



DEPARTMENT OF PROJECT MANAGEMENT

AN ASSESSMENT ON THE PRACTICE AND CHALLENGES OF
PROJECT MONITORING AND EVALUATION: THE CASE OF ROAD
CONSTRUCTION PROJECTS IN ETHIOPIAN ROAD AUTHORITY

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A Thesis Submitted to St. Mary's University Department of project
Management in Partial Fulfillment of the Requirement for the Degree of Master
of Arts in Project Management

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Declaration

This research thesis is my original work and has not been presented for a degree in any other university. All sources of materials used for the thesis have been duly acknowledged.

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List of acronyms and abbreviations

EC CSF	European Commission Civil Society Fund
ERA	Ethiopian Road Authority
ETB	Ethiopian Birr
IFRCRC	International Federation of Red Cross and Red Crescent Societies
IUCN	The World Conservation Union
IFAD	International Fund for Agricultural Development
M&E	Monitoring and Evaluation
MOFEC	Ministry of Finance and Economic Cooperation
MoFED	Ministry of Finance and Economic development
PMBOK	Project Management Body of Knowledge
RSDP	Road Sector Development Program
SAMDI	The South African Management Development Institute
SPSS	Statistical Package For Social Science
UNAIDS	United Nations Programme on HIV/AIDS
UNDP	United Nations Development Program
URRAP	Universal Rural Road Access Program
WB	World Bank

Abstract

Monitoring and Evaluation of projects is one of the key processes of project management through the gathering of information and assessment of it to determine whether progress is being made towards pre-specified goals and objectives and to highlight whether there are any unintended (positive or negative) effects from a project and its activities. This study aims to assess the practices and challenges of monitoring and evaluation in construction of road projects: the case of Ethiopian Road Authority- Specifically how the practices of monitoring and evaluation of road construction projects look like?, What are the main challenges of monitoring and evaluating road construction projects?, How the practice of monitoring and evaluation of institutional learning and knowledge sharing look like? And How monitoring and evaluation exercised to come up accountability?. To meet these objectives, the researcher has used a descriptive survey design and the data was collected from both secondary and primary sources (questionnaires). Survey questionnaires were distributed to 83 samples of employees which are selected from 172 employees used as target population from eight directories using proportionate stratified random sampling technique. Data was analyzed using descriptive statistics with the help of SPSS version 20 and presented using tables. A Cronbach alpha test was conducted to measure the internal consistency and reliability of the data collection instruments and was found out to be reliable Since the alpha values of all 50 items are 0.754 and were above 0.7. The result shows that performance management and project improvement are the motivations for monitoring projects. Presence of good Culture of disseminating monitoring & evaluation findings, employees understanding on M&E guiding, framework and manual to harmonize M&E concepts as well as their ethicality in time of conducting M&E and presence of a culture of institutional learning and knowledge sharing as areas that ERA doing better on the contrary inaccuracy in data collection, less and inconsistent involvement of stakeholders, inadequate field visit in the project site, less attention of top management to M&E, insufficient allocation of resources and lack of M&E expertise and IT system are the main challenges that hamper proper implementation of M&E in ERA are assessed. Finally, to conduct effective project monitoring and evaluation, this study recommends that it is important to providing training for employees on M&E related topics to building their capacity, arrange organization through adequate staff, required & sufficient quantity and quality of resources, conduct a regular and appropriate field visit to collect detailed data/information, consistently involve stakeholders in M&E. It is also vital to expand the use of innovative and technology guided approaches to M&E to increase project performance. Continuous programs to build the capacity of both managers and expertise in project management with an emphasis on M&E activities helps to overcome some of the main M&E challenges.

KeyWords:Monitoring and Evaluatio, capacity, Ethics, Resource and Budgetary allocation Planning, Budgeting, Data quality and Demand & Utilization findings.

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

Monitoring and evaluation are two separate, but interrelated strategies to collect data and report the findings on how well (or not) the policy, program, or project is performing. Monitoring is a process that involves, collecting the data about implementation, checking the progress of the plans/programs/projects, and implementing certain actions if the program /projects are not performed as planned. Whereas evaluation is a rigorous and independent assessment of either completed or ongoing activities to determine the extent to which they are achieving stated objectives (MOFEC, 2017).

