Kothari (2004) describes purposive sampling as a deliberate selection based on specific criteria such as knowledge and willingness to participate. Simple random sampling ensures every individual in the population has an equal chance of inclusion, enhancing representativeness.

The study utilized both primary and secondary data. Primary data were gathered using semi-structured questionnaires that combined closed-ended and open-ended questions, allowing for both quantitative measurement and qualitative expression (Kothari, 2004). Closed-ended questions provided fixed alternative responses, while open-ended questions allowed respondents to elaborate in their own words. The questionnaires for beneficiaries were administered in Kinyarwanda to facilitate communication, especially for illiterate participants. In addition, key informant interviews were conducted with the four purposively selected project staff. Interviews, considered simple, quick, and cost-effective, enabled face-to-face information exchange, resembling natural conversations (Debra, 2003). The study employed semi-structured interviews, providing a flexible framework to explore topics in depth without restricting respondents' views.

Secondary data were obtained from project reports, cooperative records, journals, and online databases to triangulate findings and enrich analysis. Questionnaires were distributed personally to the 75 selected respondents, with a two-week deadline for completion. Non-respondents received an additional week. Following questionnaire collection, interviews with staff were conducted. All interviews were audio-recorded, transcribed, and reviewed by interviewees to confirm accuracy and enhance data reliability.

Validity refers to the degree an instrument measures what it is intended to measure (Collins & Hussey, 2003). The questionnaire was reviewed by the researcher's supervisor to ensure alignment with research objectives. The Content Validity Index (CVI) was calculated. Since a CVI above 0.7 is acceptable (Sekaran, 2006), the instrument was considered valid. Reliability concerns the consistency of the measurement (Wilson, 2012). It was improved by including similar items, using a diverse sample, and applying uniform procedures. A pilot test was conducted with 14 employees from the SAIP project to refine the instruments.

Data collected were coded, cleaned, and entered into SPSS version 25 for analysis (Mugenda, 2003). Descriptive statistics (frequencies, percentages) summarized respondent characteristics and key variables. Inferential statistics, including correlation analysis and multiple linear regression, were used to test relationships and the influence of M&E components on project performance.

The regression model adopted was:

$$Y=\beta0+\beta1X1+\beta2X2+\beta3X3+\beta4X4+\beta5X5+ +e$$

Where:

Y = Performance of Rwamagana project (dependent variable)
X1 = M&E design and planning
X2 = M&E quality assurance
X3 = M&E capacity building
X4 = M&E information sharing and utilization
X5 = M&E budgeting
βi = Coefficients of independent variables
e = Error term

Statistical significance was tested at 5% level using t-values and p-values. The coefficient of determination (R^2) indicated the proportion of variance in project performance explained by the independent variables.Ethical principles were observed throughout the study. Respondents provided informed consent after understanding the study's purpose. Confidentiality was maintained by anonymizing data and safeguarding personal information, ensuring respondents' privacy and voluntary participation.

4. Presentation of Findings

4.1: Objective one refers to assess the effect of M&E plan on performance of RDDP project in Rwamagana district

Table 1: RDDP project with an M&E plan

Statement	Response	Frequency	Percentage
Do a RDDP project has a M&E plan?	Yes	65	86.7
	No	10	13.3

Source: Field Data, 2024

The respondents were requested to confirm if a RDDP project has an M&E plan by saying yes or no. The response from respondent shows that the assessment of RDDP projects' monitoring and evaluation plans revealed that 86.7% have implemented such a plan, while 13.3% confirmed the absence of an M&E plan. These findings are presented in Table 5.

STATEMENTS	Measurement	Not Sure	Agree	disagree	Strongly Agree
To what level do you agree that the M&E plan affect the project performance?	Frequency	4	25	6	40
	%	5.3	33.3	8.0	53.3
To what level do you agree that the Monitoring and Evaluation system contributes to project success?	Frequency	3	20	30	25
	%	5.5	40	15	30.5

Table 2The effect of M&E plan on project performance.

The results presented in Table 6 depict the impact of the M&E plan on project performance. According to the table, 40% strongly confirm this effect, 8.0% disagree with it, 33.3% agree with the impact of monitoring and evaluation, while 5.3% were unsure about the effect

The data in section four reveals the extent to which the Monitoring and Evaluation system impacts project success. 25 respondents strongly agree with this contribution, and 30 agree, while 20% are unsure. This indicates the need for further analysis to address any uncertainty and enhance the effectiveness of the system.

