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Evaluating the Effectiveness of Monitoring and Evaluation in Public Health Projects: A Case Study of the Ministry of Health's Malaria Elimination Project Phase 4 in Lusaka District

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Abstract

Public health projects play a critical role in improving population health outcomes, especially in low and middle-income countries where disease burdens are high and health system resources are often limited. Despite significant investments and interventions, the outcomes of public health projects such as the MEP vary across regions and populations. One of the critical factors influencing project success is the effectiveness of monitoring and evaluation (M&E) systems. This research sought to evaluate the effectiveness of monitoring and evaluation in public health projects. The study was addressed by the following objectives; To establish the M&E activities implemented in the Malaria elimination project under the Ministry of Health; To assess the effectiveness of M&E tools and frameworks in tracking project performance; To identify challenges faced in the implementation of M&E activities. A sample size of 80 respondents was selected to help provide data, and the research utilized both qualitative and quantitative methods, surveys and focus group discussions, and the research design used was the case study research design. Key findings highlighted a broad range of challenges such as financial challenges where 18.75% showed inadequate funding for M&E activities, 30%showed delayed disbursement of project funds, 23.75% showed limited budget for data. collection tools, 21.25% showed donor dependency for M&E financing, and 6.25% showed no financial challenges experienced. Other challenges were technical challenges where 15% had poor internet or network connectivity, 27% had inadequate data collection tools or software, 28% had frequent system breakdowns (e.g., DHIS2), 21% had inability to use digital tools effectively, and 9% had no major technical challenges faced. Despite these challenges, the respondents gave positive feedback on the malaria elimination projects implemented in their areas. This study shows the various M&E activities implemented in the Malaria elimination project under the Ministry of Health, the effectiveness of M&E tools and frameworks in tracking project performance. The findings suggest that there is need of ensuring the effective implementation of the M&E activities, using the right effective and efficient tools so as to ensure high quality data generation and effective implementation of M&E in public health. Therefore, project implementers, stakeholders and the government should ensure efficient planning and implementation of M&E tools in health projects.

Keywords: Monitoring, Evaluation, Public Health Projects, Malaria Elimination

1. Introduction

Public health projects play a critical role in improving population health outcomes, especially in low and middle-income countries where disease burdens are high and health system resources are often limited. Despite significant investments and interventions, the outcomes of public health projects such as the MEP vary across regions and populations. One of the critical factors influencing project success is the effectiveness of monitoring and evaluation (M&E) systems. Monitoring and evaluation are essential management tools that provide evidence on project progress, highlight areas of improvement, and inform strategic decisions. In public health, M&E systems support program accountability, resource allocation, and performance measurement (WHO, 2017) [18]. Monitoring and Evaluation (M&E) have emerged as essential pillars in the effective implementation of public health interventions globally. As public health challenges continue to evolve, the need for

systematic approaches to track program performance, measure outcomes, and inform policy decisions has gained prominence (WHO, 2021) [17]. Globally, malaria remains one of the most pressing public health concerns, with more than 240 million cases and over 600,000 deaths recorded annually (World Health Organization, 2022) [16]. In response, global initiatives such as the WHO's Global Technical Strategy for Malaria 2016–2030 have emphasized robust M&E systems as critical tools for disease control and elimination. At the regional level, Africa bears a disproportionate share of the global malaria burden, accounting for over 90% of all malaria cases and deaths (WHO, 2022) [16]. The African Union and other stakeholders have initiated strategies like the African Leaders Malaria Alliance (ALMA), which not only aim to reduce transmission but also promote the use of real-time data, accountability dashboards, and integrated M&E systems to support malaria interventions (ALMA, 2020). Despite these efforts, the effectiveness of M&E frameworks remains inconsistent across countries, often hindered by inadequate data quality, weak health information systems, and limited human and financial resources (Osei *et al*., 2021). In Zambia, malaria continues to be a major public health issue, particularly in rural and peri-urban areas. According to the Zambia National Malaria Elimination Strategic Plan 2022–2026, the country aims to eliminate malaria by 2030 through targeted vector control, improved case management, and the strengthening of M&E systems (Ministry of Health, 2022) [9]. The Ministry of Health (MoH), through the National Malaria Elimination Centre (NMEC), has implemented various interventions, including the distribution of insecticide treated nets (ITNs), indoor residual spraying (IRS), and the use of artemisinin-based combination therapies (ACTs). These strategies have led to notable reductions in malaria morbidity and mortality. For instance, between 2006 and 2012, the prevalence of malaria parasites in children under five decreased from 22% to 15%, and severe anemia rates dropped from 14% to 9% (Ibid). However, recent evaluations have raised concerns regarding the consistency and reliability of M&E activities in Zambia's health sector (Mwape *et al*., 2023). As such, there is a need to critically assess the effectiveness of the M&E systems deployed under the Malaria Elimination Project to ensure that they contribute meaningfully to the national goal of malaria eradication.

1.1 General Objective

Evaluating the effectiveness of monitoring and evaluation in public health projects: a case study of the ministry of health's malaria elimination project in Lusaka District.

1.1.1 Specific Objectives

1. To establish the M&E activities implemented in the Malaria elimination project under the Ministry of Health.
2. To assess the effectiveness of M&E tools and frameworks in tracking project performance.
3. To identify challenges faced in the implementation of M&E activities.

1.2 Theoretical Framework

This study will be guided by the Results-Based Management (RBM) Theory and the Theory of Change (ToC). The Results Based Management is a management strategy that focuses on performance and achievement of outputs, outcomes, and impacts. It emphasizes defining clear 4 objectives, measuring results, and integrating lessons learned into decision-making (UNDP, 2019). In the context of the Malaria Elimination Project, RBM helps assess whether the planned activities an allocated resources lead to desired and meaningful health outcomes, such as increased malaria testing, enhanced treatment coverage, and ultimately, reduced malaria incidence and mortality. The RBM approach provides a logical framework for evaluating inputs, processes, outputs, and impacts of the MEP's interventions. It also emphasizes accountability and continuous improvement, aligning well with the goals of M&E systems in public health and promotes a culture of learning and adaptation by requiring continuous feedback loops, where monitoring data is routinely analyzed and used to refine strategies and reallocate resources. A key strength of RBM lies in its alignment with accountability mechanisms. It ensures that each stage of the project life cycle, planning, implementation, monitoring, and evaluation, is oriented towards achieving results. For M&E systems, this means not only tracking whether interventions are delivered as planned but also determining whether those interventions are effective and efficient in achieving desired health outcomes. RBM thus serves as a critical framework for linking project activities to public health improvements, and for demonstrating the value of M&E in enhancing project transparency and impact (Mayne, 2017). The Theory of Change (ToC) is a theory that offers a comprehensive explanation of how and why a desired change is expected to happen in a particular context. It maps out the logical sequence between inputs, activities, outputs, outcomes, and impacts, while identifying assumptions and external factors that might influence project success (Anderson, 2015). Applying ToC to this study will help trace the causal pathways of the MEP, understand how M&E supports each stage of implementation, and assess whether data is used effectively to inform changes. This theory is particularly useful for evaluating complex public health interventions with multiple stakeholders and dynamic implementation environments. Applying ToC to the Malaria Elimination Project helps to uncover the underlying logic of the project, how specific activities like community sensitization, insecticide-treated net distribution, and indoor residual spraying are expected to lead to broader health outcomes. It also enables stakeholders to identify key risks, assumptions, and external influences (e.g., climate, migration, or political stability) that could affect the success of interventions. Importantly, ToC emphasizes the use of empirical evidence to validate the assumed pathways of change. This approach supports real-time learning and adaptive management, as M&E data is analyzed not only to measure progress but also to test the validity of the project logic. For example, if malaria incidence remains unchanged despite increased vector control efforts, ToC prompts an investigation into possible explanatory factors, such as insecticide resistance or gaps in coverage (Funnell and Rogers, 2015). Together, RBM and ToC provide a robust theoretical lens to evaluate the effectiveness of M&E in the Malaria Elimination Project. These theories provide the basis for evaluating how monitoring and evaluation (M&E) systems contribute to the performance of public health programs, focusing on outputs, outcomes, and impact. They support the analysis of how data collection, stakeholder engagement, and decision-making processes contribute to improved health outcomes

and overall program performance. The frameworks also help link M&E effectiveness to project performance by identifying whether the data generated leads to actionable insights and whether those insights translate into improved health outcomes (OECD, 2015). By applying these theories, the study will assess whether the MEP's M&E systems are effectively generating actionable insights, whether these insights are used to guide interventions, and whether the use of M&E ultimately contributes to better health outcomes. In doing so, the theoretical frameworks help bridge the gap between data generation and program impact, reinforcing the value of M&E in public health programming. It also helps the study gain a structured lens for analyzing how M&E practices influence project design, execution, learning, and results.