However, they are geared towards learning from what and how activities are undertaken by focusing on efficiency, effectiveness, and impact. Thus evaluation is not a substitute for monitoring nor is monitoring a substitute for evaluation. There is not much point in doing monitoring if one cannot evaluate it, and one cannot evaluate something unless monitoring is conducted earlier. Both are indispensable project management tools for informed decisions and demonstrating accountability (MoFED, 2008).

According to UNDP (2009), attention needs to be placed on some of the common areas of weakness in projects to improve the chances of project success. One of the four main areas of focus identified is monitoring and evaluation of the remaining three areas of Planning, Stakeholder involvement, and Communication as to focus during project management.

Projects with strong monitoring and evaluation components tend to stay on track and also problems are often detected earlier, which reduces the likelihood of having major cost overruns or time delays later. In the absence of effective monitoring and evaluation, it would

be difficult to know whether the intended results are being achieved as planned, what corrective action may be needed to ensure delivery of the intended results (UNDP, 2009). To conduct effective monitoring and evaluation for project success M&E: should be conducted ethically and legally (IFRC, 2011); engage stakeholders in monitoring and evaluation, have a good Organizational Arrangement of M&E (UNDP, 2009); reference point (baseline) used for comparison with monitoring or evaluation data collected during or after the implementation of a strategy, project, or activity (USAID, 2017); setting relevant, clear and SMART indicators to assessing the progress of a plan (EC CSF, 2017), and setting a plan to disseminate the results of M&E (IFRC,2011) are the necessary factors.

Even if M&E have crucial for project success there are several constraints and challenges faced in conducting effective M&E activities among them are Weak institutional capacity, limited resources and budgetary allocations for monitoring & evaluation, the weak linkage between planning, budgeting, and monitoring & evaluation, weak demand for and utilization of monitoring and evaluation results, poor data quality, data gaps and inconsistencies (Callistus & Clinton, 2018).

From the above narration, it is possible to understand the importance of project monitoring and evaluation and the existence of challenges in doing so. Therefore, this study aims to assess the practice and actually faced challenges of monitoring and evaluation activities on road construction projects.

1.2 Statement of Problem

Many developing countries initiate and implement many projects to improve infrastructure and standard of living of their communities among them road infrastructure projects are mentioned. A large amount of budget is budgeted towards such community development projects. However, according to Callistus and Clinton (2018), pose that even if

numerous infrastructure projects initiated by most third world countries; they have failed to owe to several reasons. Notable among these reasons for the failure of projects include poor planning of the project. Biwott, Omar, and Ngeywo (2017), also assert that to ensure the prudence of fund utilization they need stringent measures and this can only and will be done through embedding monitoring and evaluation to the lifespan of the project. They also stated that to ensure the success of many projects monitoring and evaluation should be carried out correctly and at the right time and place. Unfortunately, these two monitoring and evaluation although known to many project developers tend to be given little priority. According to Callistus & Clinton (2018), Weak institutional capacity, limited resources and budgetary allocations for M&E, the weak linkage between planning, budgeting, and M&E, weak demand for and utilization of M&E results, poor data quality, data gaps, and inconsistencies also the factors to carried Out Effective M&E of projects.

Like other developing countries our country Ethiopia also initiates many road projects with a huge budget to improve the standard of living of citizens and to facilitate the national economy which is constructed and administered by the Ethiopian Road Authority. From desk review of the quarter and other reports conducted by the researcher in 2012 fiscal year Ethiopia road authority administer 346 road projects in different program rehabilitation, new roads construction and heavy, periodic and routine maintenance program with 46 billion birr which account a quarter of the national GDP of the country. And the researcher observes that 89 (26%) projects were low performed and 13 projects were terminated (ERA annual report, 2019). The road authority has exercise Monitoring and evaluation activity to track the performance of road projects with their specified time and cost but the researcher observed that there are projects were not going as their schedule and some of them were terminated. The M&E was established to follow up on the project status and to take corrective action if a deviation occurs from the plan which protects the project from delayed and termination.

