

**Sokoine University of Agriculture**



**MA. Dissertation**

**Assessment of Functionality in  
Monitoring and Evaluation  
Systems of Selected Agricultural  
Non-Governmental Organizations  
in Morogoro Municipality, Tanzania**

**Evelyne Manyama  
May 2024**

**ASSESSMENT OF FUNCTIONALITY IN MONITORING AND  
EVALUATION SYSTEMS OF SELECTED AGRICULTURAL NON-  
GOVERNMENTAL ORGANIZATIONS IN MOROGORO  
MUNICIPALITY, TANZANIA**

*Dissertation Submitted to Sokoine University of Agriculture in  
Partial Fulfilment of the Requirements for the Degree of Project  
Management and Evaluation*

*By*

**Manyama Evelyne**

**Supervisor  
Prof. J. S. Kabote**

**Department of Policy, Planning and Management  
College of Social Sciences and Humanities  
Sokoine University of Agriculture, Morogoro, Tanzania**

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## **EXTENDED ABSTRACT**

Monitoring and evaluation (M&E) systems have evolved over time as important tools that can enhance the management of programmes and thus facilitate measurement of progress on project implementation. This has raised interest among researchers who have noted the importance to assess M&E system so as enhance the efficiency of the systems. The study aims to assess functionality of the selected agricultural NGOs' M&E systems to determine the functionality of key M&E components and the challenges of the M&E system in its current status. The study adopted case study research design and data were collected through desk reviews and interviews with M&E technical officers guided by a checklist of items. Quantitative data were analyzed using descriptive and inferential statistics whereas qualitative data were analyzed using content analysis. Generally, the enabling environment and data and information management well functioned respectively at 88.9% and 91.1%. Specifically, the functionality differed and ranged from 76.7% to 100% from one NGO to another. However, the Kruskal Wallis H Test showed no significant difference at a 5% level of significance among the NGOs. Therefore, the selected agricultural M&E system NGOs well functioned but needed improvement to strengthen some indicators. The study concludes that the M&E system of agricultural NGOs was functioning well with minimal improvements. Challenges were revealed in human capacity, communication and advocacy plan, databases and data dissemination. The assessment of agricultural NGOs revealed that there are improvements needed for the M&E system to be sustainable. These include a more systematic and long-term approach to develop M&E systems, staff training in M&E principles and practices, stronger supervision, feedback loops, and technical assistance and an information system that links program-specific sub-systems.

## IKISIRI KUU

Mifumo ya Ufuatiliaji na Tathmini (M&E) imekuwa ikiboreka kadiri ya muda kama zana muhimu zinazoweza kuboresha usimamizi wa mipango na hivyo kufanikisha upimaji wa maendeleo katika utekelezaji wa miradi. Hii imezidisha maslahi miongoni mwa watafiti ambao wamebainisha umuhimu wa kutathmini mfumo wa M&E ili kuboresha ufanisi wa mifumo hiyo. Utafiti huu unalenga kutathmini utendaji wa mifumo ya M&E ya mashirika ya kilimo yaliyochaguliwa ili kubaini utendaji wa vipengele muhimu vya M&E na changamoto za mfumo wa M&E katika hali yake ya sasa. Utafiti huu ulichukua muundo wa utafiti wa kesi na data zilikusanywa kupitia ukaguzi wa meza na mahojiano na maafisa wa kiufundi wa M&E waliyoongozwa na orodha ya vitu. Data kiuhalisia ziliyachambuliwa kwa kutumia takwimu za maelezo na kistatistiki ya uchambuzi wa tafsiri wakati data za kimaudhui zilichambuliwa kwa kutumia uchambuzi wa maudhui. Kwa ujumla, mazingira yanayowezesha na usimamizi wa data na habari yalifanya kazi vizuri kwa mtiririko huo kwa asilimia 88.9% na 91.1% mtawalia. Kwa kina, utendaji ulitofautiana na ulitandama kati ya asilimia 76.7% hadi 100% kutoka shirika moja la kijani hadi jingine. Hata hivyo, jaribio la Kruskal Wallis H lilionyesha hakuna tofauti kubwa kati ya mashirika ya kijani kwa kiwango cha asilimia 5. Hivyo basi, mashirika ya kijani ya mfumo wa M&E yalifanya kazi vizuri lakini yalihitaji marekebisho ili kuimarisha baadhi ya viashiria. Utafiti unahitimisha kwamba mfumo wa M&E wa mashirika ya kilimo ulikuwa ukiendelea vizuri na maboresho kidogo. Changamoto zilifunuliwa katika uwezo wa binadamu, mawasiliano na mpango wa kushawishi, maktaba za data na usambazaji wa data. Tathmini ya mashirika ya kilimo ilifunua kuwa kuna marekebisho yanayohitajika kwa mfumo wa M&E kuwa endelevu. Haya ni pamoja na njia zaidi na endelevu ya kukuza mifumo ya M&E, mafunzo kwa wafanyakazi katika kanuni na mazoea ya M&E, usimamizi imara, mizunguko ya maoni, na msaada wa kiufundi na mfumo wa habari unaounganisha sehemu maalum za mipango.

**DECLARATION**

I, MANYAMA EVELYNE, do hereby declare to the senate of Sokoine University of Agriculture that this research is my own original work, and has not been submitted for a degree award in any other institution.

.....  
Manyama, Evelyne  
(Candidate)

.....  
Date

The above declaration is confirmed by:

.....  
Prof. J. S Kabote  
(Supervisor)

.....  
Date

## **AUTHOR CONTRIBUTION STATEMENT**

The author confirms sole responsible for the study conception and design, data collection and analysis, results and discussions, and manuscript preparations.

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1. Enabling Environment for Functional Monitoring and Evaluation Systems in Selected Non-Governmental Organizations in Tanzania: Lessons from Morogoro Municipality.
2. Data and Information Management for Functional Monitoring and Evaluation Systems in Selected Non-Governmental Organizations in Tanzania: Experience from Morogoro Municipality.

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## **DEDICATION**

I dedicate this work to my beloved parents, Mr. Joshua Manyama and Mrs. Diana Manyama, for their unwavering guidance, provision, and prayers throughout my journey. I also dedicate to my husband Paul Jonas Mangaitema and my beloved daughter Grace Paul your boundless love, support, and prayers have been my source of strength. And to my siblings, Jr, Elise, and Erica, may you always persevere and pursue your dreams with unwavering determination.

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**LIST OF ABBREVIATION**

ASDSP II	Agricultural Sector Development Support Programme, Phase I and II
FHI	Family Health International
M&E	Monitoring and Evaluation
MVIWATA	Mtandao Wa Vikundi vya Wakulima Tanzania
NGOs	Non-Governmental Organizations
PELUM	Participatory Ecological land Use Management
RBM	Result Base Management
RECODA	Research, Community and Organizational Development
UNAIDS	United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
URT	United Republic of Tanzania

## CHAPTER ONE

### 1.0 GENERAL INTRODUCTION

#### 1.1 Background Information

Organizations are becoming more innovative than ever before in the rapid and high-tech environment in the 21<sup>st</sup> century. Monitoring and evaluation system (M&E) has become an integral part of project design and good management practice in the development activities of non-governmental organizations (NGOs) all over the world (Mueller-Hirth, 2012). The aim of M&E is to measure and assess the performance of projects in order to ensure the effective management of outcomes and outputs, otherwise known as development results (UNDP, 2002).

Monitoring and evaluation (M&E) began as applied research with emphasis on evaluation in the 1970s, later it was challenged with the view that it was a tool of management. In the 1980s, the strategy was changed to sector wide approaches (SWAPs) with focus being that of M&E activities through coordination and advocating development planning. In the 1990s, there was a shift in focus to poverty eradication strategies (PRSPs) and result based management (RBM) gained popularity, leading to change from monitoring of outcomes to measurement of results. In the early 2000s, the idea of monitoring and evaluation systems was embraced by the millennium development goals, and indicators were used to assess the monitoring and evaluation system (World Bank, 2009, Roger & Merchants, 2008, Zhou and Hard life, 2013 and Kusek and Rist, 2004).

NGOs are under more pressure than ever to use monitoring and evaluation systems based on results, which would help them more easily show accountability and progress. This is partly due to the relative scarcity of development funds (Wanjiru,2015). Majority of organizations in both developed and developing countries have chosen to change their management in an attempt to improve their

innovation by using monitoring and evaluation system (Muhayimana and Kamuhanda, 2020; and Nguliki, 2018). The term "monitoring and evaluation system" (M&E) refers to all indicators, tools, and procedures used to determine if a program has been carried out in accordance with the plans and is producing the intended results (Kusek and Rist, 2009).

For M&E system to function effectively the M&E System Assessment Tool was developed to support programs and projects improve the quality and effectiveness of their M&E systems. It requires 12 components that were further grouped into three levels. Level one is enabling environment, which focuses on people, partnership and planning required to support data use. Level two is data and information, which focus on collecting, capturing, and verifying data for decision-making, and level three focuses on information dissemination for decision-making (UNAIDS, 2009).

The practice and commitment toward implementing functional M&E systems in many African countries are noticeably low. And not able to supply relevant information for stakeholders' use, and the demand for M&E information by stakeholders is minimal (Kanyamuna, 2013). In Burkina Faso, Mauritania, Rwanda and Mozambique, it was observed that information from M&E occasionally influenced decision making though it influenced designs as well as informing policies (Koffi-Tessio, 2002). In Uganda, the World Bank provided a practical and realistic budget to state operatives and the government of Uganda understood the need of having comprehensive and reliable performance data which is always available for scrutiny and used in national planning and budgeting (Hauge, 2001). The assessments conducted by Mackay (2007) revealed a significant number of unsupervised and insufficiently coordinated M&E systems. The need to prioritize monitoring and evaluation has become a repeated slogan widely positively embraced by both donors and governments. However, there has not been a transformational resolve and thrive, especially by governments and

critical development agencies, to build and strengthen M&E systems (Kanyamuna *et al.*, 2019).

## **1.2 Overall Problem Statement**

Over the years, the M&E systems have been used to assess if progress is made and achieve the expected results, express the challenges that hinder the program's implementation and, measure positive and negative impact of a program. This led to interest among researchers in finding the hidden facts on how the M&E system functions and operates. Several assessments have been conducted nationally to strengthen the M&E systems to conform to international standards (FHI 360, 2013; World Bank, 2009; UNAIDS, 2009 and Global Fund *et al.*, 2006). Findings revealed the existence of knowledge gap in M&E systems such as strengths and weaknesses, poor institutional frameworks, lack of budget and personnel that limits the functionality in informing decision-making.

Assessment of the M&E system is important in an organization because it enables interventions and policies to stakeholders, as noted by Sherpherd (2011). There was no emphasis on the significance of regular M&E systems evaluation with an aim of knowing the status of the system and pointing out areas to be improved. However, most of the NGOs' assessments are project-based, focusing mainly on M&E system performance and sustainability but not functionality of the M&E system key components which are not empirically assessed. Therefore, the study filled the gap by conducting a comprehensive assessment of selected agricultural NGOs' M&E systems to determine its functionality in key M&E components and the challenges of the M&E system in its current status.

## **1.3 Justification of the Study**

This study was conducted to inform and help development actors like NGOs, public and private organizations, project managers and donor agencies to gain deeper insight on M&E systems and how

they can improve the design and implementation of M&E systems in order to meet the expectations of stakeholders. Several studies on M&E system focused on performance and sustainability of M&E system organization by knowing the challenges. M&E system is essentially a management tool that enables managers to assess a program's status or progress and report on it appropriately. Also, it establishes trustworthiness and accountability inside programs and controls how donors support and interact with them.

Assessment of an agricultural M&E system is necessary to measure performance and impact, identify gaps, and provide information to make informed decisions. This assessment was meant to reveal detailed information on how the system conforms to standardized M&E practices, identify challenges, and recommend solutions to improve the system. The results will be used to inform improvement of the system to ascertain its functionality, identify strengths and weakness and determine whether its output is used to inform implementation of selected agricultural organizations.

#### **1.4 Study Limitations**

The study focused on how the 12 components can be improved and areas to focus on during M&E system strengthening process. In addition, conducting data collection and analysis on all five NGOs was not possible due to time constraints. The study covered only three selected agriculture NGOs M&E system. There is no literature available on the assessment of selected agriculture NGOs M&E system. Since the research design used in this assessment is a non-experimental design without the comparison group it was not possible to determine what would have happened in the absence of the M&E system.

## **1.5 Objectives of the Study**

### **1.5.1 General objective**

The general objective of this study was to assess the functionality of the M&E systems in selected agricultural non-governmental organizations in Morogoro Municipality.

### **1.5.2 Specific objectives**

The specific objectives were to:

- i. To assess the enabling environment for selected agricultural non-governmental organizations' M&E system to function.
- ii. To evaluate the data management and analysis processes involved in the selected agricultural non-governmental organizations.
- iii. Examine the challenges facing the M&E systems in selected agricultural non-governmental organizations.