2. Literature Review

2.1 M&E activities being implemented in the Malaria elimination project

Malaria remains a significant public health challenge in Zambia. The Ministry of Health (MoH), through the National Malaria Elimination Centre (NMEC), has prioritized robust Monitoring and Evaluation (M&E) systems to track progress, inform policy decisions, and ensure accountability in malaria elimination efforts. The National Malaria Elimination Strategic Plan (NMESP) 2022–2026 outlines Zambia's roadmap toward malaria elimination, emphasizing the importance of M&E in achieving this goal. The plan aims to reduce malaria incidence and mortality by 90% by 2026. Key M&E components include; enhanced surveillance (strengthening routine and case-based surveillance systems to detect and respond to malaria cases promptly, data management (improving data quality and utilization through the District Health Information System 2 (DHIS2)), and Performance Monitoring: Regularly assessing program effectiveness through indicators such as case incidence and treatment outcomes (NMEC, 2022) [13]. Zambia's surveillance system has evolved to incorporate both passive and active case detection methods. Health facilities report malaria cases using standardized forms, which are then entered into DHIS2. This system enables real-time monitoring of malaria trends and facilitates prompt responses to outbreaks. However, challenges remain in data quality. Issues such as incomplete reporting and delays in data submission hinder effective decision-making. Continuous data quality assessments and training for health workers are essential to address these challenges (NMEC, 2022) [13]. Reactive Case Detection (RCD) is a strategy employed in low-transmission areas to identify and treat asymptomatic malaria cases. When a malaria case is confirmed, health workers conduct follow-up visits to the patient's household and neighboring homes to test and treat individuals for malaria. This approach has been effective in interrupting transmission chains. A study in Southern Province demonstrated the effectiveness of RCD in reducing malaria prevalence. The study recommended the expansion of RCD to other low-transmission areas as part of the elimination strategy (Silumbe *et al*., 2015) Community Health Workers (CHWs) play a crucial role in malaria surveillance at the community level. They are trained to conduct malaria tests, provide treatment, and report cases to health facilities. This approach enhances early detection and treatment of malaria cases, especially in remote areas. The integration of CHWs into the surveillance system has improved data collection and reporting, contributing to more accurate assessments of malaria burden (NMEC, 2022) [13]. To strengthen M&E capabilities, Zambia has invested in capacity-building initiatives. Workshops and training programs have been conducted to equip health workers with skills in data collection, analysis, and utilization. These efforts aim to enhance the quality of data and the effectiveness of malaria interventions. The adoption of electronic data reporting tools, such as DHIS2, has enhanced data collection and analysis. Mobile phone-based reporting has also been piloted to improve real-time data transmission from remote areas. These technological advancements facilitate timely decision-making and resource allocation (NMEC, 2023).

Despite progress, Zambia faces challenges in its malaria elimination efforts, including data Quality Issues: Inconsistencies and inaccuracies in data reporting hinder effective decisionmaking, resource Constraints (limited financial and human resources affect the implementation of M&E activities), and integration of private sector data (underreporting from private health facilities affects data representativeness). To address these issues, recommendations include strengthening data quality (assessments and regular audits and feedback mechanisms to improve data accuracy), enhancing Capacity Building: Continuous training for health workers on M&E tools and practices, and fostering Partnerships (engaging private sector and community stakeholders in malaria control efforts). Zambia's commitment to malaria elimination is evident through its strategic planning and implementation of robust M&E systems. While challenges persist, continuous improvement in data quality, capacity building, and stakeholder engagement will be crucial in achieving the country's malaria elimination goals.

2.2 Effectiveness of M&E tools and frameworks in tracking project performance

Monitoring and Evaluation (M&E) are critical components in project management, ensuring that objectives are met efficiently and effectively. In Zambia, the implementation of M&E systems has been pivotal in enhancing transparency, accountability, and evidence-based decision-making across various sectors. Zambia has made significant strides in institutionalizing M&E through the development of national frameworks and policies. The National Monitoring and Evaluation Policy provides a comprehensive framework for measuring and tracking progress in the implementation of policies, programs, and projects. It emphasizes the importance of integrating M&E into the planning and budgeting processes to enhance accountability and transparency (Republic of Zambia, 2022) [14]. However, challenges persist in the effective implementation of these frameworks. A gap analysis highlighted issues such as inadequate legal frameworks, limited capacity, and weak coordination among stakeholders, which hinder the effectiveness of M&E systems in Zambia (Chanda, 2020) [3]. A case study presented by Dr. Dylan Bould highlighted the challenges encountered in the M&E of a health partnership project in Zambia. The project faced difficulties in demonstrating positive change from the data collected, as the goal-level indicators did not reflect the anticipated improvements. This discrepancy emphasized the need for robust M&E systems that can accurately capture project outcomes and inform decision-making (Bould, 2016) [2]. A

study conducted on the monitoring and evaluation of power transmission projects in ZESCO revealed that while M&E practices were in place, there were significant gaps in their implementation. The study identified issues such as inadequate data collection, lack of skilled personnel, and insufficient stakeholder engagement, which affected the effectiveness of M&E in tracking project performance (Mwansa, 2019) [11]. An assessment of construction project performance in Zambia, focusing on public high schools constructed between 2006 and 2016, revealed that the quality of built infrastructure was often subpar, with resources spent not matching the lifespan of the structures. The study emphasized the need for improved quality management and M&E practices to enhance project outcomes in the education sector (Mulenga, 2020) [12]. A study evaluating the effect of online project tracking on project success in NGOs in Zambia found that the adoption of online tracking tools improved project planning, implementation, and evaluation. The research recommended that NGOs invest in online project tracking systems to enhance project performance and accountability (Chibomba and Mwale, 2019) [4]. Zambia has placed significant emphasis on monitoring, evaluation, and learning (MEL) as part of its efforts to build climate resilience across various sectors. The Ministry of Green Economy and Environment initiated MEL system development consultations to ensure effective decision-making and performance optimization in environmental projects (NAP Global Network, 2023). Despite the progress made in implementing M&E systems in Zambia, several challenges persist: Capacity Constraints: Limited skilled personnel and inadequate training opportunities hinder the effective implementation of M&E activities. Resource Limitations: Insufficient funding for M&E activities affects data collection, analysis, and reporting processes. Data Quality Issues: Inaccurate and incomplete data compromise the reliability of M&E findings and decision-making (Mwansa, 2019) [11]. To address these challenges, the following recommendations are proposed: Capacity Building: Invest in training programs to enhance the skills of M&E personnel across sectors. Adequate Funding: Allocate sufficient resources for M&E activities to ensure comprehensive data collection and analysis. Data Management Systems: Develop and implement robust data management systems to improve data quality and accessibility. Stakeholder Engagement: Foster collaboration among stakeholders to promote ownership and accountability in M&E processes. Monitoring and Evaluation are essential tools for tracking project performance and informing decision-making in Zambia. While significant progress has been made in institutionalizing M&E frameworks across various sectors, challenges such as capacity constraints, resource limitations, and data quality issues persist. Addressing these challenges through targeted interventions will enhance the effectiveness of M&E systems and contribute to improved project outcomes in Zambia.