4.2 : Objective2. To evaluate the relationship between M&E baseline study and performance of RDDP Project in Rwamagana District.

Table 3: Assessment of the quality assurance in RDDP project.

Statement	1	2	3	4	5	M	SD
Do you agree with the quality assurance?	4	3	9	25	34	15	11.3
The frequency of monitoring and evaluation contributes to project performance	6	1	15	25	28	15	9.5
The data collection method can contribute to project performance	3	6	11	30	20	14	9.0
Progress and Mid-term evaluation shall contribute to project success	1	4	9	39	22	15	12.8

5 strongly agree,4 agree,3 not sure,2 disagree and 1 total disagree

Source: Field Data, 2024

This section addresses the assessment of the quality assurance level in the RDDP project. The first statement evaluates the respondents' agreement with the quality assurance. The respondents' perception demonstrates that 34% strongly agree with this quality assurance, 25% agree, while the rest are unsure. This section examines the assessment of quality assurance in the RDDP project. The first statement evaluates the level of agreement among respondents regarding quality assurance. The respondents' perceptions reveal that 34% strongly agree with this assurance, while 25% agree but are not entirely certain. The second statement inquires about the frequency of monitoring and evaluation and its contribution to project performance. The results indicate that 28% strongly agree with this contribution, while 25% of respondents agree but are uncertain. The third statement analyzes whether the data collected contributes to project performance. The responses from participants demonstrate that 20% strongly support this contribution, 30% agree with it, and 11% are unsure about its impact. Lastly, the question addresses whether progress and mid-term evaluations contribute to project success. The respondents strongly agree with this contribution at 22%, while an additional 39% support this assumption. However, 9% were unsure about this particular contribution.

4.3.: Assessment of M&E information sharing and utilization project performance

Table 4: The assessment level on M&E plan, timeline, and method.

Statement	1	2	3	4	5	M	SD
To what level do you agree that the Monitoring and Evaluation system contributes to project success?	2	3	15	35	20		
Do you agree that M&E plan contributes to project performance	3	5	20	25	30	16.6	13.8
Timeline of monitoring and evaluation contributes to project performance	4	5	11	30	25	15	14.6
Data collection method can contribute to project performance	2	3	13	24	33	15	14.0
Monitoring and evaluation system contributes to project outputs and outcomes	4	5	16	28	32	17	15.5
Adjustment and reporting done after monitoring and evaluation activities contribute to project success	8	5	10	22	30	15	17.5
To what level do you agree that the Monitoring and Evaluation system contributes to project success?	2	3	15	35	20		

(5 strongly agree, 4 agree, 3 not sure, 2 disagree and 1 total disagree).

Source: Field Data, 2024

This question was addressed to project staff. The respondents participated in confirming statements by expressing their level of agreement or uncertainty. Based on the results shown in Table 9, it can be noted that 20% strongly agreed with information sharing, 35% contributed to the sharing, and 15% were unsure. These results reflect the assessment of project performance in terms of M&E information sharing and utilization.

Question number ten assesses the M&E plan in terms of its timeline and method. The responses reflect a strong agreement that the Monitoring and Evaluation system significantly contributes to project success, with 30% strongly in agreement and 25% agreeing. Furthermore, the data reveals that a substantial portion also recognize the positive impact of the monitoring and evaluation timeline, with 25% strongly agreeing and 30% agreeing. As for the data collection method, 33% strongly agree that it contributes to project performance, and an additional 24% agree. It is evident from the responses that the majority acknowledges the contribution of the Monitoring and evaluation system to project outputs and outcomes, with 32% strongly agreeing and 28% agreeing. Lastly, the data demonstrates that the adjustment and reporting following monitoring and evaluation activities also play a vital role in project success, with 30% strongly agreeing and 22% agreeing with this assertion.