### **1.5.3 Research questions**

The study intended to address the following research questions:

- i. What is the enabling environment for selected agricultural non-governmental organizations of the M&E system function?
- ii. What are the data management and analysis processes involved in selected agricultural non-governmental organizations?
- iii. What are the challenges facing the M&E system in selected agricultural non-governmental organizations?

## **2.0 LITERATURE REVIEW**

### **2.1 Monitoring and Evaluation System**

Monitoring and evaluation systems are the tools, indicators, and processes used to determine if a program is being carried out according to plan and achieving the expected outcomes. Monitoring and evaluation systems are frequently outlined in a Monitoring and Evaluation Plan document. Monitoring and evaluation systems provide regular updates on how well projects meet their objectives, identify potential difficulties, and suggest solutions. It evaluates the degree to which the project can achieve its overall objectives, monitors the effectiveness with which the various parts of the project are implemented, and makes recommendations for improvements. It also assesses how the project can achieve its general objectives and develop future projects (OECD, 2002).

Monitoring and evaluation are essential because they assist in the formulation and clarification of goals and objectives. Global HIV M&E Information has made one of the most convincing justifications for M&E systems (2013). An operational system, according to Umhlanga, is a must for managing a development program. The M&E system comprises procedures that operate through all phases of the program design cycle. Planning, gathering and synthesizing information, reflecting, and reporting are all procedures that must be completed. It is worth noting that enabling conditions and essential capacities are required to effectively support the M&E system's decision-making and learning purposes. Simister and Smith (2010) explain the M&E system as a collection of processes, methods, and regulations that allow for the systematic and successful gathering, management, and use of M&E data.

### **2.2 Importance of Monitoring and Evaluation System**

Monitoring and evaluation have two essential functions, according to UNICEF (2009): drawing lessons for stakeholders to learn and keeping management responsible. In most cases, the two goals are placed against one another. However, the independent external

review is the most outstanding choice for accountability. Setting up a Monitoring and Evaluation (M&E) system for an organization is critical since it aids in the understanding of the organization's M&E activities. According to Mahoney (2013), it is also worthy of note that the data created by the system will aid in a better understanding of current M&E projects. The system's overall organization is deployed and the different institutional arrangements involved.

An M&E system, according to FHI 360 (2013), is a guiding process for gathering, evaluating, and applying data to measure and record successes and continuously providing information for program planning and policy choices. M&E systems are intended to be set up efficiently and effectively to steer the organizations' complicated cycle of programs and projects.

### **2.3 M&E System Components**

According to UNAIDS (2009), there are twelve components of a functional M&E, namely: structure and organizational alignment, Human capacity for M&E systems, M&E partnerships, M&E plans, Cost M&E work plans, advocacy, communication and culture for M&E systems, routine monitoring; periodic surveys; databases applicable to M&E systems, supportive supervision and data auditing; evaluation and research, and using the information to improve results. When developing plans for strengthening an M&E system, stakeholders can focus on the 12 components at any level of the M&E system. However, enhancing system performance in one component or at one level may require concurrent intervention.

The overview of the twelve components of the M&E system consists of the outer part of the circle representing the resources, partnership and planning. It involves organizational culture, individuals, functions, and actions key to M&E system performance. The innermost part represents the core purpose meaning the use of data for decision making (FHI 360, 2013).



**Figure 1.1: Framework of the 12 Components of a functional Monitoring and Evaluation system. Source: UNAIDS (2009)**

### **2.3.1 Organizational structures with M&E functions**

The monitoring and Evaluation unit, whose principal objective is to supervise and coordinate all M&E functions holistically, is required to execute the most effective monitoring and evaluation. Some organizations prefer to have their M&E functions coordinated by an inside department, while others prefer to outsource the services. This component emphasizes the importance of an M&E unit within an organization. It highlights how complex M&E functions should be played and implemented by organizations and how other organizational departments should be arranged and integrated to support M&E functions (Ecorys. and Carnegie, 2015).

### **2.3.2 Human capacity**

For an organization's M&E unit to function correctly, enough employees with M&E technical expertise and experience should be hired. The component emphasizes the need for an organization to put the necessary human resources to conduct the M&E function.

Furthermore, the organization should endeavor to empower staff members and improve their M&E capability by regularly doing M&E training workshops. Also, capacity-building events keep them up to date on current and emerging developments (Otundo. 2019).

### **2.3.3 Partnerships**

This component is one of the essential requirements for M&E systems to succeed. M&E system partnerships are vital for supplementing an organization's efforts and providing verification to ensure that M&E operations are aligned with the intended goals. The records and papers produced due to the organization's auditing processes are sources of evidence. Technical employees and stakeholders used the information product to compare actual outputs to targeted outputs and make informed improvements (UNAIDS, 2009).

### **2.3.4 M&E work plan**

In many aspects, this component reflects the M&E frameworks. The framework's content includes the project's inputs, outputs, results, and objectives. At the same time, the work plan stresses the usage of assigned resources for operationalizing M&E functions to achieve the targeted M&E goals. Personnel, materials, time, and money are all resources used to complete the M&E functions (Obunga, 2017).

### **2.3.5 Costed work plan**

To put an M&E strategy into action, look at the cost of carrying out the planned activities. Creating a budget that lists the items and prioritizes M & M&E activities for the year, each activity's expenses, financing sources, and delivery timelines. This information will assist in mobilizing financial and human resources easier and conveniently for the organization. This comprehensive plan should be designed by consulting all stakeholders and collaborating in a coordinated manner. It also enables stakeholders to track and evaluate progress toward the intervention's implementation (Otundo. 2019).

### **2.3.6 Communication, advocacy and culture for M&E**

This component deals with the policies and practices that must be in place within the organization to support and promote M&E functions. In the absence of ongoing advocacy actions within the organization, it is impossible to integrate the M&E culture. Top management also must support communication and initiatives without sabotaging the M&E effort. Two approaches to improving this crucial component are creating an organizational M&E policy accessible to all stakeholders and consistently employing M&E outputs on communication channels (Pfeiffer, 2011).

### **2.3.7 Routine program monitoring**

The component of routine program monitoring emphasizes the need to keep track of an intervention's everyday actions. During the implementation of a project, monitoring is a continual activity comprising reliable data collecting. The information gathered should be accurately reported regularly. The data analysis is utilized by management to determine whether the program activities lead to the anticipated outcome (Chisinau, 2011).

### **2.3.8 Surveys and surveillance**

This component shows how an organization conducts relevant surveys during the M & M&E implementation process. Surveys and surveillance should be conducted more frequently and used more regularly to assess the development of a given organization's interrelated projects (Chaplowe, 2008).

### **2.3.9 National and sub-national databases**

In program management, data collection and use are quickly becoming reliable sources of information. Most businesses and government projects are currently looking for accurate data to help them achieve their goals. Organizations are forced to give in to M&E demand problems due to the rising demand for data-accessible technologies. M&E systems should develop strategies for submitting accurate and valid data to databases on time (The Global Fund, 2006).

**2.3.10 Supportive supervision and data auditing**

According to (Masia, 2018), A well-organized system should have a way to undertake data monitoring and management. It means that organizations are expected to supervise operations regularly to make recommendations for the best methods to improve the program. A proper data auditing procedure necessitates thoroughly scrutinizing and verifying the information gathered. This element is essential for ensuring that the supervisory process runs smoothly. It is also worth noting that data auditing is critical because the data collected is used to make decisions about a program's performance.

**2.3.11 Evaluation and research**

Research is an essential aspect of M&E that goes hand in hand with evaluation to discover the facts and evidence for decision making. Programs are extensively evaluated at predetermined intervals. It is standard practice to conduct assessments either during or after the program. The purpose of the evaluation is to determine whether or not the program has achieved the anticipated outcomes. It delivers fast data input for organizational learning and success sharing with essential stakeholders (UNAIDS, 2009).

**2.3.12 Data dissemination and use**

The data gathered throughout a project's implementation period should be used to plan future activities, either by sticking to or changing the existing implementation strategy. For accountability purposes, the monitoring and evaluation information findings should be packaged in a user-friendly way and distributed to essential stakeholders. It is recommended that companies create an information dissemination plan to lead the dissemination process to implement this component (IFAD, 2010) effectively.

## **2.4 Empirical Evidence of Assessment of Monitoring and Evaluation System**

The Monitoring & Evaluation Reference Group (MERG), which includes UNAIDS and other organizations, established an M&E system assessment instrument based on the 12 components in 2009. According to the organizations, the assessments are intended to identify strengths and weaknesses in M&E systems and assist in finding common ground on actions needed to improve M&E system performance. The tool's goal is to guarantee a consistent approach to assessment by ensuring that practitioners who work on assessments understand and administer questions in the same way.

FHI (2013) comes across as a champion for the practical assessment of M&E systems. The organization developed a tool to support programs to improve the quality and effectiveness of M&E systems which is anchored on the 12 components developed by the United Nations Programme on HIV and AIDS (UNAIDS). The assessment tool aims at playing various roles, namely: - (i) avail an all-inclusive overview of the functionality, strengths, and weaknesses of a program M&E system and chart a course for its future development; (ii) encourage alignment between program, national, regional, and global data needs; (iii) Strengthen/build capacity in M&E systems analysis and improvement; (iv) encourage ongoing M&E systems development and evolution within a common framework of standards; (v) identify human resource and capacity building needs for a well-functioning M&E system and finally; (vi) help to develop specific quality improvement plans to strengthen the M&E system.

An assessment of a Monitoring and Evaluation System is a research project aiming to identify the system's strengths and weaknesses and suggest steps to retain its strengths while improving its weaknesses (USAID, 2010). Various frameworks and tools were utilized in previous studies to assess monitoring and evaluation systems. The monitoring and evaluation systems strengthening tool

(Global Fund *et al.*, 2006) and the participatory monitoring and evaluation system assessment tool (FHI360, 2013). Moreover, the 12 components monitoring and evaluation system strengthening tool are some of the frameworks that have been employed (UNAIDS, 2009). A review of the literature reveals the existence of over eleven assessment frameworks and tools that can be used in assessing M&E systems. The choice of which tool to adapt and use in the assessment depends on the intended use, focus, and target audience.

## **2.5 Conceptual Framework**

This study adopted the framework for 12 components M&E systems strengthening tool as the guiding framework to assess the selected agricultural non-governmental organizations' M&E system (UNAIDS, 2009), as shown in Figure 1. The 12 Component approach will help to support the measurement of the status of the M&E system to ensure functionality, and efforts should be made to strengthen components in the system.

According to UNAIDS (2009), components at each level are strongly linked to form a sub-set. As this framework is being developed, it is noted that most of the key performance indicators are compatible with most M&E systems in general. Besides, all the categories at the national level are significantly and practically admissible at the program level. The assessment of the M&E system will cover component by component with a brief explanation of what critical indicators for a functional M&E system are shown in Appendix 1.

## **2.6 Description of the Organization of the Dissertation**

The dissertation is organized in form of five chapters. Chapter one consists with introduction and background to the study. In addition, it provides the problem statement, research question, objectives, as well as literature review. It is then followed by material and method used in the study which describe enabling environment for functional monitoring and evaluation systems in selected non-governmental

organizations in Tanzania: Lessons from Morogoro municipality in chapter two and data and information management for functional monitoring and evaluation systems in selected Non-governmental organizations in Tanzania: Experience from Morogoro municipality in chapter three. Chapter four presents general discussion of study and the final chapter five provides conclusions and recommendations for the study.

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## CHAPTER TWO

### 2.0 Enabling Environment for Functional Monitoring and Evaluation Systems in Selected Non-Governmental Organizations in Tanzania: Lessons from Morogoro Municipality

Evelyne Manyama <sup>1\*</sup> and Samwel J. Kabote<sup>2</sup>

<sup>1</sup>Department of Policy, Planning and Management, Sokoine University of Agriculture, Morogoro, Tanzania

<sup>2</sup>Department of Development and Strategic Studies, Sokoine University of Agriculture, Morogoro, Tanzania email:

[sjkabote@sua.ac.tz](mailto:sjkabote@sua.ac.tz)

\*Corresponding Author: email: [evelynemanyama@gmail.com](mailto:evelynemanyama@gmail.com)

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#### Abstract

An enabling environment is one of the necessary conditions for monitoring and evaluation (M&E) systems to effectively function. Creating an enabling environment for the M&E system needs skilled people working together, planning, operationalizing and motivating the M&E system to become and remain fully functional. Although it is growing fast, the practice of M&E as a discipline is at an embryonic stage in Tanzania. Nevertheless, most public and private organizations have adopted it for effective organizational management that increases chances of accountability and achievement of the intended results. Therefore, this study assessed the enabling environment in the selected Non-Governmental Organizations (NGOs), which implemented agricultural projects. The study adopted a case study research design and data were collected using desk reviews and interviews with monitoring and evaluation technical officers. Quantitative data were analyzed through descriptive and inferential statistics while qualitative data were

analyzed using content analysis. Generally, the enabling environment well functioned at 88.9%. Specifically, the functionality differed and ranged from 76.7% to 100% from one NGO to another. However, the Kruskal Wallis H Test showed no significant difference at a 5% level of significance among the NGOs. Therefore, the enabling environment well functioned, but needed improvement to strengthen some indicators. Undeniably, the NGOs should allocate and or improve their budgets for M&E, translate M&E plan into action and build capacity of the staff instead of exclusively depending on one M&E technical officer.