2.3 Challenges faced in the implementation of M&E activities

Zambia's monitoring and evaluation (M&E) systems face significant institutional and policy-related challenges. The Zambia Institute of Policy Analysis and Research (ZIPAR) has linked the country's fiscal issues to weak M&E systems, which have opened doors for resource wastage and misappropriation. The lack of strong M&E systems in budgeting, financing, planning, procurement, and development project implementation has been identified as a critical issue (Zambia Monitor, 2024). Furthermore, the analysis of Zambia's whole-of-government M&E system reveals that at all levels, national, line ministry, provincial, and district, M&E arrangements and practices are poor. Both the supply and demand sides of the country's M&E system are unable to provide stakeholders with the required and adequate information to inform critical development processes, such as policymaking, decision-making, planning, budgeting, resource allocation, and advocacy (UNISA Institutional Repository, 2020). Human resource limitations significantly impact the effectiveness of M&E activities in Zambia. In the education sector, a study in Kabwe district identified challenges such as minimal frequency of internal M&E, head teachers' multiple roles, and lack of training in M&E processes. These issues result in M&E being perceived as fault-finding rather than a constructive process (Daka and Lungu, 2022) [7]. In the health sector, the Churches Health Association of Zambia (CHAZ) notes challenges including staff not understanding how to complete reports, lack of handovers when staff leave, incomplete source documents, and M&E data management and reporting not being given due recognition and priority (CHAZ, 2019). Data quality and management are critical for effective M&E. However, Zambia faces challenges such as fragmented and inadequate Information Communication Technology (ICT) systems for supporting M&E processes. M&E systems and capabilities remain weak and fragmented across Ministries, Provinces, and other spending agencies, contributing to weak monitoring systems (Zambia Monitor, 2024). In the health sector, the absence of a fully functioning prioritization system and the lack of real-time data collection methods hinder the evaluation of health research priority-setting processes. This calls for integrating evaluation in the prioritization and monitoring process to ensure that the required information is collected (Health Research Policy and Systems, 2018). Zambia's diverse geography and varying socio-economic conditions present logistical challenges in conducting M&E activities. Accessing remote and hard-to-reach areas is difficult due to lack of basic infrastructure such as roads and communication networks. During the rainy season, certain areas become virtually inaccessible, complicating logistical efforts. Additionally, cultural sensitivities and language barriers can pose significant challenges, particularly when sensitive topics are involved or when there is a language barrier between evaluators and participants (M31 Research, 2024). In Kabwe district, the internal monitoring and evaluation of teaching in secondary schools face challenges such as minimal frequency of M&E, head teachers' multiple roles, and lack of training in M&E processes. The study recommends training head teachers in educational management and administration, increasing the frequency of internal M&E, and introducing peer-to-peer monitoring (Daka and Lungu, 2022) [7]. The health sector's M&E system plays a significant role in Zambia's poverty reduction agenda. However, the organizational and management structure of the Ministry of Health is complex, with structures ranging from the national level to community levels. This complexity can hinder effective M&E practices, especially when there is a lack of coordination and communication across different levels (Science and

Education Publishing, 2917). In the energy sector, ZESCO, Zambia's largest utility company, lacks a prescribed guide for monitoring and evaluating power transmission projects. The absence of uniformity in methods used for different projects and the lack of support from ZESCO management for the M&E unit have been identified as significant challenges. The study recommends developing a time and scope M&E framework for power transmission line projects and capacitating directors and senior managers on the importance of M&E (Sepeti, 2016) [15]. To address the challenges identified, the following recommendations are proposed: Strengthening Institutional Frameworks: Enhance the integration of M&E systems into national development plans and budgeting processes to ensure coherence and effectiveness. Capacity Building: Invest in training and development programs for M&E personnel across various sectors to improve skills and competencies. Improving Data Management: Develop and implement standardized data collection and management systems to ensure data quality and reliability, and Enhancing Coordination: Foster collaboration among different stakeholders, including government agencies, NGOs, and community organizations, to improve M&E practices. Addressing Logistical Challenges: Implement innovative logistical solutions to access remote areas and consider cultural sensitivities and language barriers in M&E activities. Implementing effective Monitoring and Evaluation activities in Zambia is fraught with challenges, including institutional and policy-related issues, capacity constraints, data quality and management problems, and logistical difficulties. Addressing these obstacles requires a multifaceted approach that encompasses strengthening institutional frameworks, capacity building, and improving data management, enhancing coordination among stakeholders, and addressing logistical challenges. By adopting these strategies, Zambia can enhance the effectiveness of its M&E activities, leading to improved program outcomes and accountability.

2.4 Literature Gap

From the reviewed literature, several important research gaps can be identified. Although digital platforms like DHIS2 and NISDCP have been implemented, there is limited empirical research comparing their effectiveness, usability, and scalability across different country contexts. For instance, while China's digital tools were instrumental in achieving elimination, their adaptability to low-resource settings like Zambia or Ghana remains underexplored. Both Ghana and Zambia have adopted RCD, but its long-term sustainability, cost-effectiveness, and operational challenges are not sufficiently addressed in the literature. Despite isolated successes, especially in Ghana, the integration of private health providers and informal sectors into M&E frameworks remains weak. There is a need for systematic research on how to standardize, regulate, and incorporate private-sector data into national malaria surveillance systems. While capacity-building initiatives are being implemented, there is limited evidence on the impact of these programs on M&E performance, particularly regarding data accuracy, timely reporting, and decision-making at district and community levels. There is a need for empirical studies that critically examine the underlying structural and systemic barriers that cause capacity limitations in M&E implementation, particularly in Sub-Saharan Africa. The literature reviewed demonstrates the growing recognition of M&E as a strategic tool in project and policy management across countries. However, significant gaps remain in both research and practice. Future studies should move beyond system design and implementation to critically assess how and why M&E systems succeed or fail. There is an urgent need for interdisciplinary, context-sensitive research that not only identifies technical weaknesses but also engages with institutional and behavioral dimensions of M&E. There is a lack of cross-country comparative studies to identify best practices and contextual factors that influence M&E success across nations with similar socio-economic profiles (e.g., Zambia vs. Namibia, or Malaysia vs. Ethiopia). While capacity-building initiatives are being implemented, there is limited evidence on the impact of these programs on M&E performance, particularly regarding data accuracy, timely reporting, and decision-making at district and community levels. Despite isolated successes, especially in Ghana, the integration of private health providers and informal sectors into M&E frameworks remains weak. There is a need for systematic research on how to standardize, regulate, and incorporate private-sector data into national malaria surveillance systems. There is a need for studies that critically assess how M&E systems incorporate (or fail to incorporate) gender and equity considerations in planning, implementation, and reporting. Overall, while the existing literature offers a wide-ranging assessment of M&E implementation challenges and practices, it tends to focus on surface-level constraints without adequately exploring deeper systemic and contextual factors. Key gaps remain in understanding the integration of M&E into governance, the role of digital technologies, sectoral comparisons, stakeholder engagement dynamics, and equity-focused evaluation. Addressing these gaps through focused empirical research could significantly contribute to the development of more robust, contextually grounded, and sustainable M&E systems, particularly in African countries like Zambia.

3.1 Research Methods

This study adopted a mixed-methods case study design, integrating both qualitative and quantitative approaches. The case study design was ideal for in-depth exploration of complex phenomena within their real-life context. The mixed-methods approach allowed triangulation of data and enhances the validity and comprehensiveness of findings (Creswell and Plano Clark, 2017) [6].

3.2 Target Population

The study's target population included, MoH staff involved in the Malaria Elimination Project at national and district levels. Monitoring and evaluation officers within MoH and partner organizations, health workers at facilities implementing malaria interventions, and the beneficiaries of the Malaria Elimination Project (e.g., community members in malaria-endemic districts) (Beck and Polit, 2017) [1].

3.3 Sampling Design

For this study, a purposive sampling technique was used for qualitative data collection to ensure inclusion of knowledgeable and experienced stakeholders. For quantitative data collection (survey), stratified random sampling was employed to ensure representation across different areas and health facility levels (Kumar, 2019) [8].

3.4 Sample Size Determination
A well-calculated sample size helped in minimizing errors and enhancing the credibility of findings (Masuku and Singh, 2014) [10]. A sample of 60 respondents was targeted for surveys, distributed proportionally across selected areas. For qualitative interviews, 15–20 key informants were interviewed until thematic saturation is reached. The total number of targeted participants was approximately 80.

3.5 Data collection methods
This study utilized the mixed method research design that aimed at collecting both qualitative and quantitative data from the participants. The data collection methods utilized in this study were structured surveys (questionnaires) and focus group discussions. This method helped the researcher to gather statistical information and also delve into the lived experiences of the beneficiaries in the communities (Creswell, 2014) [5].

3.6 Data analysis
The data analysis tools used in this study were data visualization tools like Microsoft Excel, and the statistical Software such as STATA.