Many of the earlier studies including Nagy J (2017), more planning and coordination, capacity building, data demand and use and research and surveillance as well as incorporation of ethics in Monitoring and Evaluation to enhance to efficiency and effectiveness sustainability of agricultural food crop projects and also Callistus & Clinton (2018), identify the barriers to effective implementation of project monitoring and evaluation on construction industry and add their own contribution to the concept of M&E and state their own policy implication they were inclined towards outside of Ethiopia. The finding of the study in one country may not serve to another due to the environment and time is different; their policy and implementation procedures are not the same. Accordingly, since no previous researches conducted on road projects on the same issue, due to such the researcher interested to conduct a study and fills the gap as well as analyzes the practice and challenges of project M&E: the case of road construction projects in Ethiopian road authority by considering institutional capacity, resources and budgetary allocations for M&E, the linkage between planning, budgeting, and M&E, demand for and utilization of M&E results, data quality and consistencies.

1.3 Research Questions

Based on the above problem statement, the study is expected to answer the following key research questions.

- i. How the practices of monitoring and evaluation of road construction projects look like?
- ii. What are the main challenges of monitoring and evaluating road construction projects?
- iii. How the practice of monitoring and evaluation of institutional learning and knowledge sharing look like?
- iv. How monitoring and evaluation exercised to come up accountability?
- v. How effective are the practices of monitoring and evaluation in the collection, analyses, and dissemination of information to track the projects?

1.4 objective of the Study

1.4.1. General Objective

The main objective of the study is to assess the practice and challenges of project monitoring and evaluation of road construction projects.

1.4.2. Specific Objectives

The specific objectives of this study are to: -

- A. To assess the practice of monitoring and evaluation of road construction projects.
- B. To identify the main challenges of monitoring and evaluation of road construction projects.
- C. To assess the role of monitoring and evaluation practice on institutional learning and knowledge sharing.
- D. To assess the role of monitoring and evaluation practice in ensuring transparency and accountability on road projects.

1.5 Significance of the study

The research will have significance for better project management practices, project performance, and success improving the overall project management of the country contributing specifically to the following parties.

1. For Development practitioners and managers working in road authority, the study will increase their awareness of monitoring and evaluation for project success through implement the plan in a better way, to use resources properly, to ensure transparency and accountability, to coordinate the working system, and to take lessons and to strengthen the culture of use of monitoring and evaluation results to make decision.

2. Ethiopian Road Authority and Minister of Finance can use the paper to refer and adapt findings and recommendations to strengthen if their practice is best and may the finding indicate their gap to undertake further research on M&E practice or may take simply lessons from research recommendations.

3. Similar project leaders can learn from the research result, about the underlying challenges in M&E practice for better project accomplishment and success.

4. Any Universities and researchers can refer to this paper for further studies about the subject matter and related issues. As a result, the study positively contributes to the betterment of road project management in general and the M&E practice in particular.

1.6 Scope of the Study

The scope of the study is limited to the assessment of monitoring and evaluation practices of road construction projects in Ethiopian Road Authority which covers only road projects managed by Ethiopian road authority by focusing on the challenges, strengths and weaknesses, and overall M&E practices. The study did not consider road projects by regional governments, Addis Ababa city road authority, and subsequent administrative hierarchies.

1.7 Limitation of the Study

In addition to the researcher financial and time limitations the government stays home preventing measure and action to cut the spread of the new epidemic coronavirus (covid 19) that is widely spread in the world as well as in our country Ethiopia may close many libraries and the researcher may unable to review more literature and if the virus continues also will affect the researcher to collect necessary data through distribute questionnaire and undertake interviews in every scope of research.

1.8 Definitions of Terms

Monitoring: refers to the continuous tracking of the project by way of collecting and analyzing data as the project progresses. It is the systematic process of collecting and analyzing information to track the efficiency of an organization in achieving its goals (PMBOK, 2017).

Evaluation: refers to the process of determining the worth or significance of an activity, policy, or program. It is the systematic and objective assessment of the on-going or completed projects in terms of planning, implementation, and results to judge issues such as program relevance, effectiveness, impact, and sustainability (PMBOK, 2017).

Monitoring & Evaluation: Monitoring and Evaluation is the process of systematically collecting and analyzing information on ongoing projects and comparison of the project outcome/impact against the project intentions (PMBOK, 2017).

Project: a temporary endeavor undertaken to create a unique product, service, or result (PMBOK, 2017).