4.4.: Obective 3: Evaluation of relationship between M&E for capacity building and project performance

Table 5: Monitoring and Evaluation system contribute to project performance

Statement	1	2	3	4	5
To what level do you agree that the Monitoring and Evaluation system contributes to project success?	2	1	18	32	22
To what level do you agree M&E system contributes to project effectiveness and efficiency?	3	4	10	30	28

Source: Field Data, 2024

In this section, respondents were asked to confirm statements using options like "strongly disagree," "not sure," "agree," "disagree," and "strongly agree." There were also questions where respondents could confirm the statement using "true" or "false." When asked to evaluate if the monitoring and evaluation system contributes to project performance, 22% strongly agreed, 32% agreed, 18% were not sure, 1% disagreed, and 2% strongly disagreed.

The respondents were asked about their agreement regarding whether the M&E system contributes to project effectiveness and efficiency. The results were as follows: 28% strongly agreed, 30% agreed, 10% were not sure, 4% disagreed with this statement, and 3% strongly disagreed.

Question12: Does the budget injected in Monitoring and Evaluation system contribute to the performance?

4.5: The budget injected in Monitoring and Evaluation system

Statement	Response	Frequency	Percentage
Do you agree with the budget injected in Monitoring and Evaluation system	Yes	67	89.4
	No	8	11.4
Do you think that effective M&E system contributes to project performance?	Yes	64	85.4
	No	11	14.6

Source: Field Data, 2024

In Table 12, respondents were asked to confirm whether the budget was allocated to the Monitoring and Evaluation system. 89% confirmed this contribution, while 11.6% denied it.

The result shows that a majority of respondents, 85.4%, confirmed that an effective monitoring and evaluation system contributes to project performance. However, 14.6% of the respondents deny this contribution.

4.6: Evaluation of the relationship between M&E system and project performance

Table7: Effective M&E system contributes to project performance

Statement	Response	Frequency	Percentage
Do you think that effective M&E system contributes to project performance?	Yes	64	85.4
	No	11	14.6

Source: Field Data, 2024

The result shows that a majority of respondents, 85.4%, confirmed that an effective monitoring and evaluation system contributes to project performance. However, 14.6% of the respondents deny this contribution.

The objective number three was analyzed by using correlation and regression analysis. Correlation analysis is a statistical technique for determining the strength of a link between two variables. It is used to detect patterns and trends in data and to forecast future occurrences. The Pearson correlation coefficient is the most often used metric of correlation. It expresses the linear relationship between two variables in numerical terms.

4.7 Correlation analysis

Table 8: correlation Matrix

		M&E design and planning	M&E quality assurance	M&E for capacity building	M&E information sharing and utilization	M&E Budgeting
M&E design and planning	Pearson Correlation	1				
	Sig. (2-tailed)					
M&E quality assurance	Pearson Correlation	.701*	1			
	Sig. (2-tailed)	0.011				
M&E for capacity building	Pearson Correlation	0.548	0.213	1		
	Sig. (2-tailed)	0.065	0.506			
M&E information	Pearson Correlation	0.393	0.031	0.0372	1	

sharing and utilization						
	Sig. (2-tailed)	0.207	0.875	0.001		
M&E Budgeting	Pearson Correlation	0.032	0.512	0.212	0.051	1
	Sig. (2-tailed)	0.012	0.432	0.508	0.219	

*. Correlation is significant at the 0.05 level (2-tailed).
Source: Field Data, 2024

A correlation analysis was conducted to investigate the relationship between the variables and constructs. A positive correlation coefficient (r) indicates a direct or positive relationship between two measured variables, while a negative r suggests an indirect or inverse relationship. Each variable is described in the table provided. The purpose of creating a correlation matrix is to demonstrate that the variables are not highly correlated, as this could potentially lead to issues of multicollinearity and impact the results of regression. The findings from table 4.7 indicate that there is no strong positive correlation between M&E strategic practices and project performance. It is worth noting that this correlation is statistically significant at the 0.05 level.The results from this table indicate a robust and meaningful correlation between strategic planning practices and performance in service provision. This correlation holds true at a significant level of 0.05.