4. Findings and Results
4.1 Background characteristics of the respondents

Table 4.1.1: Sex of Respondents

Sex of Respondent	Freq.	Percent
Male	38	47.5
Female	42	52.5
Total	80	100

Source: Primary Data, 2025.

The table above shows the sex of the respondents as being 47.5% male and 52.5% female.

Table 4.1.2: Age of the Respondents

Age	Freq.	Percent
20-30yrs	12	15
31-40yrs	22	27.5
41-50yrs	23	28.75
51-60yrs	13	16.25
Above 60yrs	10	12.5
Total	80	100

Source: Primary Data, 2025.

The table above illustrates the age distribution of the respondents. 15% ranged from 20-30 years, 27.5% ranged from 31-40 years, 28.75% ranged from 41-50 years, 16.25% ranged from 51-60 years, while 12.5% were above 60 years.

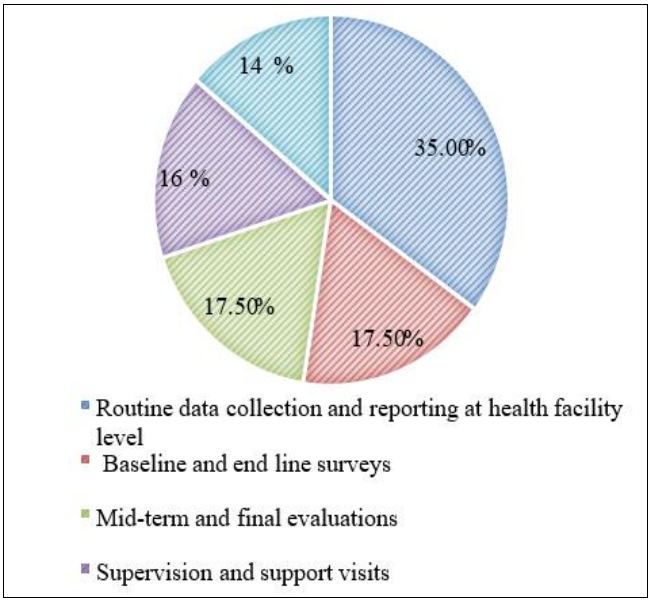
Table 4.1.3: Highest level of education

Highest level of education	Freq.	Percent
Diploma/Certificate	27	33.75
Bachelors' Degree	37	46.25
Masters' Degree	12	15
PhD	4	5
Total	80	100

Source: Primary Data, 2025.

The table presents the highest level of education of the respondents. 33.75% attained Diplomas/Certificates, 46.25% attained Bachelor's Degrees, 15% attained Mater's Degrees, and 5% attained PhDs.

4.2 M&E activities being implemented in the Malaria elimination project



Source: Primary Data, 2025.

Fig 4.2.1: Types of M&E activities being implemented in Malaria Elimination Projects

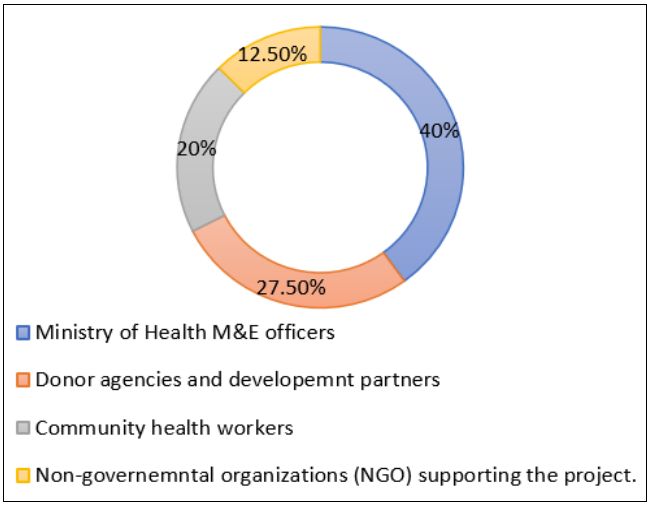
The figure above displays the types of M&E activities implemented in Malaria Elimination Projects. 35% showed routine data collection and reporting at health facility levels, 17.5% showed baseline and end line surveys, another 17.5% showed mid-term and final evaluations, 16% showed supervision and support visits, while 14% showed that they implemented community feedback and participatory monitoring.

Table 4.2.2: How frequent M&E activities are conducted within the projects

How Frequent	Freq.	Percent
Monthly	22	27.5
Quarterly	21	26.25
Bi-annually	14	17.5
Annually	14	17.5
On an ad-hoc basis	9	11.25
Total	80	100

Source: Primary Data, 2025.

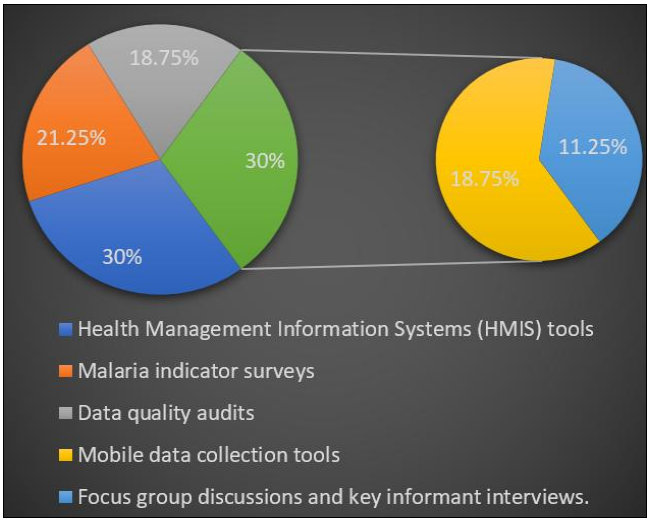
The table shows how frequent M&E activities are conducted within the projects. 27.5% showed that the activities were implemented monthly, 26.25% showed that activities were implemented quarterly, 17.5% showed that activities were implemented bi-annually, another 17.5% showed that activities were implemented annually, while the remaining 11.25% showed that activities were being implemented on an ad-hoc basis depending on donor requirements.



Source: Primary Data, 2025.

Fig 4.2.3: Key stakeholders involved in implementing M&E activities

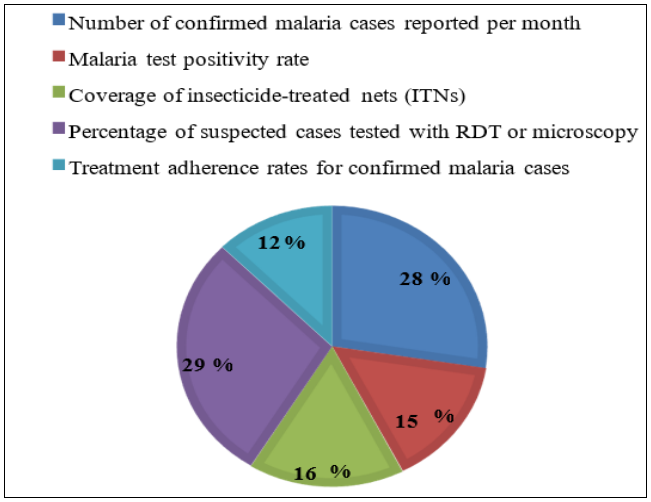
The above figure shows the key stakeholders involved in implementing M&E activities. 40% being the Ministry of Health M&E officers, 27.5% being the donor agencies and development partners, 20% being the community health workers, and 12.5% being the Non-Governmental Organizations supporting the projects.



Source: Primary Data, 2025.

Fig 4.2.4: Tools or methods used to monitor and evaluate malaria interventions

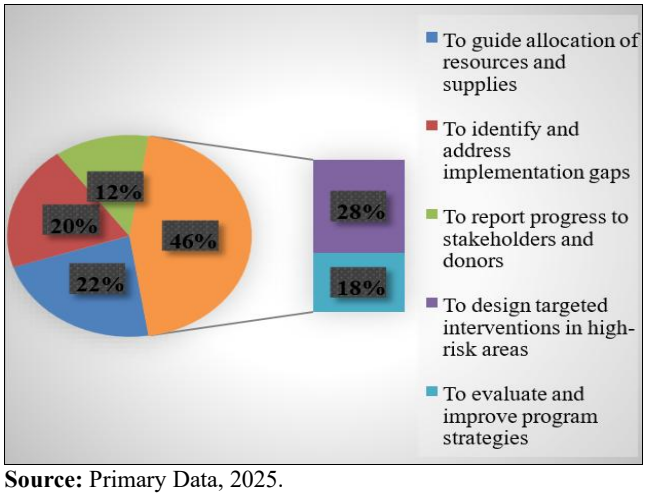
Above is a chart representing the tools or methods used to monitor and evaluate malaria interventions. 30% showed Health Management Information Systems (HMIS) tools, 21.25% showed Malaria indicator surveys, 18.75% showed data quality audits, another 18.75% showed mobile data collection tools, while 11.25% showed focus group discussions and key informant interviews.