1.9 Organization of the Paper

The research paper is organized into Five chapters. The first chapter deals with the Introduction (including background, statement of the problem, research questions, objectives of the study, significance of the study, the scope of the study, and limitations of the study), The second chapter deals with the review of related literature with core concepts and. Chapter three focuses on research methodology (including study population, sampling method, data

collection method, data processing, and analysis methods), and in the fourth chapter presents the data presentation, analysis and discussion and the fifth chapter presents the conclusion and recommendation.

CHAPTER TWO

2. REVIEW RELATED LITERATURE

2.1. Introduction

This chapter provides theoretical and empirical information from publications on topics relevant to the research problem and research questions. The chapter is presented under the following section: theoretical review, empirical review, conceptual framework and chapter summary.

2.2. Concepts of monitoring and evaluation

Monitoring and evaluation are two separate, but interrelated strategies to collect data and report the findings on how well (or not) the policy, program, or project is performing. Monitoring is a process, collects the data about implementation, checking the progress of the plans/programs/projects, and implements certain actions if the program /projects are not performed as planned. Whereas evaluation is a rigorous and independent assessment of either completed or ongoing activities to determine the extent to which they are achieving stated objectives (MOFEC, 2017). Monitoring and Evaluation is the process of systematically collecting and analyzing information on ongoing projects and comparison of the project outcome/impact against the project intentions (PMBOK, 2017).

Monitoring and evaluation ideas are not new – everyone applies monitoring and evaluation practices to some extent in their work and home lives. However, we are currently witnessing an increase in the amount of systematic attention and study being applied to the field of monitoring and evaluation. This is a very interesting and exciting development as the practice of M&E can contribute to sound governance in several ways: improved evidence-based policymaking (including budget decision making), policy development, management, and accountability. Many governments around the world have

realized much of this potential, including most first world countries and a small but growing number of developing countries (Mackay, 2007).

A growing number of governments are working to improve their performance by creating systems to measure and help them understand their performance. These systems for monitoring and evaluation (M&E) are used to measure the quantity, quality, and targeting of the goods and services—the outputs—that the state provides and to measure the outcomes and impacts resulting from these outputs. These systems are also a vehicle to facilitate understanding of the causes of good and poor performance (Mackay, 2007).

2.3. Theoretical framework

This study is guided by the theory of change, the theory of change seeks to enhance empowerment by encouraging participation of groups, enhancing capacity building as opposed to the top-down approach previously practiced in implementation of projects. These previous approaches negatively affected project sustainability. Due to diligence in a project set up must be adhered to, especially regarding carrying monitoring and evaluation practices, be it planning, capacity building, data demand and use. This should be done with ethical principles in mind and with to mitigating likely advertise that may accrue. Further, monitoring and evaluation reports should meet the requisite ethical standards. The theory of change illustrates the series of assumptions and links identifying the presumed relationships and has great relevance to planning capacity building. Using the theory of change the monitoring and evaluation practices can be regarded as inputs whose outcomes will be visible in more effective monitoring and evaluation system and the transformative effect on the livelihood of the target communities. The theory indicates which aspects of implementation need to be checked for quality, to help distinguish between implementation failures and theory failure (Weiss, 1955).

The theory of change process enhances the understanding of stake and stakeholders hence assisting in thinking through the utilization of the monitoring and evaluation data lessons and increases the consequence awareness. Monitoring involves tracking progress against plans, milestones and expected results. The theory of change takes a broader perspective. It looks at the problem the project is addressing, its wider context and changes in the relationships between the process indicators and outcomes that are unintended, to prove if they are valid. Therefore, revisiting the assumptions that have been made at the beginning during project implementation is importance. The theory of change is helpful to not only measure outcomes but also to understand the role of the project and other factors in contributing to outcomes (Hinchcliffe et al., 1996).

The utilitarian theory puts at the center of its decision a variable that is very commonly used in economics as a parameter to measure the value of actions, namely utility (Crane and Matten, 2007). In monitoring and evaluation an analysis of costs and benefits is important since it enables one to understand the viability of the project. This also relevant when it comes to data use, particularly making sure data collection is relevant, sound and cost effective. The terms of reference should be clear so that boundaries and decisions are less open to misinterpretation and challenges associated with ethical decision-making and value of action are duly considered. Contractual agreement should be detailed with clearly defined procedures for benefits to be fully realized; this can be helpful if disagreements arise (Kusek and Rist, 2004). Further, monitoring and evaluation reports should meet the requisite ethical standards and data presented should be factual.