**Keywords:** Monitoring and Evaluation systems, Enabling Environment, Non-governmental Organizations, Tanzania

## **2.1 Introduction**

Since the 1990s, there has been an increasing interest in Monitoring and Evaluation (M&E) systems in developing countries like Tanzania because of a growing demand for effectiveness, efficiency, results based-oriented, accountability, and impact for governments and donor funded projects, programmes, policies and interventions (Simister, 2019). This is an essential discipline of its own necessary to monitor and shape the direction and evaluate the impact of development interventions (Njoka, 2015). It is not only for meeting reporting requirements but also a management tool, which is critical for tracking and demonstrating results, guiding resource allocation and also helping to make a compelling case for resource mobilization.

Although M&E as concepts that complement each other, they are distinct. For example, monitoring is a continuous process in which implementers observe progress, keep records and analyze information of the intervention to ensure it remains on track with regard to activities, outputs and resources. Whereas, evaluation depends and builds on monitoring to improve the implementation process. It is not a continuous process; but a periodical process, which takes place at the beginning of the intervention; when it is halfway, and at the end looking at the design, implementation and results, while also concentrating on lesson learning. The information generated from evaluation informs decision-making. One should concentrate on relevancy, efficiency, effectiveness, impact and sustainability of the intervention when conducting evaluation. Although the two concepts are different, they coincide at a point of collection of information for specified indicators, measuring them and comparing with baseline indicators to make sense of the intended positive changes (Kusek and Rist, 2004; Hardlife and Zhou, 2013; Basheka and Byamugisha, 2015).

Literature including Hardlife and Zhou (2013) show a shift from implementation-based approaches to results-based approaches,

which focus on achievement of the intended results. This trend goes concomitantly with an increasing trend in using M&E systems, which is a management tool for decision making that brings together the concepts of M&E as a single concept. Although it can be defined differently, most scholars like Kusek and Rist (2004) define M&E system as one that encompasses a set of indicators, tools and processes used to measure effectiveness and efficiency of an intervention in achieving the desired results.

For the M&E system to effectively function, it has to be sub-divided into components (Lumula, 2019). The United Nations for HIV and AIDS programme divided the system into 12 components that were further grouped into three major components. The first one is an enabling environment, which focuses on people, partnership and planning required to support data use. The second is data and information, which focuses on collecting, capturing, and verifying data for decision-making, while component three deals with information dissemination for decision-making (UNAIDS, 2009).

The enabling environment helps flow of information between and among interested parties (Simister, 2019). Therefore, organizations should have organizational structures with the M&E unit responsible for M&E matters. To measure functionality of the M&E system's enabling environment component, one needs to consider indicators or variables that include human capacity, partnership, M&E work plan, cost work plan and lastly communication, advocacy and culture (Macky, 2012). When the enabling environment is ignored, the M&E system does not properly function (Musili, 2020). This leads to a poor intervention management, frustrated and de-motivated M&E units, collapse and possibly create false data that poorly and or may absolutely not inform evidence-based decision making.

According to the World Bank (2011), organizations need strong and or functional M&E systems in place as the foundation for sector strategic planning and management. The systems should cover and

guide the implementation of major programmes and project interventions. In addition, they should not only address a need for better data, but also ensuring effective development management and accountability. However, most organizations in developing countries lack functional M&E systems, thus decreasing the possibility to effectively achieve the intended results (Mackay, 2007).

In Tanzania, like elsewhere in Africa, some organizations give less priority to M&E implying lack or poor M&E systems. This is attributed to challenges like limited resources, and poor knowledge or lack of M&E experts (Lema, 2016). For instance, a study conducted by Nguliki (2018) show that some NGOs perceive M&E as an extra work; hence project implementation is conducted by staff without sufficient M&E knowledge. This implies that some organizations lack M&E technical officers. Funding for M&E activities is limited and there is poor support in some organizations' management. Other organizations carry out M&E just because it is an eligibility requirement to receive funding from donors (Mathayo and Kinyina, 2022).

Studies like the national assessment of M&E system done by the Agriculture Sector Development Programme in Tanzania, focused on the data management component, leaving out aspects related to the enabling environment. The results showed lack of quality and timely data for most agricultural indicators implying that the enabling environment for functional M&E system was not properly functioning and the intended results could be hardly achieved (URT, 2014). Therefore, this study assessed M&E systems enabling environment in selected NGOs in Morogoro municipality. The study was guided by a question "to what extent the enabling environment for M&E system functional in selected NGOs?". The results from this study are expected to shade light in improving M&E systems enabling environment in the selected NGOs in the study area. This is critical for organizational and development management particularly in

achieving objectives and goals. The current study will also contribute to what seems to be a thin literature on M&E systems in Tanzania and elsewhere in Africa.

## **2.2 Methodology**

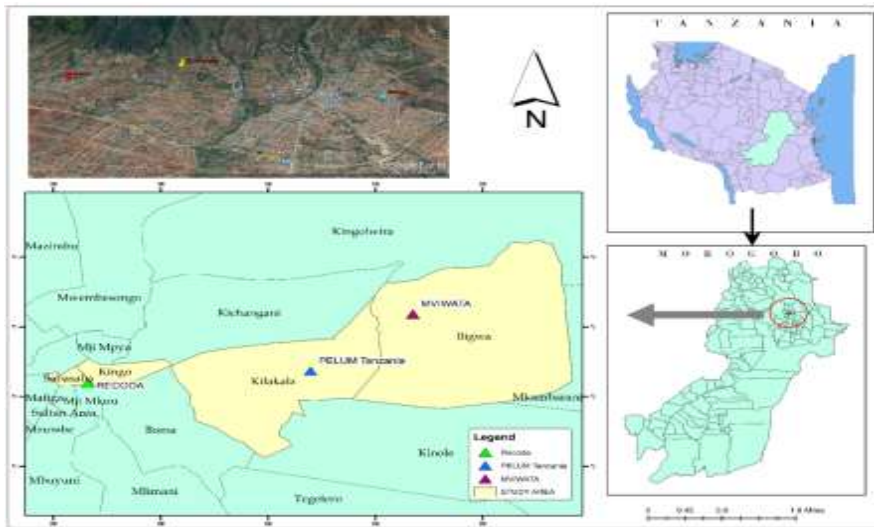
### **2.2.1 The study area**

The study was conducted in Morogoro Municipality, Morogoro region (Figure 2.1), one of the agricultural focal regions in Tanzania. The region has a favourable climate for agriculture and economic investments. There are small, medium and large industries in the municipality, which provide labour employment. Agriculture employs 71.4% of the labour force in Morogoro region (URT, 2016), slightly higher than the 66.9% at the national level (Kabote, 2022). This implies that, like elsewhere in African countries, agriculture is critical for people's livelihood in Morogoro region. The region is a home for agriculture research institutes, non-governmental organizations, community-based organizations, and cooperatives that deal with agricultural interventions in which the municipality is involved. Therefore, the municipality was an appropriate case to assess the M&E system enabling environment in organizations dealing with agriculture.

### **2.2.2 Organizations Involved in the study**

This study involved three organizations (Figure 2.1), one of these being Participatory Ecological Land Use Management (PELUM). This is an NGO that promotes sustainable agriculture and ecological land use in Tanzania. It was founded in 1995 by five members. Currently, the network has grown to 42 organizations that are legally registered Civil Society Organizations (CSOs) spread over 16 regions of Tanzania Mainland. The long-term vision is to make smallholder farmers successful in terms of livelihood through sustainable and ecological agriculture. This is achieved through strengthening capacity of the member CSOs. The ongoing projects are Our Seed Our Rights, Small Projects to Strengthen Local Agro-ecological Development Initiatives (IMARIKA), and Rural Woman

Cultivating Change and Ecological Organic Agriculture (EOA). The overall goal of PELUM is increased farmers' income, food and nutrition security as well as the preservation and conservation of agro-biodiversity (PELUM, 2015).



**Figure 2.1: Map showing study sites**

Second, the study involved Research, Community, and Organizational Development (RECODA). This NGO works with smallholder farmers in Tanzania since 2000. Its long-term goal is to free smallholder farmers from absolute poverty by bridging the technology gap in development through research, consultancy, capacity building, and facilitation of community-based projects. This organization implements interventions in Lindi, Karatu, Dodoma, Singida, Morogoro and Arusha regions in Tanzania Mainland. In collaboration with the Rockwool Foundation (RF) from Denmark, RECODA had developed an agricultural extension approach called Rural Initiatives for Participatory Agricultural Transformation (RIPAT), which is being tested and validated at Sokoine University of Agriculture (SUA) in Morogoro Tanzania. The organization receives funds from different sources mainly through grants for

research and development projects. One of the impacts made by RECODA is an increased level of food security among participating smallholder farmers, improved levels of nutrition among adults and children, sustained adoption of most of the agricultural technologies promoted, and diffusion of the most popular technologies to non-participant farmers in the local communities (Maguza *et al.*, 2013).

Third, the study involved Mtandao Wa Vikundi vya Wakulima Tanzania (MVIWATA), which is a national level farmers' organization that brings together smallholder farmers from all regions in Tanzania to have a common voice to defend the economic, social, cultural and political interests of smallholder farmers. The network was founded in 1993 by smallholders themselves. Currently, MVIWATA is the largest smallholder farmers' grassroots movement in the country with branches in Shinyanga, Ruvuma, Monduli, Mbeya, Manyara, Kilimanjaro, Kagera, Iringa, and Morogoro regions. Its long-term goal is to empower smallholders through capacity strengthening to undertake lobbying and advocacy, especially by strengthening groups and networks, facilitating communication and learning so that they can defend their interests. This is achieved through the unification of smallholder farmer's groups and networks. Its impact includes organizing smallholder farmers' networks, advocacy work, gender and HIV/AIDS, market access, financial services, market information system and food security (MVIWATA, 2016).

### **2.2.3 Research design, sampling and data collection methods**

The study adopted the case study research design. The design is used to examine the subject, in this case, the selected organizations. This was appropriate for describing, comparing, evaluating and understanding different aspects of the enabling environment. The design involves qualitative methods, but quantitative methods are sometimes used (McCombes, 2023). Data were collected once from the selected NGOs in the municipality, which implemented agricultural interventions. The study adopted a framework of 12 components M&E systems strengthening tool

developed under the auspices of the UNAIDS Monitoring and Evaluation Reference Group (MERG) in 2004 as the guiding framework to assess M&E systems (UNAIDS, 2009). To assess the enabling environment for M&E systems in the selected NGOs, primary data were collected using interviews with M&E technical officers and a desk review.

Using desk reviews, the study reviewed project documents like M&E framework, project monitoring reports, data collection tools and management information systems. The aim was to triangulate data collection methods and sources to justify existence of M&E systems and its enabling environment. The approach developed by UNAIDS (2009) enabled measurement of the M&E systems enabling environment. The descriptions of variables used to measure the enabling environment are shown in Table 2.1.

**Table 2.1: Descriptions of variables used to measure enabling environment**

<b>Variables</b>	<b>Descriptions</b>
Organizational Structures within M&E Functions	M&E requires a unit to coordinate all functions, and some organizations prefer to outsource such services. This component of M&E emphasizes the need for an M&E unit within the organization, how elaborate its roles are, how adequately its roles are supported by the hierarchy, and how other units within the organization are aligned to support the M&E functions.
Human Capacity for M&E	The most important idea is that an effective M&E implementation requires adequate staff and the necessary technical know-how and experience. This requires hiring employees with adequate knowledge and experience, while also developing their M&E capacity through training and capacity-building initiatives to keep up with current trends.
M&E Partnerships	M&E partnerships are essential for successful M&E systems, as they complement the organization's efforts and serve as a source of verification. They also provide auditing purposes for line ministries, technical working groups, communities and other stakeholders to compare M&E outputs with reported outputs.
M&E Plan	The M&E framework outlines objectives, inputs, outputs and outcomes of the intended project and the indicators used to measure them. It links objectives with the process and enables the M&E expert to know what to measure and how to measure it.
Costed Work Plan	Closely related to the M&E frameworks is the M&E Work plan and costs. The work plan outlines how the resources that have been allocated for the M&E functions will be used to achieve the goals of M&E, such as personnel, time, materials and money.
M&E Advocacy, Communications, and Culture	This refers to the presence of policies and strategies within the organization to promote M&E functions. Organizations must have policies and strategies to promote M&E functions, such as an organizational M&E policy and continuous use of the M&E system outputs on communication channels, to improve communication, advocacy and culture for M&E.

**Source: UNAIDS (2009)**

The NGOs involved in this study were purposively selected based on the criteria that they implemented agricultural interventions to improve people's livelihood. Five out of twelve organizations identified in the municipality were selected. The request letters to conduct research in two organizations were not successful. This includes Sustainable Agriculture Tanzania (SAT) and Private Agriculture Sector Support (PASS). Therefore, the study managed to collect and analyze data from three organizations: Participatory Ecological Land Use Management (PELUM), Research, Community, and Organizational Development (RECODA) and National Farmers Organization commonly known in Kiswahili as *Mtandao wa Vikundi vya Wakulima Tanzania* (MVIWATA). The sampling unit was the NGOs where one response represented the NGOs M&E system enabling environment.