Source: Primary Data, 2025.

Fig 4.2.5: Indicators commonly used to monitor the progress of malaria elimination efforts

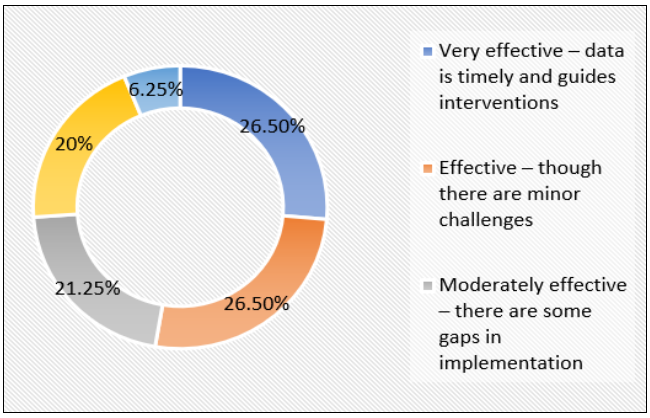
The chart above shows the indicators commonly used to monitor the progress of malaria elimination efforts. 28% are number of confirmed malaria cases reported per month, 15% are malaria test positivity rate, 16% are coverage of insecticide treated nets (ITNs), 29% are percentage of suspected cases tested with RDT or microscopy, and 12% are treatment adherence rates for confirmed malaria cases.



Source: Primary Data, 2025.

Fig 4.2.6: How data from M&E activities is utilized in decision-making within the Malaria Elimination Project

The above chart illustrates how data from M&E activities is utilized in decision making within the Malaria Elimination Project. 22% used it to guide allocation of resources and supplies, 20% used it to identify and address implementation gaps, 12% used it to report progress to stakeholders and donors, 28% used it to design targeted interventions in high-risk areas, and 18% used it to evaluate and improve program strategies.

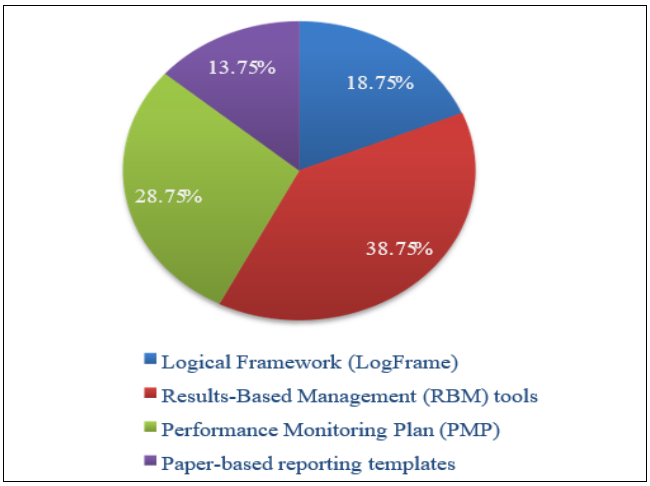


Source: Primary Data, 2025.

Fig 4.2.7: Effectiveness of the current M&E activities in achieving the objectives of the malaria elimination project

Above is an illustration of the effectiveness of the current M&E activities in achieving the objectives of the malaria elimination project. 26.25% were very effective – data is timely and guides interventions, another 26.25% were effective – though there are minor challenges, 21.25% were moderately effective – there are some gaps in implementation, 20% were ineffective – data is underutilized or delayed, and 6.25% were unsure – lack of knowledge about overall effectiveness.

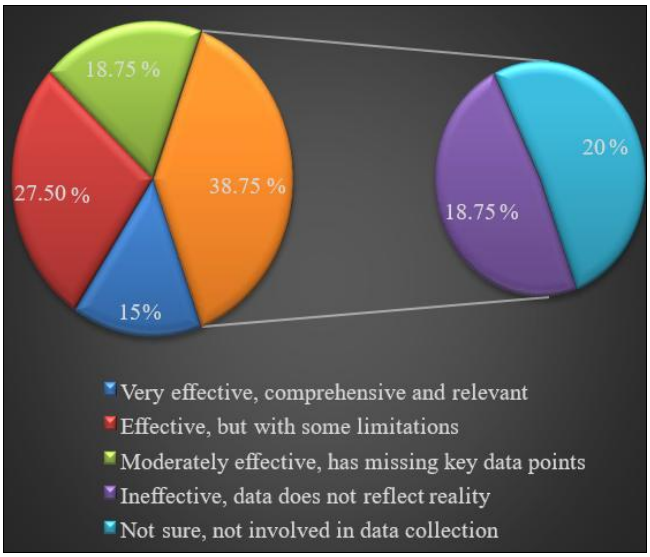
4.3 Effectiveness of M&E tools and frameworks in tracking project performance



Source: Primary Data, 2025.

Fig 4.3.1: M&E tools commonly used in tracking project performance

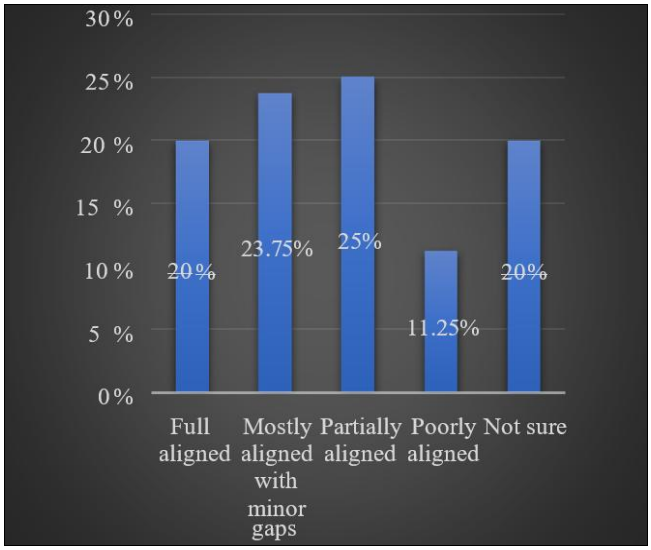
The chart above shows the M&E tools commonly used in tracking project performance. 18.75% showed logical Framework (LogFrame), 38.75% showed Results-Based Management (RBM) tools, 28.75% showed performance Monitoring Plan (PMP), and 13.75% showed paper-based reporting templates.



Source: Primary Data, 2025.

Fig 4.3.2: Effectiveness of the current M&E tools in capturing relevant project data

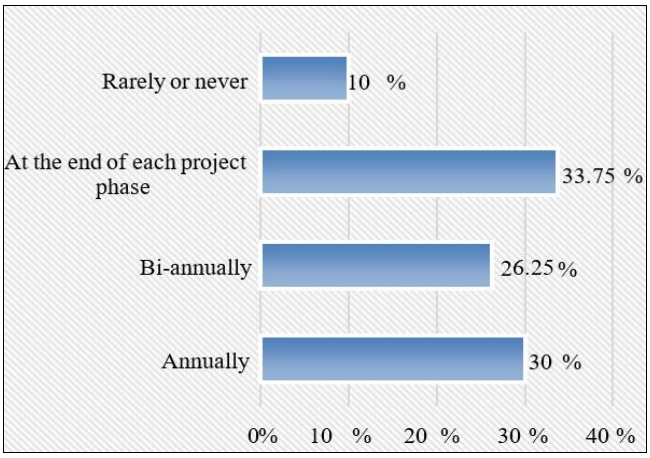
The pie chart presents the effectiveness of the current M&E tools in capturing relevant project data. 15% were very effective, comprehensive and relevant, 27.50% were effective, but with some limitations, 18.75% were moderately effective, has missing key data points, 18.75% were ineffective, data does not reflect reality, and 20% were not sure, not involved in data collection.