2.4. Empirical framework

2.4.1. Monitoring and Evaluation Capacity Building

Capacity in the work force is needed to develop and sustain monitoring and evaluation systems and officers need to be trained in modern data collection methods and analysis (Kusek and Rist,2004).

Mugabe and Kanda (2013), in their study on the determinants of effective monitoring and evaluation of strategy implementation of community based projects, notes that poor skills in monitoring and evaluation affects such projects. They recommend further studies to be conducted on the challenges facing the field staff working in community based projects when carrying out monitoring and evaluation activities. This can bring out factors that need to be considered keenly in all the monitoring and evaluation of community based projects so as to obtain effective outcomes from the projects. Somerset (1987) acknowledges achievements in developing and using evaluation information to improve the education sector indicating the importance of monitoring and evaluation.

Stir man et al. (2012) in a study on the sustainability on new programs and innovations, note that influencers of sustainability include capacity and factors related to the new program or practice themselves monitoring and evaluation is characterized by weak coordination within and between national government departments in most developing countries and shortage of human capacity, particularly in skills and knowledge. As such, more training in evaluation methods and approaches is needed.

According to a study conducted by FAO (2004), monitoring and evaluation capacity building processes should provide an important link between planning and feedback on the factual, i.e. what is happening on the ground, mutual learning and re-planning and sustainability of agricultural projects. These are interactive processes

requiring to be developed between project monitoring and evaluation staff and other actors, especially partner agencies and departments.

There is growing recognition that donors and governments need to continue to invest in and support capacity development as this can be critical in facilitating monitoring and evaluation planning and M&E data use (Sutherland, 2011). Without the requisite monitoring and evaluation knowledge, the road authority officials cannot be drivers of change so as to facilitate bridging of the gap between actual construction and maximum possible construction.

2.4.2. Linkage between planning, budgeting, and monitoring & evaluation

Monitoring and evaluation planning are usually discussed in tandem, they serve distinct yet complimentary functions. The role of monitoring planning is seen as one of regular and continuous tracking of inputs, outputs, outcomes and impacts of development activities against targets. Unlike monitoring, evaluation establishes attribution and causality, and serves as a basis for accountability and learning by staff, management and clients. Information from evaluation is used to develop new directions, policies and procedures (IFAD,2002).

Amponash (2012), notes that critical success and failure factors for projects include planning and field visits, and should be planned for and carried out at appropriate times so as to ensure that the staff is well aware of the success and failure factors for projects include planning and field visits, and should be planned for and carried out at appropriate times so as to ensure that the staff is well aware of the project areas to enable them to easily carry out monitoring and evaluation. Other issues that are likely to affect monitoring and evaluation include budgeting and resource allocation. These need to be planned for to ensure that monitoring and evaluation of the community projects are implemented effectively.

2.4.3. Demand for and utilization of monitoring and evaluation results

Data use and demand is a key practice of monitoring and evaluation. However, Mackey (2007) notes that the problem in African countries, and perhaps in other regions, is that although sector ministries collect a range of performance information the quality of data is often poor. According to Kuzek and Rist (2004), some developing countries collect a lot of data that cannot be put to use. There is need to pay more attention to timeliness when releasing of monitoring and evaluation findings in order to ensure they help to alleviate the problem of relevance (Segone, 2008). To mitigate the inherent challenges indicators should be distributed appropriately in tandem with what they are required to measure; the input, activities, output, outcome or impact.

The indicators should be measurable, be neutral in terms of what should be achieved, be specify just one result per indicator, be specific and unambiguous (SAMDI,2017). Monitoring and evaluation system must produce monitoring information and evaluation findings. This is particularly critical to key stakeholders and can be used to improve government performance, respond to a sufficient demand for the monitoring and evaluation work to ensure its funding and its sustainability. In many countries, the real challenge is the absence of demand for monitoring and evaluation information, and this is a difficult hurdle to surmount (Mackay, 2007).

Collection of too much data is a problem and may result in a situation where the inclination to provide quality data is low since the information will not be used. There is used to build reliable ministry data systems to provide the primary data on which monitoring and evaluation systems will depend on (Mackay, 2007). Clearly, only a few government officials have been trained in modern data collection and monitoring methods and even fewer have been trained on how to interpret different modalities of data (Kusek

and Rist, 2004). The solution in this case lies in auditing data systems and expertise involvement in conducting surveys and manage data.