#### **2.2.4 Data analysis**

Descriptive statistics were used to measure component scores to assess the degree of compliance of each component. The 5-point continuum scale of 1 to 5 was used to calculate mean scores of functionalities. For each component, the actual score =  $\sum X_n$ , where n represents 1 to 3. For each component, the maximum sum of average scores is  $N=5 \times 3=15$ . The level of functionality was categorized due to interquartile range where 0-49% was deemed not functioning well, 50-79% meant functioning moderately well but needed improvement, and 80-100% meant functioning very well with minimal improvements in some aspects. This scoring interpretation has also been used by Obunga (2015).

Based on this scale, the average score of the indicators of enabling environment was calculated. Similarly, the overall mean score was calculated to determine the overall functionality of the component, in this case the enabling environment. The respondents were expected to select the appropriate response from the given options. The scores were computed against the total number of responses available for that component to give a reflection of its functionality

expressed as a percentage. The variable or component was functional if the actual score equals to maximum score and not functional, thus needs improvement, if the actual score was less than maximum score. Alternatively, a component was functional if the difference gap score was zero and not functional if the difference gap score was greater than zero. Data were analyzed using Statistical Package for Social Sciences (SPSS).

The Kruskal Wallis H test was used to test the null hypothesis that there is no difference in the extent of functionality of the enabling environment for M&E systems to function among the selected agricultural NGOs. The equation for the Kruskal Wallis H test statistic (*Kruskal and Wallis, 1952 and 1953*) is a multiple-sample generalization of the samples. Samples of sizes  $n_j$ ,  $j = 1 \dots m$ , are combined and ranked in ascending order of magnitude. Tied values are assigned the average ranks and  $n$  denote the overall sample size.

$$\text{Let } R_j = \sum_{i=1}^{n_j} X_{ij} \quad (1)$$

$R_j$  denotes the sum of the ranks for the  $i^{\text{th}}$  sample. The *Kruskal-Wallis's test*,  $H$ , is defined as;

$$H = \frac{1}{S^2} \left\{ \sum_{j=1}^m \frac{R_j^2}{n_j} - \frac{n(n+1)^2}{4} \right\} \quad (2)$$

Where;

$$S^2 = \frac{1}{1-n} \left\{ \sum_{\text{All ranks}} R(X_{ij})^2 - \frac{n(n+1)^2}{4} \right\} \quad (3)$$

If there are no ties, this equation simplifies to

$$H = \frac{12}{n(n+1)} \sum_{j=1}^m \frac{R_j^2}{n_j} - 3(n+1) \quad (4)$$

The sampling distribution of  $H$  is approximately  $\chi^2$  with  $m - 1$  degrees of freedom.

## 2.3 Results and Discussion

### 2.3.1 Overall enabling environment for all organizations

The summary scores for the six indicators or variables used to measure the enabling environment showed that component the total

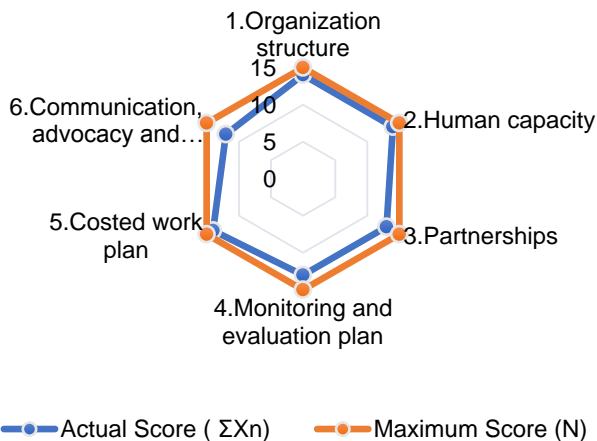
scores were 80 out of 90, which is equivalent to 88.9% (Table 2.2). This implies that the enabling environment very well functional.

**Table 2.2: Overall scores for enabling environment**

<b>Variables/Indicators</b>	<b>Actual Scores (<math>\Sigma X_n</math>)</b>	<b>Maximum Scores (N)</b>	<b>Gap Between Actual Scores and Maximum Scores</b>
Organization structure	14	15	1
Human capacity	14	15	1
Partnerships	13	15	2
Monitoring and evaluation plan	13	15	2
Costed work plan	14	15	1
Communication, advocacy and culture	12	15	3
<b>Total</b>	<b>80</b>	<b>90</b>	<b>10</b>

The scores varied from one variable or indicator to another, with organizational structure, human capacity and M&E plan scoring the highest compared to communication, advocacy and culture. To that effect, some aspects as shown by gaps between actual and maximum scores in Table 2.2 suggested some improvements. Generally, the results differed from Olwa (2016), who assessed the Centre of Mathematics, Science and Technology Education in Africa (CEMASTEA) M&E system. The assessment included 20 representatives and the enabling environment scored 49.6%. The scores for that study varied from variable to variable, with the costed work plan scoring the highest while human capacity scored the lowest. This implies that functionality of the enabling environment varies from one organization to another depending on functionality of indicators or variables used to measure it.

Furthermore, figure 2.2 presents values of each indicator results along a separate axis. The lowest and highest possible scores are plotted in one margin scale. The figure displays the changes in the enabling environment scores relative to a center point. The orange line shows the maximum scores, and the blue line indicates the actual scores. The nearer the blue points to the center of the figure, the poorer the functionality and vice versa. The distance between the orange and blue points are the gaps that should be used as a basis for improvement, with emphasis on specific indicator that needs improvement.



**Figure 2.2: Overall scores for all organizations**

The actual scores for the organizational structure were 14 while the maximum score was 15 (Fig 2.2). Based on desk reviews the job description for the M&E staff was available, the organization structure was also available, meetings to assess progress, plan and coordinate were organized and conducted, stakeholders were involved through consultations and planning for M&E and M&E strategy for the organization was updated and planned. Therefore, there was no marked distance between the maximum score and thus the component was functional. On effective leadership and commitment to ensure M&E system work, the review observed the

presence of leadership for M&E systems. The results of the current study were in line with a study conducted in Kenya, which identified the existence of M&E units as an indicator of M&E systems (Ngetich and Kisimbii, 2020).

The desk review confirmed availability of funds for M&E staff capacity building in some NGOs but not in others. The standard curricula for M&E capacity building and training for M&E staff were available in some NGOs. The scores for the organization structure can also be interpreted that there was no marked distance between maximum and actual scores implying further that the component was functional. This contradicts with what Atike (2016) reporting inadequate personnel supporting the M&E system at different levels and lacked career growth guidance and therefore limited motivation and professional growth for monitoring and evaluation on the National Aids Control Council (NACC) M&E system in Kenya. These discouraged personnel from working hard with little possibility of achieving the intended results.

On partnerships, the study assessed indicators like participation in M&E technical working group, availability of a mechanism for coordination among partners, an inventory of all M&E partners and routine channels for communication. The component scored 13 out of 15 (Table 2.2) implying that there was a marked distance between the maximum and the actual scores. The discussion with key informants, showed a communication gap that caused a challenge among key stakeholders on completed, ongoing and upcoming activities for better and timely decision-making. On one hand, these findings are in line with an assessment report on Nigeria's HIV monitoring and evaluation that found no existence of a technical working group amongst various partners (MEASURE Evaluation, 2010). On the other hand, the findings contrast with Chisinau (2011) where communication gaps were challenges that led to overlap for implementing planned activities, thus negatively affecting effective achievement of the results.

Interviews with key informants confirmed absence of up-to-date M&E plan in some NGOs. However, the M&E matrix was available that listed indicators, targets, data sources, baseline, methods, reporting frequency and responsible personnel. Interviews with key informants showed inadequate budgets for M&E activities, and no stakeholders' involvement in developing an M&E plan. This is in line with Chisinau (2011) who showed no updates of M&E plan and limited participation of relevant stakeholders in preparation of monitoring and evaluation plan for the country's HIV monitoring and evaluation system.

The M&E work plan and cost refer to how resources (personnel, time, materials, and money) are used to achieve the set M&E function. The results show that the actual and maximum scores for the costed work plan were 14 and 15 respectively (Table 2.2). In addition, the work plan covered activities, implementation period, resources, and budgetary allocations to operationalize the work plan in some but not in others. Allocation of resources and funds did not guarantee that the money was available. This is in line with Sikuku (2019) in Kenya where the plans were sometimes developed without funds with hopes of lobbying and fundraising from donors and the government. Sometimes, it does not work as the funds are not realized leading to some activities not being implemented. The same weakness was noted by LaFond *et al.* (2007) in terms of inadequate funding from the state budget and overreliance on international financial support which limited the sustainability of interventions.

Communication, advocacy and culture refer to the presence of policies and strategies within the organization to promote M&E system. The results showed actual and maximum scores of 12 and 15 respectively (Table 2.2). This justified a marked distance between maximum and actual scores indicating less functional component. This finding contradicts with a study conducted in Kenya where communication and advocacy plans for the systems assessed were completely missing (MEASURE Evaluation, 2013). Although the

overall components of enabling environment for M&E to function in selected agricultural NGOs were functional, some components were not functioning properly as discussed in sections from 3.2 to 3.4.

### 2.3.2 Enabling Environment for M&E System at PELUM

The six indicators used to measure the enabling environment scored 27 out of 30, which is equivalent to 90%. This is considered very well-functional with minimal improvement in some areas (Table 2.3). Based on the scores shown in Table 2.3 and Figure 2.3, it was evident that some indicators of the enabling environment at PELUM were not well functioning because the actual scores were less than maximum scores, and or, the gap was greater than zero. This includes human capital, partnership, and communication, advocacy and culture.

**Table 2.3: M&E system scores at PELUM**

Indicators/Variab les	Score		Gap Between Actual & Maximum Scores
	Actual Scores (ΣXn)	Maximum Scores (N)	
Organization structure	5	5	0
Human capacity	4	5	1
Partnerships	4	5	1
Monitoring and evaluation plan	5	5	0
Costed work plan	5	5	0
Communication, advocacy and culture	4	5	1
<b>Total</b>	<b>27</b>	<b>30</b>	<b>3</b>

The results were supported by the key informant at PELUM implying that some improvements were unavoidable. Lesson learned through M&E operations hardly informed an improvement of M&E system at that organization. Lack of M&E skills among other staff apart from

the technical officer was apparent. There was also an inadequate budget to execute M&E tasks. With this situation, the end results for projects at PELUM particularly improvement of people’s livelihood can hardly be achieved if this continues unabated. The results of this study are in line with Sikuku (2019) who noted inadequate human resources with monitoring and evaluation technical skills at the national level monitoring and evaluation system in Kenya. In that study, technical working group amongst various partners and partnership was enhanced through joint planning including joint supervision, while communication and advocacy plans were completely missing.



**Figure 2.3: Enabling environment for M&E system at PELUM**

**2.3.3 Enabling environment for M&E system at RECODA**

The indicators used to measure enabling environment at RECODA altogether scored 23 out of 30, which is equivalent to 76.7% (Table 2.4). This implies that the component moderately functioned and therefore needed improvement for the M&E system to perfectly function.

**Table 2.4: Enabling environment for M&E system score at RECODA**

<b>Indicators/Variables</b>	<b>Actual Score (ΣX<sub>n</sub>)</b>	<b>Maximum Score (N)</b>	<b>Gap Between Actual Score &amp; Maximum Score</b>
Organization structure	4	5	1
Human capacity	5	5	0
Partnerships	4	5	1
Monitoring and evaluation plan	3	5	2
Costed work plan	4	5	1
Communication, advocacy and culture	3	5	2
<b>Total</b>	<b>23</b>	<b>30</b>	<b>7</b>

Except human capacity, scores of different indicators showed that the gaps were greater than zero. These include organizational structure, partnerships, M&E plan, costed work plan, communication, advocacy and culture (Table 2.4). Figure 2.4 also vindicates these results. This implies that those indicators did not effectively support functioning of the M&E system through the enabling environment. The results from key informant were in line with the quantitative results. The desk review and interviews showed no evidence of the budget slotted specifically for M&E tasks. There was also poor M&E system capacity building to the staff and therefore implying adequate skills to handle the M&E system at RECODA.

Based on these results, the current study argues that RECODA showed moderate enabling environment compared to other NGOs involved in the study in the municipality. This has implication on the RECODA's final goal of making poverty history in the areas of operation. LaFond *et al.* (2007) also reported inadequate funding

from the state budget and therefore necessitated overreliance on international financial support to carry out M&E activities, which limited sustainability and accountability of the interventions. However, some previous studies including Chisinau (2011) in Republic of Moldova and MEASURE Evaluation (2010) in Nigeria showed contradiction results. This implies that there are mixed results in the literature with regard to the enabling environment for M&E systems to perfectly function. Put differently, existing literature is not conclusive on the enabling environment for different organizations for M&E systems to perfectly function.