Source: Primary Data, 2025.

Fig 4.3.3: M&E tools aligned with project goals and objectives

The above chart is a representation of the M&E tools aligned with project goals and objectives. 20% are fully aligned, 23.75% are mostly aligned with minor gaps, 25% are partially aligned, 21.25% are poorly aligned, and 20% are not sure.



Source: Primary Data, 2025.

Fig 4.3.4: How often M&E frameworks are reviewed or updated to improve performance tracking

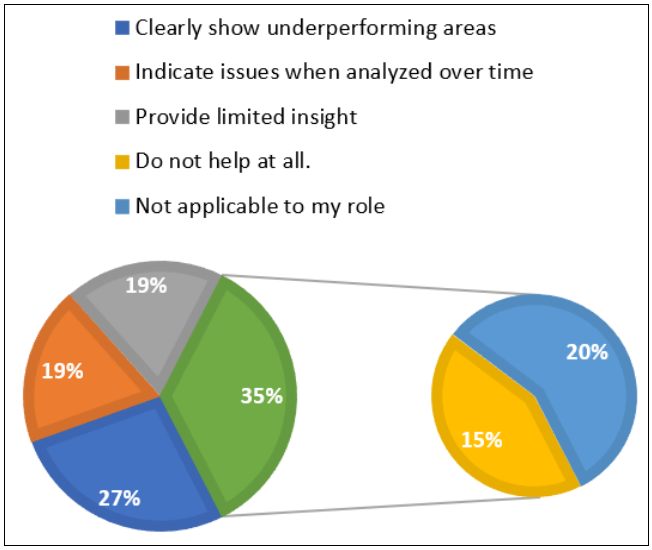
The chart shows how often M&E frameworks are reviewed or updated to improve performance tracking. 30% are annually, 26.25% are bi-annually, 33.75% are at the end of each project phase, 10% are rarely or never.

Table 4.3.5: Challenges experienced in using M&E tools and frameworks

Challenges	Freq.	Percent
Complexity of tools	11	13.75
Inadequate training of users	22	27.5
Poor internet or technical infrastructure	17	21.25
Lack of data integration	20	25
Inconsistent use by staff	10	12.5
Total	80	100

Source: Primary Data, 2025.

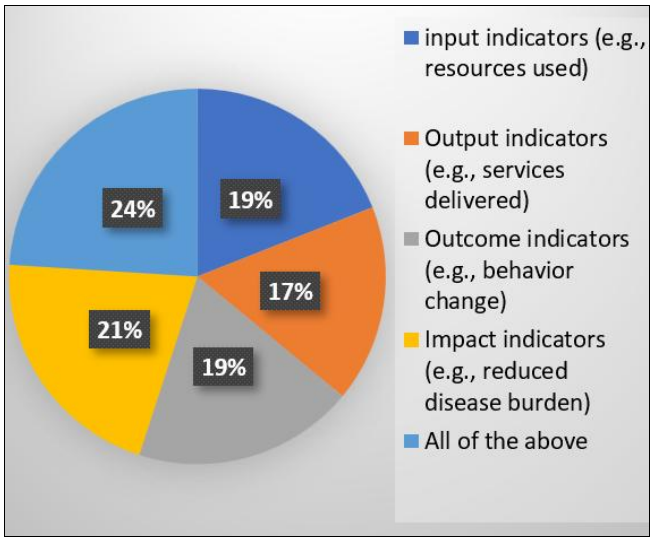
The table displays the challenges experienced in using M&E tools and frameworks. 13.75% are complexity of tools, 27.50% are inadequate training for users, 21.25% are poor internet or technical infrastructure, 25% are lack of data integration, and 12.50% are inconsistent use by staff.



Source: Primary Data, 2025.

Fig 4.3.6: How M&E tools help in identifying gaps in project implementation

The above chart shows how M&E tools help in identifying gaps in project implementation. 27% helped to clearly show underperforming areas, 19% helped to indicate issues when analyzed over time, another 19% helped to provide limited insight, 15% do not help at all, and 20% were not applicable to some of the respondent's roles.

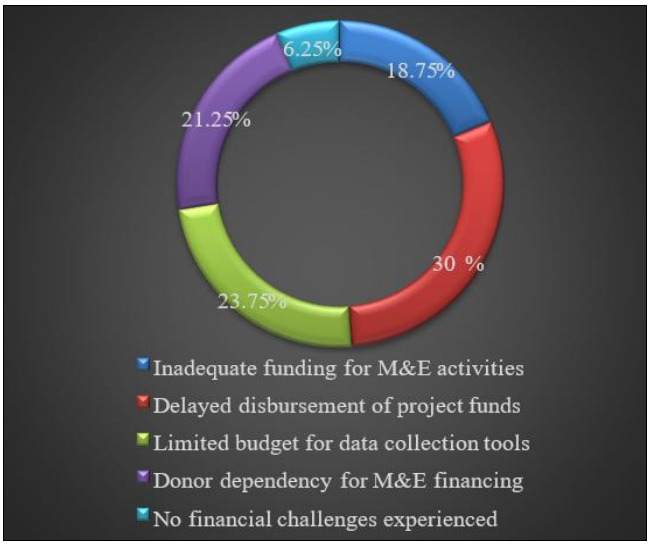


Source: Primary Data, 2025.

Fig 4.3.7: Types of indicators included in M&E frameworks

The chart above shows the types of indicators included in M&E frameworks. 19% were input indicators (e.g., resources used), 17% were output indicators (e.g., services delivered), another 19% were outcome indicators (e.g., behavior change), 21% were impact indicators (e.g., reduced disease burden), and 24% were all of the above.

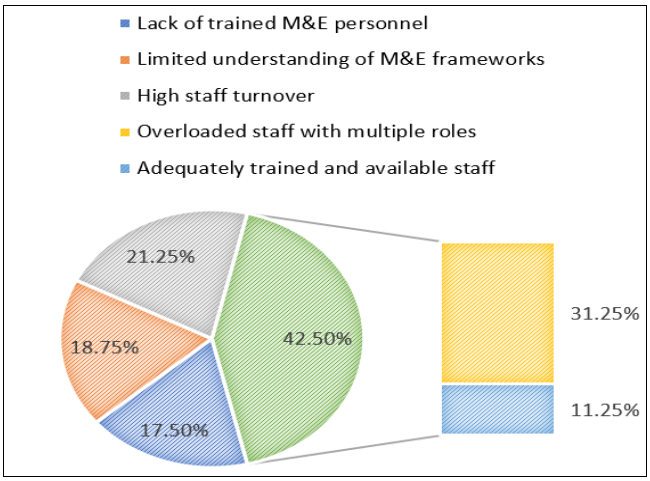
4.4 Challenges faced in the implementation of M&E activities



Source: Primary Data, 2025.

Fig 4.4.1: Main financial challenges affecting M&E implementation

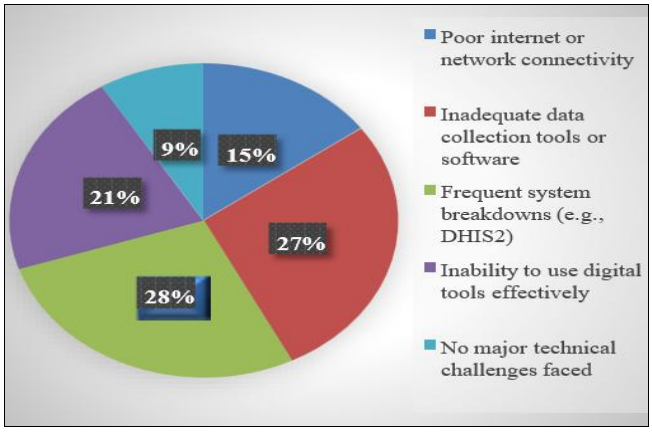
The figure above shows the main financial challenges affecting M&E implementation. 18.75% showed inadequate funding for M&E activities, 30% showed delayed disbursement of project funds, 23.75% showed limited budget for data collection tools, 21.25% showed donor dependency for M&E financing, and 6.25% showed no financial challenges experienced.



Source: Primary Data, 2025.