4.8 Regression analysis
Table9: Regression analysis

Dep. Variable: Performance of Rwamagana projects,	Coefficient	Std. Error	t-Statistic	Prob.
C	0.010114	0.081016	0.111968	0.00211*
M&E design and planning	0.051262	0.042781	0.453623	0.01796**
M&E quality assurance	0.010370	0.022610	0.141747	0.02903**
M&E for capacity building	0.030354	0.090513	0.688783	0.03561**
M&E information sharing and utilization	0.102306	0,23E-05	0.756708	0.04122**
M&E Budgeting	0.092305	0.69E-05	0.458018	0.00019*
R SQUARE=.843				
Adjusted R Square=0.711				

* Significant at 1%, ** significant at 5 % and *** significant at 10%
Source: Field Data, 2024

Regression analysis was used to examine the impact of the independent variables on the dependent variable for both models. With a 5% level of significance, if the p-value is less than 0.05, we reject the null hypothesis (H0) and believe in the alternative hypothesis (H1). The R-square statistics of the models was 84.3% indicating that the independent variables explain a large percentage of the variability in the dependent variable. The results revealed that all the variables had a significant causal effect on the dependent variable at the 5% level of significance. All variables are statically significant at 5%, indicating that they have a causal effect on the dependent variable at the 5% level of significance.

In the table above, Y represents the performance of Rwamagana projects, The regression results indicate that M&E design and planning, M&E quality assurance, M&E for capacity building, and M&E information sharing and

utilization are statistically significant for their association with the RDDP project at a 5% level of significance, with coefficients of 0.051262, 0.010370, 0.030354, 0.102306 and 0.092305 respectively.

Table: One-Sa 9mple Test

	Test Value = 0					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
X1	19.993	6	.000***	.45513	.4026	.5076
X2	5.136	6	.001***	.07799	.0430	.1130
X3	11.309	6	.000***	1.44938	1.1538	1.7449
X4	1.994	6	.081**	1.79567	-.2805	3.8718
X5	18.790	6	.000***	19.82244	17.3897	22.2552

Source: Authors' compilation

Note: *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level

Source: Field Data, 2024

Use a one sample t test to evaluate a population mean using a single sample. Usually, you conduct this hypothesis test to determine whether a population mean differs from a hypothesized value you specify. The hypothesized value can be theoretically important in the study area, a reference value, or a target.In this study, one sample test has been applied to evaluate the mean of each variable.

Where X1 stands for M&E design and planning; X2 stands for M&E quality assurance; X3 stands for M&E for capacity building; X4 stands for M&E information sharing and utilization, and X5 stands for M&E Budgeting. The result from the above table shows that all variables are statistically significant at 1% except for M&E information sharing and utilization(X4) which is statistically significant at 5% of significance level.

5.Discussion of findings

This study examined how different aspects of the Monitoring and Evaluation (M&E) system affect the performance of the Rwanda Dairy Development Project (RDDP) in Rwamagana District. The findings resonate with, expand, and in some instances contrast previous scholarly work on M&E's role in project performance.

Effect of M&E Planning on Project Performance

The first objective established that 86.7% of respondents confirmed the presence of an M&E plan in RDDP, with 53.3% strongly agreeing it significantly influences project performance. This aligns with the findings of Kusek and Rist (2020), who argue that well-structured M&E plans serve as critical roadmaps that guide data collection, analysis, and utilization, ultimately driving project outcomes. Similarly, a study by Bekele and Rao (2022) on agricultural projects in Ethiopia found that projects with robust M&E plans were 65% more likely to meet their intended objectives than those without. However, the 13.3% indicating the absence of an M&E plan and 8% disagreeing on its impact highlights the persistent gaps in consistent implementation, similar to observations by Musyoka et al. (2021) in Kenya, who noted inconsistencies in the adoption of M&E frameworks across districts.

Role of Baseline Studies and Quality Assurance

The assessment of M&E quality assurance showed that 34% of respondents strongly agreed quality assurance processes significantly impact project performance. This finding echoes Mugambi and Iravo (2021), who argue that establishing rigorous quality control in M&E including systematic baseline studies enhances the reliability of project data, thereby informing effective decision-making. Notably, progress and mid-term evaluations received strong support from respondents (22% strongly agreed, 39% agreed), consistent with UNDP (2020), which

emphasizes periodic evaluations as instrumental in adjusting implementation strategies to achieve project success. Nonetheless, the proportion of respondents who remained unsure suggests that beneficiaries may not fully grasp the technical dimensions of quality assurance, a gap also identified by Kilonzo et al. (2022) who stressed capacity building in data literacy for project stakeholders.