**Figure 2.4: Enabling environment for M&E system at RECODA**

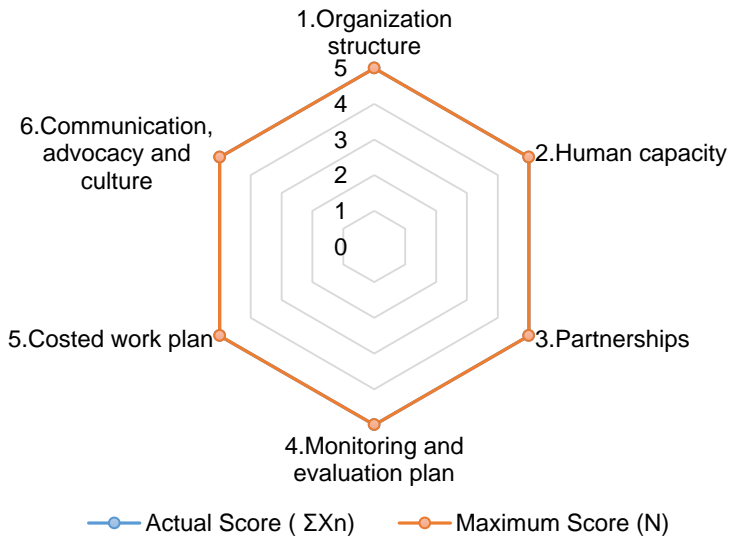
### 2.3.4 Enabling environment at MVIWATA

At MVIWATA, the 6 indicators used to measure enabling environment scored 30 out of 30, which is equivalent to 100%. With these results, there were no gaps in all indicators (Table 2.5). Figure 2.5 also vindicates a perfect enabling environment for M&E system. The results from desk review revealed that the M&E system at MVIWATA was well designed with an integrated system of reflection and communication supporting project implementation.

**Table 2.5: Enabling environment at MVIWATA**

<b>Indicator/Variable</b>	<b>Actual Score (ΣXn)</b>	<b>Maximum Score (N)</b>	<b>Gap Between Actual Score &amp; Maximum Score</b>
Organization structure	5	5	0
Human capacity	5	5	0
Partnerships	5	5	0
Monitoring and evaluation plan	5	5	0
Costed work plan	5	5	0
Communication, advocacy and culture	5	5	0
<b>Total</b>	<b>30</b>	<b>30</b>	<b>0</b>

The organization, in this case, MVIWATA has had a portal known as M&E web-based, which showed how the enabling environment functioned implying a perfect enabling environment at MVIWATA. Although quantitative results showed a perfect enabling environment at MVIWATA, interviews revealed contradiction results portrayed by leaving the M&E tasks to the technical officer only. The interviewee argued that: “some staff are of the opinion that M&E is a job of the M&E personnel...this mindset is wrong, M&E is part and parcel of each staff within an organization...”. On one hand, this is an organizational weakness that threatens sustainability of the M&E system. On the other hand, it justifies strength of the M&E technical officer at the organizational level who made MVIWATA have perfect enabling environment. Stetson (2011) also revealed similar results with regard to leaving M&E responsibilities to the technical officer only. That study attributed this challenge to other staff job descriptions that lacked a mention about M&E responsibilities. This can be rectified by doing on-job capacity building to the staff as recommended by (Ngatia, 2015).



**Figure 2.5: Enabling environment for M&E system to function at MVIWATA**

#### 2.4 Comparing Enabling Environment in the NGOs

It was apparent that MVIWATA showed well-functioning enabling environment for M&E system to effectively function than other organizations involved in the study. In addition, PELUM and RECODA showed similar weakness regarding communication, advocacy and culture, partnership and human capacity. There were no policies and strategies to promote M&E systems in these NGOs. Furthermore, RECODA's enabling environment was moderate based on the scores achieved. This is explained by the gaps between actual and maximum scores that featured out in five variables including organizational structure, communication, advocacy and culture, partnerships, M&E plan and costed work plan. In general, RECODA had no M&E unit although the M&E personnel was available who was also responsible for projects implementation. Using the Kruskal Wallis H Test, the results did not reject the null hypothesis at 5% level of significance (Table 2.6). Hence, there was no significant difference in terms of functionality of the enabling

environment for M&E systems to function among the selected NGOs.

**Table 2.6: Comparing enabling environment in different NGOs**

Variables	Non-Governmental Organization				Kruskal Wallis H Test	
	PELU M	RECO DA	MVIWA TA	Total	H Test	P- value
Organization structure	4.833	3.833	5.000	4.556	2.000	0.368
Human Capacity	3.750	4.500	4.750	4.333	2.000	0.368
M&E Partnership	3.500	4.000	5.000	4.167	2.000	0.368
M&E planning	4.857	3.286	5.000	4.381	2.000	0.368
Cost and Work	4.600	4.000	5.000	4.533	2.000	0.368
Advocacy, Communication and culture	4.250	3.000	5.000	4.083	2.000	0.368

## 2.5 Conclusions and Recommendations

The study confirmed that the enabling environment for M&E systems was well functioning in two NGOs but it was moderate in one NGO suggesting some improvements in some aspects of the selected NGOs. This can be done by working on different identified gaps. While MVIWATA showed a very well-functional enabling environment, there was no teamwork for the rest of the staff to support the M&E technical personnel. This was possibly due to lack of human capacity. This should be improved to ensure a perfect M&E system. PELUM and RECODA also showed weaknesses in some indicators. The study recommends that there is a need for organizations to improve their budget for M&E tasks, ensure a good M&E plan and translating it into action, and build staff capacity with M&E principles, approaches and practices.

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## CHAPTER THREE

### **3.0 Data and Information Management for Functional Monitoring and Evaluation Systems in Selected Non-Governmental Organizations in Tanzania: Experience from Morogoro Municipality**

**Evelyne Manyama <sup>1\*</sup> and S. J Kabote<sup>2</sup>**

<sup>1</sup>Department of Policy, Planning and Management, Sokoine University of Agriculture, Morogoro, Tanzania

<sup>2</sup>Department of Development and Strategic Studies, Sokoine University of Agriculture, Morogoro, Tanzania. Email:

[sjkabote@sua.ac.tz](mailto:sjkabote@sua.ac.tz)

\*Corresponding Author: Email: [evelynemanyama@gmail.com](mailto:evelynemanyama@gmail.com)

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#### **Abstract**

In Tanzania, different organizations public and private have adopted data and information management as a requirement for Monitoring and Evaluation (M&E) systems. This is indispensable for maximizing accomplishment of results that include outputs, outcomes and long-term organizational impact. However, there is paucity of information with regard to functionality of data and information management in different organizations in the country. This paper assesses data and information management in selected NGOs to fill this knowledge lacuna. The study adopted a case study research design and data were collected through desk reviews and interviews with M&E technical officers guided by a checklist of items. Quantitative data were analysis using descriptive and inferential statistics whereas qualitative data were analyzed using content analysis. Overall, data and information management were well functional with scores stood at 91.1%. However, descriptive statistics showed different levels of functionality in different NGOs

with the scores ranging from 86.7% to 100%. Different donors complicated implementation of M&E systems at an NGO level. Further analysis using the Kruskal Wallis H Test did not show significant difference in functionality of data and information management at a 5% level of significance between the NGOs. The study concludes that the differences in functionality between NGOs uncovered through descriptive statistics should not be ignored. To that effect, variables, which did not well function vindicate devising strategies to rectify the situation.

**Keywords:** Monitoring and evaluation systems, Data Management, Information Management and NGOs.

### 3.1 Introduction

In the previous three decades since the 1990s, M&E systems have increasingly become common in most organizations and at different levels in the world (Kusek and Rist, 2001). In Africa, higher learning institutions are also increasingly establishing and offering M&E degree programmes (Mleke and Dida, 2020), implying that M&E is also an evolving academic discipline in the region. The M&E system is an organized system comprising of coordinated elements of planning, performance indicators, data collection, data analysis, reporting and consumption of performance information (Gosling, 2003; Measure Evaluate, 2006; Kimaro *et al.*, 2018). This does not only play a significant role in projects and programmes but also in organizational performance and management through tracking and assessing systematically progress of an intervention and achievement of the results (Nyonje, 2012).

Some authors including UNAIDS (2009), World Bank (2009), and Nutley (2012) succinctly put that M&E systems comprise of essential components like an enabling environment, data management and information dissemination. Others like Magigi (2014) have concisely shown that components of M&E systems include performance indicators, evaluations, performance reports, performance reviews and data systems. A functional M&E system with robust data and information management assists stakeholders to access appropriate data for better policy formulation, informed decision-making and performance management, more generally (Shapiro, 2011). Specifically, data and information management deals with data collection, analysis and reporting to guide post-M&E decisions. According to Nalianya and Luketero (2017), and Obenga (2017), data and information management assesses sources of M&E data, qualitative and quantitative data collection methods, participation in data collection, quality assessment around M&E data management practices and dissemination and use of M&E results.

Kimaro *et al.* (2018) argue that an effective M&E system is explained by adoption and operationalization of six elements including planning, development of performance indicators, data collection, data analysis, reporting and consumption of performance information. That system is expected to transform data into useful information (USAID, 2010). In addition, a well-functioning M&E system empowers stakeholders learn from the data, gain knowledge about an organization or programme performance and be able to make better decisions to maximize achievement of the final results.

While M&E systems are at an embryonic and or at an infancy stage in most African countries, it is abundantly established in developed countries like the USA and Canada. This expedites achievement of the results in the public and private sectors. In some African countries like South Africa and Kenya, M&E systems are increasingly becoming strengthened, providing good governance through transparency and accountability that in turn improve organizational performance and management (Mtsgali, 2016). In other countries like Malawi, there is an evidence of poor M&E systems in the public sector. Even stakeholders' demand for M&E information is minimal and there is no transformational resolve and thrive especially by the government and development agencies to build and strengthen M&E systems (Kanyamuna, 2013).

In Tanzania, M&E is evolving and an interest in M&E systems particularly data and information management is increasingly growing in both public and private sectors in the country (Massawe and Isanzu, 2020; Mleke and Dida, 2020). There is an indication that Tanzania has adopted M&E system to improve efficiency, effectiveness and sustainability of the interventions. This is vindicated in most government documents including policies, programmes and strategies that include an M&E as a must section. This has become a common practice in the country. Some organizations, which have adopted M&E systems include government ministries, institutions and agencies, and Local

Government Authorities (LGAs). In addition, it is obligatory for donor funded research and development projects to not only include M&E systems in project documents but also practice it during execution of an intervention (Kimaro, *et al.*, 2018).

Despite an increasing interest on M&E systems in Tanzania, there is relatively limited research and scholarly publications on M&E (Nguliki, 2018) compared to countries like South Africa and Kenya (Mleke and Dida, 2020), implying a thin literature on this discipline in Tanzania, in general, and on data and information management in particular. In addition, Massawe and Isanzu (2020) underscore that there is mismanagement of projects and programmes, and therefore not completed on time. Projects implemented by Civil Society Organizations (CSOs) including NGOs are also facing a similar conundrum. Authors like Rath (2014) and Shepherd (2011) recommended regular assessment of M&E systems to uncover the challenges that limit M&E systems functionality. This raises interest to interrogate M&E systems principally data and information management systems, which are necessary for organizations' performance and management. The results will contribute to the body of knowledge on the state-of-the art about data and information management in M&E systems in agricultural NGOs.

## **3.2 Methodology**

### **3.2.1 The study area**

The study was conducted in Morogoro Municipality, Morogoro region, which is one of the agricultural focal regions in Tanzania. The climate in the region is favourable for agriculture and agro-processing investment. There are small, medium and large industries in the municipality, which provide labour employment to the population including youth. Agriculture alone employs 71.4% of the labour force in the region (URT, 2016), implying that it is undeniably important for livelihood of the people in Morogoro region. The region is a home for agriculture research institutes, non-governmental organizations (NGOs), community-based

organizations, and cooperatives that deal with agricultural interventions. Even Sokoine University of Agriculture (SUA), which is the only reputable agricultural higher learning institution in Tanzania and in Sub-Saharan Africa is also located in Morogoro Municipality. This justifies that the municipality was an appropriate case to assess the M&E systems data and information management in NGOs dealing with agriculture.

### **3.2.2 Organizations involved in the study**

This study involved three organizations (Figure 3.1), one of these being Participatory Ecological Land Use Management (PELUM). This is an NGO that promotes sustainable agriculture and ecological land use in Tanzania. It was founded in 1995 by five members. Currently, the network has grown to 42 organizations that are legally registered Civil Society Organizations (CSOs) spread over 16 regions of Tanzania Mainland. The long-term vision is to make smallholder farmers successful in terms of livelihood through sustainable and ecological agriculture. This is achieved through strengthening capacity of the member CSOs. The ongoing projects are Our Seed Our Rights, Small Projects to Strengthen Local Agro-ecological Development Initiatives (IMARIKA), and Rural Woman Cultivating Change and Ecological Organic Agriculture (EOA). The overall goal of PELUM is increased farmers' income, food and nutrition security as well as the preservation and conservation of agro-biodiversity (PELUM, 2015).



children, sustained adoption of most of the agricultural technologies promoted, and diffusion of the most popular technologies to non-participant farmers in the local communities (Maguza *et al.*, 2013).