Fig 4.4.2: How staff capacity affects M&E implementation

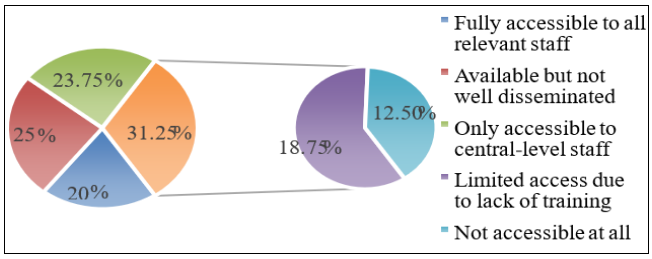
The figure illustrates how staff capacity affects M&E implementation. 17.50% experienced lack of trained M&E personnel, 18.75% experienced limited understanding of M&E frameworks, 21.25% experienced high staff turnover, 31.25% experienced overloaded staff with multiple roles, and 11.25% experienced adequately trained and available staff.



Source: Primary Data, 2025.

Fig 4.4.3: Common technical challenges encountered in M&E activities

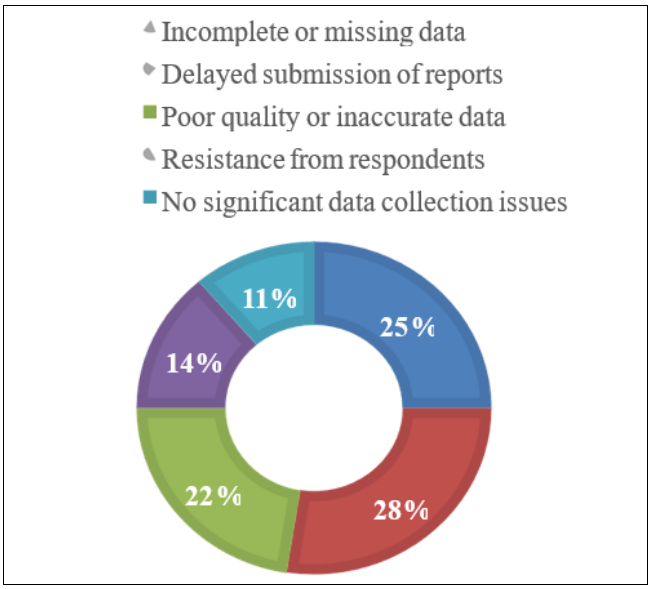
The above figure represents the common technical challenges encountered in M&E activities. 15% had poor internet or network connectivity, 27% had inadequate data collection tools or software, 28% had frequent system breakdowns (e.g., DHIS2), 21% had inability to use digital tools effectively, and 9% had no major technical challenges faced.



Source: Primary Data, 2025.

Fig 4.4.4: Accessibility of M&E tools and frameworks to project staff

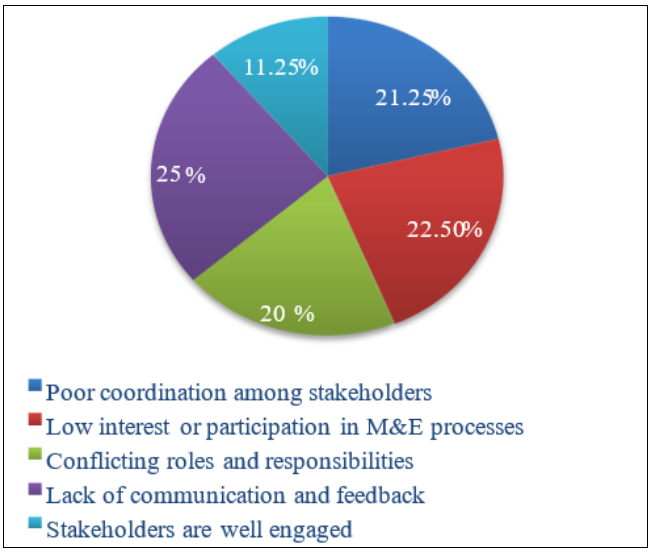
The above figure shows the accessibility of M&E tools and frameworks to project staff. 20% were fully accessible to all relevant staff, 25% were available but not well disseminated, 23.75% were only accessible to central-level staff, 18.75% were limited access due to lack of training, and 12.50% were not accessible at all.



Source: Primary Data, 2025.

Fig 4.4.5: Challenges related to data collection during M&E

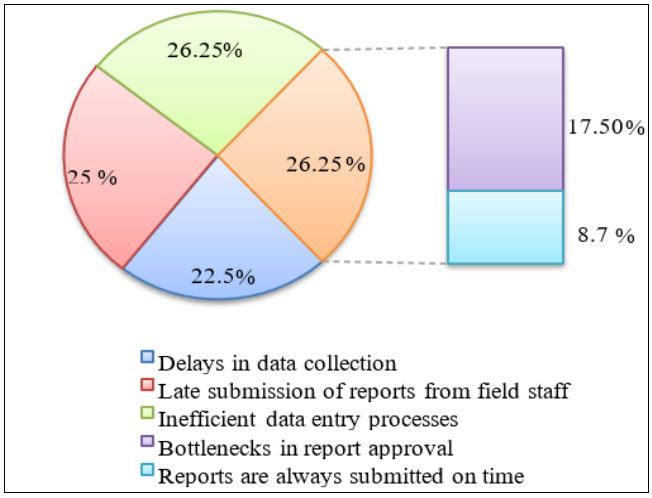
The figure presents the challenges related to data collection during M&E. 25% had incomplete or missing data, 28% had delayed submission of reports, 22% had poor quality or inaccurate data, 14% had resistance from respondents, while 11% had no significant data collection issues.



Source: Primary Data, 2025.

Fig 4.4.6: Challenges experienced in stakeholder engagement in M&E activities

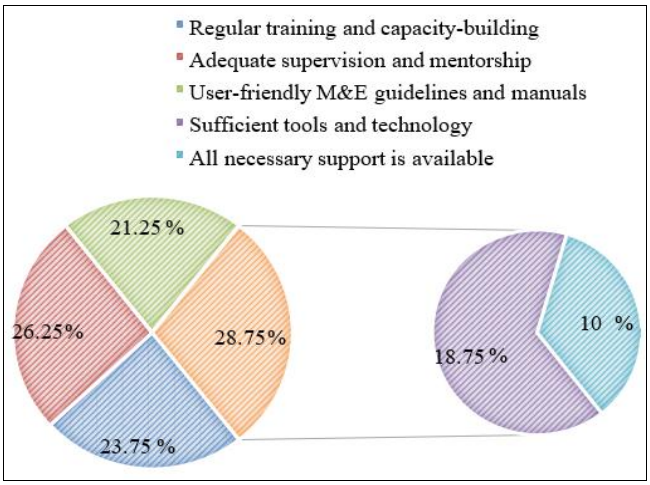
Above is a figure showing the challenges experienced in stakeholder engagement in M&E activities. 21.25% had poor coordination among stakeholders, 22.50% had low interest or participation in M&E processes, 20% had conflicting roles and responsibilities, 25% had lack of communication and feedback, and 11.25% of the stakeholders are well engaged.



Source: Primary Data, 2025.

Fig 4.4.7: Challenges affecting the timeliness of M&E reporting

The above figure is an illustration of the challenges affecting the timeliness of M&E reporting. 22.50% faced delays in data collection, 25% faced late submission of reports from field staff, 26.25% faced inefficient data entry processes, 17.50% faced bottlenecks in report approval, while 8.75% of the reports were always submitted on time.



Source: Primary Data, 2025.

Fig 4.4.8: Support measures lacking to ensure smooth M&E implementation

Above is a figure representing the support measures lacking to ensure smooth M&E implementation. 23.75% lacked regular training and capacity-building, 26.25% lacked adequate supervision and mentorship, 21.25% lacked user-friendly M&E guidelines and manuals, 18.75% lacked sufficient tools and technology, while 10% of all necessary support were available.

4.5 Discussion of Results

The results above show the types of M&E activities implemented in Malaria Elimination Projects to be routine data collection and reporting at health facility levels, baseline and end line surveys, mid-term and final evaluations, supervision and support visits, and community feedback and participatory monitoring. The results highlighted how frequently these M&E activities are conducted within the projects. Some activities were implemented monthly, some were implemented quarterly, some were implemented bi-annually, and some were implemented annually, while some were being implemented on an ad-hoc basis depending on the requirements of the donors. The key stakeholders involved in implementing M&E activities are the Ministry of Health M&E officers, donor agencies and development partners, community health workers, and Non-Governmental Organizations supporting the projects. These stakeholders help in ensuring the effective provision of the necessary funds, equipment, and many other requirements needed to effectively implement these M&E tools and frameworks in the health projects. Some of the tools or methods used to monitor and evaluate malaria interventions are Health Management Information Systems (HMIS) tools, Malaria indicator surveys, data quality audits, mobile data collection tools, and focus group discussions and key informant interviews. These tools have helped in tracking how effective monitoring and evaluation activities are in public health projects in the elimination of malaria.