The extent of utilization of monitoring and evaluation information is the real measure of monitoring and evaluation system and has nothing to do with its capacity to produce reliable monitoring information and evaluation findings. If evaluations are being conducted internally within government, data verification and auditing are necessary. Some countries have successfully established monitoring and evaluation systems like Chile, Colombia, Australia and United states (Bamberg,2008). It requires time: to create or strengthen; to train or recruit qualified staff; to plan, manage and conduct evaluations; to build systems for sharing monitoring and evaluation information among ministries, and to train staff to use monitoring and evaluation information in their day to day work.

One of the key determinants of whether or not an evaluation will be useful and, whether or not the findings will be used, is the extent to which clients and stakeholders are involved in all stages of the evaluation process. They should be constantly briefed and given an opportunity to respond before the conclusion of the process (Bamberg,2008).

The baseline is the first critical measurement of the performance indicators and is used as a starting point, or guide, by which to monitor future performance of projects or programs. An effective M&E system set indicators used to describe the situation prior to an intervention and acts as a reference point against which progress can be assessed or made a comparison with monitoring or evaluation data collected during or after the implementation of a strategy, project, or activity (USAID, 2017). Callistus and Clinton (2018) in their study evaluating barriers impelimentation of project monitoring and evaluation in ghanian construction industry identified ten possible challenges that will face in conducting M&E: weak institutional capacity, Limited resources and budgetary allocations for monitoring & evaluation, weak linkage between planning, budgeting and monitoring & evaluation, weak

demand for and utilization of monitoring and evaluation results, poor data quality, data gaps and inconsistencies, nonmeasurable PM&E objectives, inconsistent development of PM&E objectives with intended beneficiaries, projects activities that do not deliver the desired outcome economically and do not have the desired impact, absence non-compliance with planning and monitoring and evaluation guidelines of a comprehensive national database PM&E system and non-compliance with planning and monitoring and evaluation guidelines.

2.5. Conceptual framework

The influence of monitoring and evaluation practices are crucial in facilitating the realization of project deliverables. The success of the project is, affected by monitoring and evaluation practices. These practice comprise the independent variable; institutional capacity building, resource and budgetary allocation, data quality and consistencies, demand and utilization of monitoring and evaluation results and ethics in monitoring and evaluation, all of which are likely to influence to conduct effective monitoring and evaluation in a project. Conceptual framework presents, in a diagrammatic form, the way the researcher has conceptualized the research regarding the relationship among the independent and independent variable. The conceptual framework is an illustration of practices in influencing conducting effective monitoring and evaluation. The two types of variable have various indicators that have been captured in the conceptual framework as indicated in diagram below.

Monitoring and evaluation are not conducted effectively if there are weak institutional capacity, limited resource and budgetary allocation for monitoring and evaluation, poor data quality and inconsistencies and inadequate involvement of stakeholder in monitoring and evaluation activities. Capacity building reduces the gap between the actual and the expected. Ethics in monitoring and evaluation is critical in this

realization. If the data is not of good quality, it is termed irrelevant and cannot be used in decision making.