Third, the study involved *Mtandao Wa Vikundi vya Wakulima Tanzania* (MVIWATA), which is a national level farmers' organization that brings together smallholder farmers from all regions in Tanzania to have a common voice to defend their economic, social, cultural and political interests of smallholder farmers. The network was founded in 1993 by smallholders themselves. Currently, MVIWATA is the largest smallholder farmers' grassroots movement in the country with branches in Shinyanga, Ruvuma, Monduli, Mbeya, Manyara, Kilimanjaro, Kagera, Iringa, and Morogoro regions. Its long-term goal is to empower smallholders through capacity strengthening to undertake lobbying and advocacy, especially by strengthening groups and networks, facilitating communication and learning so that they can defend their interests. This is achieved through the unification of smallholder farmer's groups and networks. Its impact includes organizing smallholder farmers' networks, advocacy work, gender and HIV/AIDS, market access, financial services, market information system and food security (MVIWATA, 2016).

### **3.2.3 research design, sampling and data collection**

The study adopted the case study research design. The design is common in social science studies for an in-depth and multi-faceted understanding of a complex issue. It is also good for describing, comparing, evaluating and understanding different aspects of a research problem. A case study usually involves qualitative methods, but quantitative methods are sometimes used (McCombes, 2023). In this study, data were collected once from selected NGOs in the municipality, which implement agricultural interventions. The study adopted the M&E systems strengthening tool developed under the auspices of the UNAIDS Monitoring and Evaluation Reference Group (MERG) in 2004 as the guiding

framework to assess M&E systems (UNAIDS, 2009). Primary data were collected using interviews with M&E technical officers and a desk review.

One M&E technical officer was interviewed from each NGO making a total of three key informants. The interviews and the desk review were guided by a checklist of items. The study reviewed project documents like M&E framework, project monitoring reports, data collection tools and management information systems. The aim was to triangulate data collection methods and sources to understand how functional were the M&E systems in terms of data and information management in the selected organizations. The approach developed by UNAIDS (2009) enabled measurement of the data and information management for the M&E systems as shown in Table 3.1. The variables included in this Table guided development of checklist of items for data collection.

Selection of the NGOs involved in the study was purposeful focusing on the NGOs implementing agricultural interventions. Initially, the study identified twelve NGOs implemented in Morogoro municipality. Five out of these NGOs were selected based on the criterion of focusing on agriculture. Because of no response of the Sustainable Agriculture Tanzania (SAT) and Private Agriculture Sector Support (PASS), the study collected and analyze data from three NGOs: Participatory Ecological Land Use Management (PELUM), Research, Community, and Organizational Development (RECODA) and National Farmers Organization commonly known in Kiswahili as *Mtandao wa Vikundi vya Wakulima Tanzania* (MVIWATA). The sample unit was NGOs where one response represented one NGO M&E system.

**Table 3.1: Descriptions of variables used to measure data and information management**

<b>Variable</b>	<b>Meaning</b>
Routine program monitoring	Routine program monitoring is a continuous activity that collects reliable data and reports it regularly. Data analysis is used to determine whether program activities lead to the anticipated outcome
Surveys and surveillance	This shows how an organization conducts relevant surveys during the M & E implementation process. Surveys and surveillance should be conducted more frequently and used more regularly to assess the development of a given organization's interrelated projects
Organization database	M&E systems need to develop strategies to submit relevant, reliable and valid data to organization databases to meet the increasing demand for data
Supportive supervision and data auditing	Supportive supervision and data auditing are essential for efficient M&E processes. Supportive supervision ensures that the M&E process is run efficiently, while data auditing ensures reliability and validity. All project decisions are based on the data collected
Evaluation and research	Research is an essential part of M&E, and programmes are evaluated at predetermined intervals to determine whether they have achieved anticipated outcomes. This provides fast data input for organizational learning and success sharing with essential stakeholders
Data dissemination and use	Organizations must ensure that information gathered during project implementation is used to inform future activities and that results of monitoring and evaluation outputs are shared with relevant stakeholders for accountability purposes

**Source: UNAIDS (2009)**

### **3.2.4 Data analysis**

Descriptive statistics were used to measure component scores to assess the degree of compliance of each component. The 5-point continuum scale of 1 to 5 was used to calculate mean scores of functionalities. The actual score =  $\sum X_n$ , where n represents 1 to 3. For each component, the maximum sum of average scores was

$N=5 \times 3=15$ . The level of functionality was categorized due to interquartile range including 0-49% that meant not functioning well, 50-79% meant functioning moderately but needed significant improvement and 80-100% meant functioning very well. This scale and its interpretation was adopted from Obunga (2015). Based on these scale, the average scores for each of the variable was calculated. Similarly, the overall mean score for each variable was calculated. The component was functional if the actual scores were equal to maximum scores, and not functional if the actual scores were less than maximum scores. Alternatively, the component was functional if the difference gap score was zero and it was not functional if the difference gap score was greater than zero. Data were analyzed using SPSS v6.

The Kruskal Wallis H test was used to test the null hypothesis that there is no difference in the extent of functionality of variables relating to data and information management for M&E systems to function among the selected NGOs. The equation for the Kruskal Wallis H test statistic (*Kruskal and Wallis, 1952 and 1953*) is a multiple-sample generalization of the samples. Samples of sizes  $n_j$ ,  $j = 1 \dots m$ , are combined and ranked in ascending order of magnitude. Tied values are assigned the average ranks and  $n$  denote the overall sample size.

$$\text{Let } R_j = \sum_{i=1}^{n_j} X_{ij} \quad (1)$$

$R_j$  denotes the sum of the ranks for the  $i^{\text{th}}$  sample. The *Kruskal-Wallis's test*,  $H$ , is defined as;

$$H = \frac{1}{S^2} \left\{ \sum_{j=1}^m \frac{R_j^2}{n_j} - \frac{n(n+1)^2}{4} \right\} \quad (2)$$

Where;

$$S^2 = \frac{1}{1-n} \left\{ \sum_{\text{All ranks}} R(X_{ij})^2 - \frac{n(n+1)^2}{4} \right\} \quad (3)$$

If there are no ties, this equation simplifies to

$$H = \frac{12}{n(n+1)} \sum_{j=1}^m \frac{R_j^2}{n_j} - 3(n+1) \quad (4)$$

The sampling distribution of H is approximately  $\chi^2$  with  $m - 1$  degrees of freedom.

### 3.3 Results and Discussion

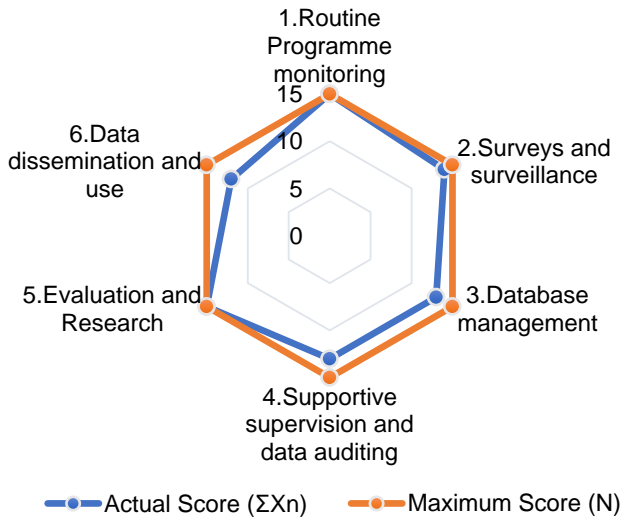
#### 3.3.1 Data and information management

The six variables for data and information management scored 82 out of 90, which is 91.1% (Table 3.2). This implies that data and information management functioned properly. Even though, the scores varied from variable to variable, with routine programme monitoring and research scoring the highest while data dissemination and use scored the lowest. This is interpreted that the NGOs involved in the study well practiced monitoring, which is a continuous observation and recording of information to assess efficiency of the intervention. Even though, information dissemination needed improvement to fill the existing gaps between the actual and maximum scores. Previous studies including MEASURE Evaluation (2013), show different results uncovering weak data and information management in M&E systems.

**Table 3.2: Overall data and information management of M&E system**

Variable	Actual Score ( $\Sigma X_n$ )	Maximum Score (N)	Gap Between Actual Score & Maximum Score
Routine programme monitoring	15	15	0
Surveys and surveillance	14	15	1
Database management	13	15	2
Supportive supervision and data auditing	13	15	2
Evaluation and Research	15	15	0
Data dissemination and use	12	15	3
<b>Total</b>	<b>82</b>	<b>90</b>	<b>8</b>

Based on figure 3.2, the lowest and highest scores are plotted in one margin scale relative to the centre point. The orange line shows the maximum scores, while the blue line indicates the actual scores. The nearer the blue points to the centre the poorer the functionality of the M&E component and vice versa. The distance between the orange and blue points are the gaps that should be used as a base for improvement, emphasizing specific variables that must be improved within the selected NGO.



**Figure 3.2: Overall scores for selected organizations data and information management**

The results of different variables showed that routine programme monitoring scores were 15 similar to the maximum scores (Fig. 3.2). This implies that there was no marked distance between maximum and actual scores. Similarly, actual and maximum scores for research and evaluation were the same suggesting that monitoring was done as planned. This can also be interpreted that data and information management perfectly functioned. The current study assessed research and evaluation based on availability of research and evaluation guidelines highlighting methods and standards,

availability of baseline data, resources available for carrying out research and evaluation activities, and evaluation guidance standards and methods. The results for routine programme M&E were in line with Measure Evaluation (2013), where tools for data collection were available for the system assessed. There were guidelines for how data should be entered into the system, from the tools to the system, once it was collected. For research and evaluation, the results were in line with Chisinau (2010).

On surveillance and surveys, the study assessed indicators like regular supervision visits and reports, data quality audits, an available updated inventory of all surveys conducted, and a specified schedule for future surveys and surveys with supported indicators being measured. The variable scored 14 out of 15 (Table 3.2). This means that there was a marked distance between maximum and actual scores. In other words, the component needed some improvement in this aspect. This is almost in line with Ogungbemi *et al.* (2012) who reported functional surveillance surveys system in Nigeria that provided data and information for outcome and impact indicators in the M&E plan.

About database management, the current study assessed how data was captured and stored accurately. The indicators for assessment were well-managed and well-defined databases, an integrated database that stores data captured, mechanisms put in place to ensure data is captured, and structures for transmitting information among various databases. The actual scores were 13 while the maximum scores were 15 (Table 3.2) indicating a gap of two scores. USAID (2010) also reported similar results in the health management information system in Kenya, implying that the NGOs needed improvement in the area of database management.

Supportive supervision and data auditing are essential in any M&E system for improving data quality. The current study assessed presence of organizational policy on supervision and data auditing.

The component scored 13 out of 15, implying a marked distance between maximum and actual scores (Table 3.2). This was supported by desk review, which showed absence of standard audit reports and supervision systems for detecting missing data. The actual scores for data dissemination and use were 12 while maximum scores were 15 (Table 3.2). Therefore, there was a marked distance between maximum and actual scores. Sikuku (2019) reported similar results on data dissemination and use.

### 3.3.2 Data and information management at PELUM

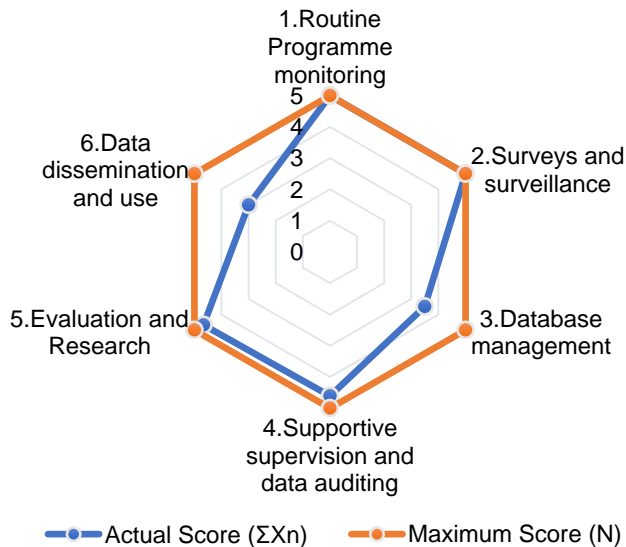
The results in Table 3.3 and figure 3.3 show that the overall data and information management of M&E system at PELUM scored 27 out of 30 which is 90%. This is considered very well-functional although needed minimal improvements with regard to database management and data dissemination and use to perfect the M&E system.

**Table 3.3: M&E system scores at PELUM**

Variable	Actual Score ( $\Sigma X_n$ )	Maximum Score (N)	Gap Between Actual Score & Maximum Score
Routine Programme monitoring	5	5	0
Surveys and surveillance	5	5	0
Database management	4	5	1
Supportive supervision and data auditing	5	5	0
Evaluation and Research	5	5	0
Data dissemination and use	3	5	2
<b>Total</b>	<b>27</b>	<b>30</b>	<b>3</b>

The gap between actual and maximum scores for monitoring, survey and surveillance, supervision and data audit, and evaluation and

research was zero. Put differently, there were no gaps between actual and maximum scores on those variables. This implies that the variables were well functional. However, database management and data dissemination did not well function as explained by the gaps (Table 3.3). According to the key informant, the NGO did not utilize the lessons learned from implementation of M&E system. This coincided with the quantitative results. These results were in line with USAID (2010) in Kenya that observed not well functional database management and data dissemination in the health management information system of the Ministry of Health.