The indicators commonly used to monitor the progress of malaria elimination efforts are number of confirmed malaria cases reported per month, malaria test positivity rate, coverage of insecticide-treated nets (ITNs), percentage of suspected cases tested with RDT or microscopy, and treatment adherence rates for confirmed malaria cases. The findings also showed how data from M&E activities is utilized in decision-making within the Malaria Elimination Projects. Some of the data was used to guide the allocation of resources and supplies, some was used to identify and address implementation gaps, some data was used to report progress to stakeholders and donors, and some was used to design targeted interventions in high-risk areas, while the rest was used to evaluate and improve program strategies. In terms of achieving the objectives of the malaria elimination project, the results showed that some of the current M&E activities were very effective as data was timely and guided interventions, some were effective though there were minor challenges. Some showed moderate effectiveness as there were some gaps in implementation, some were ineffective as data was underutilized or delayed, while some were unsure due to lack of knowledge about overall effectiveness. To show the relationship between the variables, a chi square test (x^2) was conducted. The study examined whether the highest level of education and sex of respondents were associated with the utilization of M&E data in decision making within malaria elimination projects. The chi square test revealed a statistically significant association between education level and data utilization, $x^2(9, N = 80) = 18.23$, $p = 0.033$, indicating that respondents with higher education qualifications were more likely to use M&E data effectively. However, there was no significant relationship between sex and M&E data utilization, $x^2(3, N = 80) = 5.76$, $p = 0.124$. This indicates that while education influences data-driven decision-making, gender does not.

From the second objective, the findings showed the M&E tools commonly used in tracking project performance. These were logical Framework (LogFrame), Results-Based Management (RBM) tools, Performance Monitoring Plan (PMP), and paper-based reporting templates. The effectiveness of these tools in capturing relevant project data varied. Some were very effective, comprehensive and relevant, some were effective, but with some limitations, some were moderately effective, but had missing key data points, and some were ineffective, as data did not reflect

reality, while some were not sure, as they were not involved in data collection. The results illustrated how M&E tools aligned with project goals and objectives. Some were fully aligned, some mostly aligned with minor gaps, some partially aligned, some poorly aligned, and some not sure. The findings show how often M&E frameworks are reviewed or updated to improve performance tracking. Some were reviewed annually, some bi-annually, some at the end of each project phase, and some were rarely or never reviewed. Some of the challenges experienced in using M&E tools and frameworks were complexity of tools, inadequate training for users, poor internet or technical infrastructure, lack of data integration, and inconsistent use by staff. The M&E tools helped in identifying gaps in project implementation. some helped to clearly show underperforming areas, some helped to indicate issues when analyzed over time, others helped to provide limited insight, some did not help at all, and some were not applicable to some of the respondent's roles. The types of indicators included in M&E frameworks were input indicators (e.g., resources used), output indicators (e.g., services delivered), outcome indicators (e.g., behavior change), impact indicators (e.g., reduced disease burden), and some included all of the above.

A Chi-square test of independence was conducted to determine the relationship between the respondents' highest level of education and the selection of M&E tools used in tracking project performance. The results revealed that $x^2(6, N=80) = 12.58$, $p = 0.049$, indicating a statistically significant relationship between education level and the choice of M&E tools. This implies that respondents with higher education levels, such as Master's degrees and PhDs, were more likely to use advanced M&E tools like Theory of Change and Results-Based Management, while those with Diplomas and Bachelor's degrees tended to prefer simpler tools such as the Logical Framework Approach.

The findings of the study highlighted some of the main financial challenges affecting M&E implementation. These were inadequate funding for M&E activities, delayed disbursement of project funds, limited budget for data collection tools, donor dependency for M&E financing, while some faced no financial challenges. It was proven from the findings how staff capacity affects M&E implementation. Some experienced lack of trained M&E personnel, some experienced limited understanding of M&E frameworks, some experienced high staff turnover, some experienced overloaded staff with multiple roles, while some experienced adequately trained and available staff. It is understood from the findings that untrained or inadequately trained staff members negatively affected the implementation of M&E frameworks, while adequately trained staff members positively affected the implementation of M&E frameworks and activities. Some of the common technical challenges encountered in M&E activities are poor internet or network connectivity, inadequate data collection tools or software, frequent system breakdowns (e.g., DHIS2), inability to use digital tools effectively, while some had faced no major technical challenges. There were some challenges faced I the accessibility of M&E tools and frameworks to project staff. Some were fully accessible to all relevant staff, some were available but not well disseminated, some were only accessible to central-level staff, some had limited access due to lack of training, while some were not accessible at all.

Other challenges related to data collection during monitoring and evaluation were incomplete or missing data, delayed submission of reports, poor quality or inaccurate data, resistance from respondents, while some had no significant data collection issues. The challenges experienced in stakeholder engagement in M&E activities were poor coordination among stakeholders, low interest or participation in M&E processes, conflicting roles and responsibilities, lack of communication and feedback, while some of the stakeholders were well engaged. Some of the challenges affecting the timeliness of M&E reporting were delays in data collection, late submission of reports from field staff, inefficient data entry processes, bottlenecks in report approval, while for some the reports were always submitted on time. The support measures lacking to ensure smooth M&E implementation were regular training and capacity-building, adequate supervision and mentorship, user-friendly M&E guidelines and manuals, sufficient tools and technology, while for some all necessary support were available.

In order to determine whether there was a relationship between the sex of the respondents and the main financial challenges affecting M&E implementation, a chi square test of independence was used. After computations, the results revealed that x^2 value = 3.28 with a p-value = 0.51. This means there is no statistically significant relationship between the sex of the respondents and the main financial challenges affecting M&E implementation. This implies that both genders, male and female respondents, experience similar financial challenges such as delayed disbursement of funds, limited budgets, and donor dependency, affecting the M&E process irrespective of gender. Therefore, the financial constraints in M&E are systemic rather than gender-specific, suggesting that interventions should focus on institutional and structural improvements in M&E rather than gender-specific strategies.

Another chi square test of independence was conducted to examine the relationship between the respondents' highest level of education and the challenges experienced during stakeholder engagement in M&E activities. The analysis showed a statistically significant association, $x^2(9, N = 80) = 18.47$, $p = 0.031$, indicating that the type of stakeholder engagement challenges varied across different education levels.

5. Conclusion

It has been evidently discovered that M&E activities play a critical role in the implementation and success of Malaria Elimination Projects. The involvement of key stakeholders has further strengthened the M&E systems by ensuring provision of technical, financial, and logistical support. However, while several activities demonstrated high effectiveness in producing timely and actionable data, challenges such as inconsistent implementation schedules, underutilization of data, and occasional delays have limited the full potential of M&E systems. A variety of M&E tools are used to track performance in malaria elimination projects. These tools vary in their effectiveness, alignment with project goals, and ability to generate reliable and comprehensive data. While some frameworks have been effective and fully aligned, others have shown moderate to poor performance due to complexity, inadequate training, lack of data integration, and limited technical infrastructure. The frequency of tool review and updating was inconsistent

across projects, ranging from annual reviews to no reviews at all. The implementation of M&E activities in these projects faces multiple financial, technical, and human resource-related challenges. Inadequate funding, delayed disbursements, and donor dependency limit the availability of essential tools and timely operations. Staff-related issues further constrain the quality of M&E implementation, although projects with adequately trained staff demonstrated better outcomes. Despite these challenges, some projects reported strong support systems, timely reporting, and engaged stakeholders, highlighting the potential for improvement if systemic gaps are addressed through targeted interventions.

6. Acknowledgement

I would like to thank my employer and family for their support and assistance rendered to me throughout my studies, it is a massive achievement on my side. I would also like to thank my supervisor, Ms. Lynn Kazembe, may your hard work, values and commitment to academic excellence continue to flourish.

7. References

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