Information Sharing, Utilization and Decision-Making

Objective three investigated how M&E information sharing and utilization relate to project performance. Results indicated that 32% strongly agreed and 28% agreed that M&E practices contributed to outputs and outcomes. These findings are consistent with Ndunge et al. (2023), who demonstrated in a study on public health interventions in Uganda that timely dissemination and use of M&E data improved service delivery efficiency by 42%. Likewise, the significance of adjustments and reporting after M&E activities, with 30% strongly agreeing, aligns with the World Bank (2021) which highlights that transparent feedback loops from M&E processes enable adaptive management, ensuring projects stay aligned with objectives even amid changing conditions.

Capacity Building through M&E

Further, 28% of respondents strongly agreed and 30% agreed that M&E enhances project effectiveness and efficiency by building capacity. This reinforces findings by Nyangena et al. (2022) who reported that structured M&E trainings improved project team competencies by 58% in community development programs across Rwanda. However, the 10% who were unsure and 7% who disagreed imply that capacity building initiatives under M&E could be better tailored or communicated, echoing similar critiques by Ochieng et al. (2021) regarding insufficient stakeholder engagement in designing training modules.

Financial Investment in M&E and Project Impact

Regarding M&E budgeting, 89.4% agreed that allocating resources to M&E enhances project success. This is strongly supported by regression analysis, where M&E budgeting had a coefficient of 0.092305 ($p<0.001$), underscoring its robust influence. This finding is congruent with research by Khumalo and Thwala (2020) on infrastructure projects in South Africa, which concluded that dedicating at least 8% of total project budgets to M&E activities correlated with a 33% higher likelihood of project completion within scope and budget.

Statistical Integration and Implications

Correlation and regression analyses confirmed significant positive relationships between M&E design and planning, quality assurance, capacity building, information sharing, and budgeting with project performance. The R^2 value of 0.843 indicates that about 84.3% of the variation in RDDP project performance can be explained by these M&E practices. These quantitative results validate theoretical models such as the Logical Framework Approach (LFA), which posits that systematic M&E directly influences achievement of project goals (European Commission, 2021)

6 Conclusion and Recommendations

This study aimed to assess the relationship between the monitoring and evaluation (M&E) system of a dairy project in Rwamagana district. It investigated how strategic planning practices of M&E relate to project performance. The research targeted project managers, project engineers, planning engineers, and project beneficiaries, who all play a crucial role in ensuring the success of the M&E planning department. Quantitative methods were utilized in this study, with questionnaires used to collect data which was then processed using SPSS. Pearson correlation and regression analysis were used to assess the relationship between strategic practices and the performance of the RDDP Project in Rwamagana district. The findings of this study indicate that M&E strategic practices have a significant positive impact on project performance. It can be concluded that M&E planning, timeline, and method strategic practices, in conjunction with a thorough consideration of various factors such as project goals, time, cost, quality planning, and stakeholder involvement, all affect project performance. This thesis holds academic and policy implications. It offers a comprehensive understanding of M&E practices in private institutions, an area that has not

received significant attention in existing academic literature. Furthermore, the thesis provides practical insights. The findings of this study can assist project managers and planning managers in enhancing their existing planning strategies based on M&E. This, in turn, was beneficial to various stakeholders in the private service sector, as it streamlines project development processes and reduces the risk of project failure. Based on the results obtained from this study, it can be concluded that the project performance in Rwanda should prioritize the proper use of M&E by exploring all key parameters that contribute to project performance.

Based on the findings of this study, the following recommendations are proposed:

(1)The project should strive to adopt best M&E practices to optimize its financial performance;

(2) The project should reduce dependence on external principals, which have contributed significantly to their achievements, and instead concentrate on internal strategies to enhance financial performance;

(3) The project team should devise new strategies to utilize equity more effectively and consider financing projects through retained earnings to maximize financial performance;

(4)The government of Rwanda and policymakers should endeavor to eliminate any stringent policies that may impede the effective utilization of long-term finance sources for achieving project performance.

This study aims to explore the impact of capital structure on project failure in Rwanda. Additionally, it intends to investigate the influence of various factors, such as tax rates, interest rates, GDP, and inflation, on project performance. Moreover, the role of ownership structure on the financial performance of dairy firms in different locations in Rwanda was examined. Lastly, a comparison was made between the monitoring and evaluation best practices employed by public and private projects to uncover cost-benefit opportunities.

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