**Figure 3.3: Data and Information Management of M&E system at PELUM**

### 3.3.3 Data and information management at RECODA

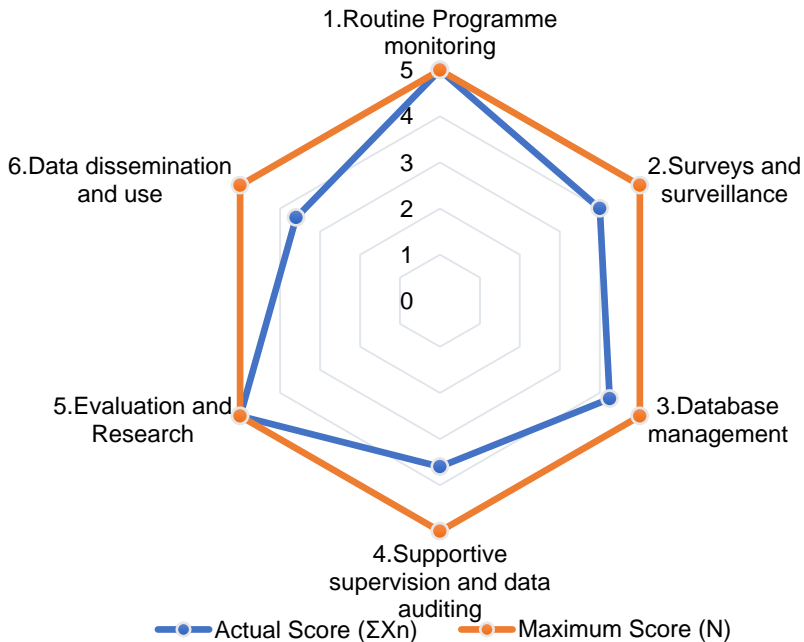
Generally, data and information management scored 26 out of 30, which is 86.7% (Table 3.4 and Figure 3.4). This implies that the component functioned well. However, the gap suggests that minimal improvements were unavoidable to make the data and information management perfect. The areas that needed improvement include

surveys and surveillance, database management, supportive supervision and data audit, and data dissemination and use. Results from the key informant coincided with the quantitative results.

**Table 3.4: M&E system scores at RECODA**

<b>Variable</b>	<b>Actual Score (ΣXn)</b>	<b>Maximum Score (N)</b>	<b>Gap Between Actual Score &amp; Maximum Score</b>
Routine programme monitoring	5	5	0
Surveys and surveillance	4	5	1
Database management	4	5	1
Supportive supervision and data auditing	4	5	1
Evaluation and Research	5	5	0
Data dissemination and use	4	5	1
<b>Total</b>	<b>26</b>	<b>30</b>	<b>4</b>

The key informant noted that on one hand different donors have different M&E systems particularly about data collection, processing and reporting. On the other hand, RECODA implemented different projects in different geographical areas supported by different donors with different requirements for M&E systems. This has implication on how to organize and handle M&E activities. Arguably, this can be overcome through capacity building to the project staff, developing one standard M&E system to avoid duplication of data. Even though, reporting should abide by the requirements of the specific donors.



**Figure 3.4: Data and information management at RECODA**

### 3.3.4 Data and information management at MVIWATA

Overall, data and information management at MVIWATA scored 30 out of 30, which is 100% (Table 3.5 and Figure 3.5). Therefore, the gap was zero. This implies that data and information management were perfect and therefore well functioned. The organization had a portal known as M&E Web-base, which showed an existence of uniform data collection tools and information technology equipment to run data and information management at the organizational level.

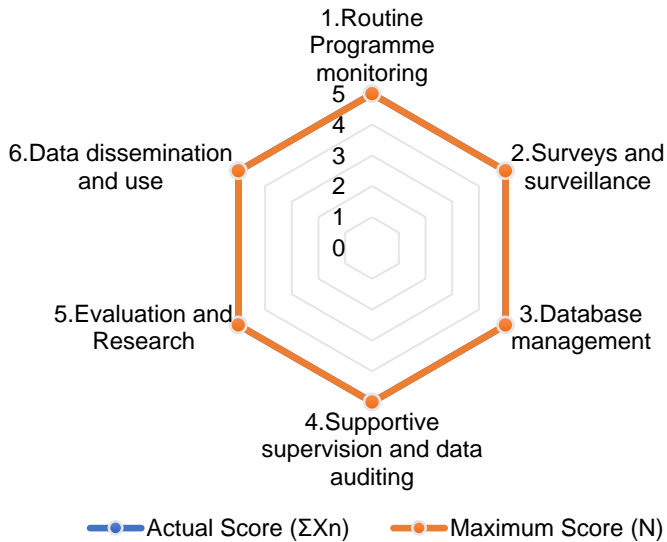
MVIWATA had a well M&E web-based data and information management system compared to RECODA and PELUM that did not have. This system linked different systems into one major databases, making it a single point of information access. Nevertheless, the results at MVIWATA need to be taken with caution because it is difficult to have a perfect M&E system. The results for

this NGO were possibly affected by the key informant's response bias.

According to Braa and Sahay (2012), data and information management must be of high quality so that data users are confident of the accuracy of data they are consulting. Without quality data, demand for data drops, data-informed decision-making could be difficult, and programme efficiency and effectiveness may suffer. These findings are similar to Nyarige (2016), who assessed the National AIDS Control Council (NACC) M&E system in Kenya and found functional data and information management.

**Table 3.5: Data and information management at MVIWATA**

<b>Variable</b>	<b>Actual Score (ΣXn)</b>	<b>Maximum Score (N)</b>	<b>Gap Between Actual Score &amp; Maximum Score</b>
Routine programme monitoring	5	5	0
Surveys and surveillance	5	5	0
Database management	5	5	0
Supportive supervision and data auditing	5	5	0
Evaluation and Research	5	5	0
Data dissemination and use	5	5	0
<b>Total</b>	<b>30</b>	<b>30</b>	<b>0</b>



**Figure 3.5: Data and information management of M&E system at MVIWATA**

### 3.4 Comparing extent of data and Information functionality in selected NGOs

The discussion in this study shows that PELUM and RECODA had weaknesses in database management, and data dissemination and use. This implies that the information generated by the M&E systems were not disseminated adequately to the appropriate stakeholders. While data and information management at MVIWATA suggested strongest M&E system at the organizational level, RECODA was the weakest NGO because in addition to weak database management and data dissemination and use, there were weaknesses with regard to surveys to generated benchmarks and or baseline data against which progress could be gauged. Supervision and data audit also showed weaknesses.

The null hypothesis in this study tested if there was no difference in the extent of functionality of the component relating to data and information management for M&E systems among the selected

NGOs. Using the Kruskal Wallis H Test the results show that the H-test statistic was 2.000; while the P-value was 0.386 (Table 3.6). Therefore, the null hypothesis was not rejected because the P-value was greater than 0.05 level of significance. Hence, there was no significant difference in the extent of functionality of data and information management for M&E system among the selected NGOs.

**Table 3.6: Comparing data and information management among the NGOs**

<b>Variable</b>	<b>PEL UM</b>	<b>RECO DA</b>	<b>MVIW ATA</b>	<b>Tot al</b>	<b>H- Test</b>	<b>P- value</b>
Routine programme monitoring	2.00	2.00	2.00	5.0 0	0.00 0	1.00 0
Surveys and surveillance	2.50	1.00	2.50	4.6 7	2.00 0	0.36 8
Database management	1.00	2.00	3.00	4.2 5	2.00 0	0.36 8
Supportive supervision and data auditing	2.00	1.00	3.00	4.4 0	2.00 0	0.36 8
Evaluation and Research	1.00	2.50	2.50	4.8 9	2.00 0	0.36 8
Data dissemination and use	1.00	2.00	3.00	3.8 7	2.00 0	0.36 8

### **3.5 Conclusions and Recommendations**

The results in this study have important programmatic and policy implications for the agricultural M&E systems in the selected NGOs. The M&E systems were functional, though some areas needed improvement. For example, RECODA and PELUM showed weaknesses in some components including surveys and surveillance, database management, supportive supervision and data auditing and data dissemination and use. A challenge featured out very clearly on how to organize and handle M&E system at RECODA because it received financial support from different

donors, with different M&E requirements, to implement different projects. In this regard, harmonization of M&E systems was unavoidable. The perfectness of MVIWATA should be taken by caution because it is difficult for a system to be perfect by 100%, somewhere somehow should need improvement in the course of implementation. The study recommends that PELUM and RECODA should improve functionality of M&E systems, particularly data and information management to maximize achievement of the results.

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## CHAPTER FOUR

### 4.0 General Discussion

The assessment results confirmed that the selected agricultural NGOs had organizational structures that helped them perform their M&E mandates and functions, but these structures do not exist at the national and civil society levels. But the NGOs had job descriptions for the M&E staff, which were available; the organization structure was also available; meetings to assess progress, plan, and coordinate were organized and conducted; stakeholders were involved through consultations; and the M&E strategy for the organization was updated and planned.

The results also showed that some attempts had been made to improve the abilities of the individuals in charge of managing the M&E systems at various project levels. To increase capacity building in holistic way which focus on people, organizations, and systems. A capacity-building plan should be required to address the capacity of the individuals, organizations, and systems at the organization, programs, projects, and service delivery levels involved to execute M&E functions or manage employees doing this work.

The M&E Technical Working Group (TWG) encourages strong partnerships between individuals from various organizations in order to carry out the project successfully. However, as the study showed, the level M&E TWGs' functionality is affected by a poor organizational structure and a lack of human capacity. The assessment further reveals poor communication that caused a challenge among key stakeholders on completed, ongoing, and upcoming activities for better and more timely decision-making. Correcting this would increase the advantages of these partnerships for the coordination, and management of the M&E system.

The study also shows that a costed work plan and an organization's M&E plan are necessary components for an effective M&E system that can generate high-quality data for evidence-based decisions.

Both are intended to provide a description of the M&E system's principles, functions, data collection methods, and operational details. The findings show that the lack of a costed M&E work plan, which led to duplication of effort and inefficient use of human and financial resources that could have been used to improve the M&E system, undermined the M&E strategy. The assessment also showed that, due to the complete absence of communication and advocacy plans for the systems evaluated, there is no direction on how to identify, develop, and share information products arising from planned M&E activities.

It was evident from the assessment that selected agricultural NGOs had strong routine program monitoring systems, perhaps because the donor agencies pay more attention to project activities. Routine program monitoring continues to be beset by challenges like the proliferation of data collecting and reporting tools, poor data quality, a lack of guidelines and protocols, and inadequate supportive supervision from the activity project level. The majority of the outcome and impact indicators in the M&E plan are supported by data from NGOs' effective monitoring systems, which regularly undertake surveys and reviews. However, the sample size of most surveys, surveillance studies, and evaluation studies has not been sufficient to provide estimates at the project level, so policymakers at those levels do not know whether programs are reducing the impact of poverty in their states.

## **CHAPTER FIVE**

### **5.0 GENERAL CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 General Conclusions**

The M&E system of selected agricultural NGOs was functioning very well with minimal improvements. From the presentation of the results, the assessment found out that the monitoring and evaluation system has an enabling environment that operates the systems which were seen to have functionality but some components were not functioning properly which are advocacy, communication and culture, partnerships and M&E plan. However, there were some challenges that were observed from the assessment within this component which needs improvements included lack of human capacity and poor communication and advocacy plan. In terms of data and information management, the assessment found out that there are components which need improvement which are database management, data dissemination and use and supportive supervision and data auditing. The assessment however, points out on some challenges within the system which limit functionality of the system was inadequate funding was cited as a major challenge affecting the system. Most activities were cited not to have been conducted due to lack of funds.

#### **5.2 General Recommendations**

The results of the assessment of selected agricultural NGOs were seen as functional but there are improvements needed to be improved to be sustainable. The NGOs should have a more systematic and long-term approach to develop M&E systems has indicator of the project to track implementation The M&E systems should include indicators, measures, and tools designed for each level of project activities and in alignment with the organization's reporting categories. Staffs at the organizations need to undergo basic training in M&E principles and practices. To encourage stronger buy-in from program staff, policymakers and donors must support the importance of M&E as a reporting and program

management practice. The assessment also showed the necessity of strengthening the provision of technical assistance in M&E at the project and organizational levels, as well as supporting supervision, feedback loops, and support. NGOs should develop of a robust information system that links program-specific sub-systems for tracking program outcomes, captures and collates data, and facilitates financial management of programs. A strategy for information flow across projects and organizations is required to support this information system.

## APPENDICES

### Appendix 1: The Monitoring and Evaluation system Components and the corresponding indicators.

COMPONENT	ELEMENTS
Organizational Structures within M&E Functions.	<ul style="list-style-type: none"> <li>• M&amp;E unit exist</li> <li>• Adequate and qualified M&amp;E staff</li> <li>• M&amp;E roles and responsibilities are clearly defined in the job description</li> <li>• Available budget to support M&amp;E activities</li> <li>• Meetings to assess progress, plan and coordinate</li> <li>• M&amp;E defined career paths.</li> </ul>
Human Capacity for M&E.	<ul style="list-style-type: none"> <li>• Funds for M&amp;E staff capacity building are available</li> <li>• Skills related to M&amp;E for staff be assessed in the last three years of M&amp;E job training</li> <li>• Coordination of jobs to avoid duplication of work</li> <li>• Gaps of M&amp;E related skills required by staff be incorporated into the organization's capacity building plan</li> </ul>
M&E Partnerships	<ul style="list-style-type: none"> <li>• An inventory of all M&amp;E partners</li> <li>• Availability of a mechanism for coordination among partners</li> <li>• Participation in the national M&amp;E technical working groups</li> </ul>
M&E Plan.	<ul style="list-style-type: none"> <li>• Available M&amp;E plan</li> <li>• Stakeholders involved in the development of an M&amp;E plan</li> <li>• Revised M&amp;E plan based on M&amp;E system reviews and assessments</li> <li>• M&amp;E system in place meets the international standards</li> <li>• Available budget estimates for M&amp;E</li> </ul>

	activities
Costed Work Plan.	<ul style="list-style-type: none"> <li>• The work plan covers activities, who to implement, period, costs, and available budget.</li> <li>• M&amp;E activities have been costed</li> <li>• M&amp;E plan linked to program work plan.</li> <li>• Work plan updated annually centered on performance monitoring. M&amp;E work plan is developed against the previous year's activities</li> </ul>
M&E Advocacy, Communications, and Culture.	<ul style="list-style-type: none"> <li>• Existence of a communication and advocacy plan</li> <li>• Availability of structured, targeted and M&amp;E advocacy activities planned</li> <li>• Existence of M&amp;E materials to give various categories of distinct messages</li> <li>• M&amp;E plans are integrated into the overall strategy of the organization Managers are supportive and involved in M&amp;E activities</li> <li>• M&amp;E staff are part of the planning and management team M&amp;E performance is frequently communicated</li> <li>• The organization has people who champion and support M&amp;E activities</li> </ul>
Routine Programme Monitoring	<ul style="list-style-type: none"> <li>• Existence of M&amp;E guidelines that document the procedures for reporting M&amp;E data</li> <li>• Existence of guidance on how data quality is to be maintained</li> <li>• Departments use standardized reporting tools</li> </ul>

	<ul style="list-style-type: none"> <li>• Availability of all source documents during the previous data audit visit</li> <li>• Reports are verified by program officers and M&amp;E before reporting</li> <li>• Available mechanisms to resolve variances in the reports</li> <li>• Results of routine program monitoring are used to formulate indicators in the M&amp;E plan</li> </ul>
Surveys and Surveillance.	<ul style="list-style-type: none"> <li>• An available updated inventory of all surveys conducted</li> <li>• Surveys conducted have supported indicators being measured</li> <li>• There are scheduled impending surveys</li> <li>• Existence of roasters for future surveys</li> </ul>
National and Sub-national databases	<ul style="list-style-type: none"> <li>• Existence of an integrated database that stores data captured</li> <li>• There exist structures for transmitting information among various databases</li> <li>• Mechanisms are put in place to ensure data is captured accurately.</li> </ul>
Supervision and Data Auditing.	<ul style="list-style-type: none"> <li>• Existence of guidance for supervision of M&amp;E activities</li> <li>• Adherence to data audit procedures and protocol</li> <li>• Data audit and field visit reports can be accessed</li> <li>• Periodic data audit visits.</li> </ul>
Research and Evaluation.	<ul style="list-style-type: none"> <li>• Existence of a schedule of research and evaluation</li> <li>• Availability of research and evaluation guidelines highlighting methods and standards</li> <li>• Indication of results discussed and disseminated</li> </ul>

	<ul style="list-style-type: none"> <li>• Resources available for carrying out research and evaluation activities</li> </ul>
Data Dissemination/ Use	<ul style="list-style-type: none"> <li>• Analysis of data needs and data users. Information products for different audiences with a dissemination schedule.</li> <li>• Information products for different audiences with a dissemination schedule.</li> <li>• Accurate data use calendar.</li> <li>• Standard format for data tabulation and reporting.</li> <li>• Tangible evidence of use of information.</li> </ul>

SOURCE: Adapted from UNAIDS 2009.

## Appendix 2: Questionnaire

My name is Evelyne Manyama. I am here today to assess your organization's Monitoring and Evaluation System. I am a student from the Sokoine University of Agriculture, pursuing MA in Project Management and Evaluation. Since you are the key person, I would like to hear your thoughts, feelings, observations, and experiences with agricultural M&E systems. Your name will not be recorded with your answers. Everything you say will be kept confidential and used for academic purposes only. The most important thing is that you answer honestly about what you think or feel. If there are questions that you do not want to answer, that is ok. If you do not understand the question and need more clarification, please ask.

### SECTION A: ASSESSMENT OF M&E COMPONENTS RELATING TO ENABLING THE ENVIRONMENT TO FUNCTION.

To what extent has your organization adopted or embraced each of the following components of the system of M&E? Tick (√) as per the scale:

(1 – Strongly disagree, 2 – disagree, 3- not sure, 4 – agree, 5 – strongly agree)

COMPONENT	OF ELEMENT DESCRIPTION	1	2	3	4	5
<b>M&amp;E</b>						
Organizational structures with M&E functions	1. Job descriptions for M&E staff					
	2. The number of skilled M&E staff establishes whether it is adequate and qualified					
	3. The organizational structure of M&E the organization					
	4. Meetings to assess progress, plan and coordinate					
	5. Involvement of stakeholders through consultations and planning for M&E					
	6. Is M&E strategy for organization well-updated /plan					

	for updating in place					
Human capacity for M&E	7. Funds for M&E staff capacity building are available					
	8. Skilled related to M&E for staff be assessed in the last three years of M&E job training					
	9. Standard curricula for M&E capacity training					
	10. Gaps of M&E related skills required by staff be incorporated into the organizational capacity building plan					
M&E Partnerships	11. Participation in M&E technical working group					
	12. Availability of a mechanism for coordination among partners					
	13. An inventory of all M&E partners					
	14. Routine channels for communication					
M&E Plan.	15. M&E plan linked to the organization's strategic plan					
	16. There is an up to date M&E plan					
	17. A PMP matrix exists that list indicator, targets, data sources, baseline, methods reporting frequency and responsible entities					
	18. Targets have been set for key performance indicators					
	19. Available budget estimates for M&E activities					
	20. Stakeholders involved in the development of an M&E plan					
	21. Available M&E plan					
Cost Work Plan.	22. The work plan covers activities,					

	who to implement, period, costs and resources.					
	23. Budgetary allocations to operationalize the work plan					
	24. Stakeholder endorsing work plan					
	25. M&E plan linked to program work plan					
	26. The M&E plan is updated yearly.					
M&E Advocacy, Communications and Culture.	27. Senior management endorsing M&E action					
	28. M&E clear references in a strategic plan					
	29. M&E materials targeting a different audience					
	30. Availability of M&E advocacy plan					

**SECTION B: ASSESSMENT OF COMPONENTS OF M&E RELATING TO COLLECTING, CAPTURING AND VERIFYING DATA.**

To what extent has your institution embraced each of the following components of the system of M&E? Tick (√) as per the scale:

(1 – Strongly disagree, 2 – disagree, 3- not sure, 4 – agree, 5 – strongly agree)

M&E COMPONENT	ELEMENT DESCRIPTION	1	2	3	4	5
Routine Programme Monitoring	1. Data collection strategy					
	2. Data collection and reporting mechanisms					
	3. Essential tools and equipment for data management					
	4. Data transfer attributed					

	to routine procedures						
Surveillance and Surveys	5. Regular supervision visits and reports						
	6. Data quality audits						
	7. An available updated inventory of all surveys conducted						
	8. Specified schedule for future surveys						
	9. Surveys conducted have supported indicators being measured						
Organization Databases	10. Databases that are well managed and Well-defined.						
	11. Existence of an integrated database that stores data captured						
	12. Mechanisms are put in place to ensure data is captured						
	13. There exist structures for transmitting information among various database						
Supportive Supervision and Data Auditing	14. Standard audit reports and supervision						
	15. systems are in place for detecting missing data						
	16. Routine supervision visits, including data assessments and feedback to field staff						
	17. Existence of guidance for supervision of M&E						

	activities						
	18. Periodic data quality audits						
Research and Evaluation	19. Evidence of use of evaluation results to improve performance						
	20. Existence of a schedule of research and evaluation						
	21. Availability of research and evaluation guidelines highlighting methods and standards						
	22. Baseline data is available for the first year of the project						
	23. Resources available for carrying out research and evaluation activities						
	24. Evaluation guidance standards and methods						

**SECTION C: ASSESSMENT OF COMPONENTS RELATING TO  
THE USE OF DATA IN MAKING DECISIONS  
(UTILIZING INFORMATION TO IMPROVE  
RESULTS)**

To what extent has your institution embraced each of the following components of the system of M&E? Tick (√) as per the scale:

(1 – Strongly disagree, 2 – disagree, 3- not sure, 4 – agree, 5 – strongly agree)

<b>M&amp;E COMPONENT</b>	<b>ELEMENT DESCRIPTION</b>	<b>1</b>	<b>2</b>	<b>3</b>			<b>4</b>	<b>5</b>
Dissemination of Data and Utilization	1. Information products for different audiences							
	2. Accurate data use calendar.							
	3. Dissemination schedule for M&E information							
	4. Plan for data use							
	5. Tangible evidence use of information							

**SECTION D**

1. Are there challenges affecting the M&E system of the organization? (If yes, mention and describe them)
2. How does the organization overcome the challenges?
3. How best do to address the challenges?
4. What affects M&E system operation?
5. What is needed to improve M&E system operation in the organization?

**Thank you for your time**

### **Appendix 3: Desk review checklist**

**The desk review is an essential part of assessing an M&E system. The following questions guide in determining the M&E system in the organization.**

1. What are the critical components of the organization's M&E system?
2. What are the M&E documents and records prepared and used by the organization?

#### **Organizational Structures Functions**

**Critical Issues to be addressed:**

- Check whether a unit of M&E exists at the organization responsible for M&E functions.
- Acquire any kind of document that provides the legislative and policy framework for the system of M&E.

#### **M&E Human Capacity**

**Critical Issues to be addressed:**

- Check whether there exists a building plan for human capacity; it could exist as a document that is standalone or be in the plan of M&E
- Check whether the existing building plan for human capacity is based on the results of assessments

#### **M&E Partnerships**

**Critical Issues to be addressed:**

- Check whether there exist Technical Work Groups/Committees of M&E coordinated by the organization.
- Check whether there exists stakeholders' inventory for the system of M&E and if it is updated periodically.

#### **M&E plan**

**Critical Issues to be addressed:**

- Check whether there exists a National Plan for M&E.

- The list of participants in creating the M&E plan should be reviewed to check whether it incorporates a good range of stakeholders
- .The list of participants in creating these documents should be reviewed to check whether it incorporates stakeholders' system sufficient representation

#### Costed, M&E Work Plan

Critical Issues to be addressed:

- Check whether there exists a National M&E.
- Check whether there exists a work plan section.
- Check whether the Work Plan of National M&E is costed and has an implementation timeline. For each activity, responsible partners are identified.

#### Advocacy, Communication and Culture for M&E

Critical Issues to be addressed:

- Check whether the policy or other similar document incorporates policy strategies and issues of M&E

#### Monitoring Routine

Critical Issues to be addressed:

- Check whether there exist guidelines on data collating, collecting, recording and reporting for each programme section
- Check if there exist national guidelines on the maintenance of data quality

#### Surveys and Surveillance

Critical Issues to be addressed:

- Check whether there exist survey inventories conducted by the organization.
- If the inventory exists, check when it was last updated.
- Come up with a summary of the frequency of conducting each of the following surveys in the nation:

### M&E databases

Critical Issues to be addressed:

- Review the depth, breadth and quality of the available sub-national and national databases

### Supportive Data Auditing and Supervision

Critical Issues to be addressed:

- Review all the data audits and data quality studies report
- Find the organization's policy on supervision.

### Research and Evaluation

Critical Issues to be addressed:

- Check whether there exists a Research and Evaluation Agenda.
- If there exists, how was it utilized, and when was the last update
- Acquire any evaluation and research inventory

### Dissemination of Data and Utilization

Critical Issues to be addressed:

- Information product samples should be obtained from numerous databases
- An annual statistical report should be obtained.

Here are examples of the types of documents that might provide helpful information:

- Organizational strategic plans
- M&E plans
- Organizational work plan
- History and organizational structure documents
- Previous M&E capacity assessments
- Evaluation plans
- M&E training materials
- M&E job description
- Auditing and supervision
- Survey
- partnership