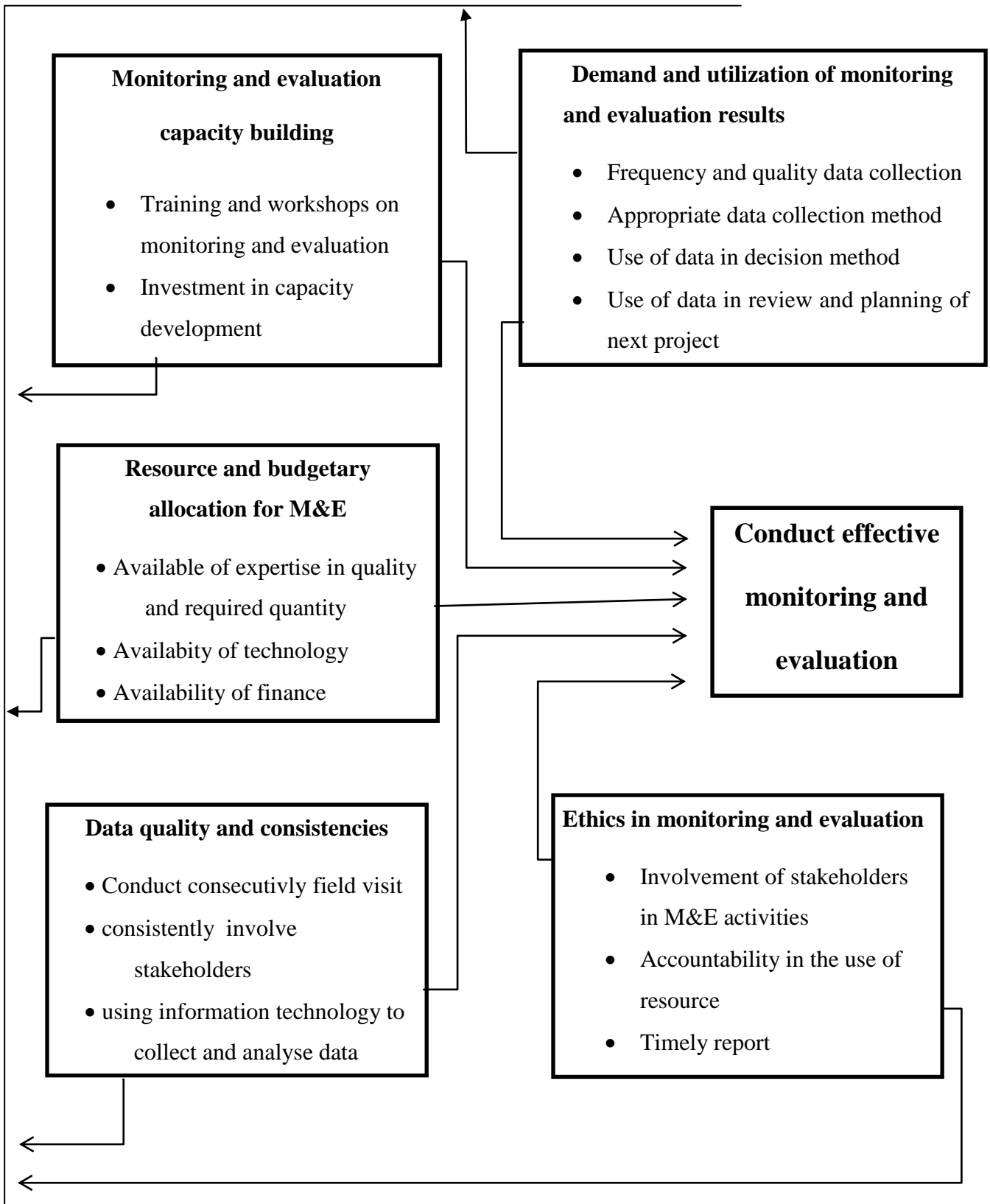


Figure 2. 1 Conceptual framework for effective monitoring and evaluation practice

2.6. Summary of literature review

The reviewed literature revealed various studies in different parts of the world that have largely touched on monitoring and evaluation issues. Mugambi, F., and Kanda, E. (2013)'s findings on determinants of effective monitoring and evaluation of strategy implementation of community based projects. Callistus and Clinton's (2018) findings of ten possible challenges that will face in conducting M&E in their study of evaluating barriers implementation of project monitoring and evaluation in Ghanaian construction industry.

In most developing countries there is shortage of human capacity, particularly in skills and knowledge to develop and sustain monitoring and evaluation systems and recommended that officers need to be trained in modern data collection methods and analysis.

Project planning and field visits are critical tool for monitoring and evaluation, and should be planned for and carried out at appropriate times so as to ensure that the staff is well aware of the success and failure factors for projects. In addition Budgeting and resource allocation are other issues that are likely to affect monitoring and evaluation in agriculture, banking and construction sectors of Ghana Amponash (2012).

The problem of African countries, other regions and sector ministries collect a range of performance information the quality of data is often poor. Some developing countries collect a lot of data that cannot be put to use. Thus, collection of too much data is a problem to provide quality data is low since the information will not be used. Only a few government officials have been trained in modern data collection and monitoring methods and even fewer have been trained on how to interpret different modalities of data.

Involvement of key stakeholders in all stages of the monitoring and evaluation process to generate sound information that can support the management in making timely and effective decisions to improve government performance.

Therefore, in relation to the above, the researcher would have assessed ERA's staff capacity on monitoring and evaluation, stakeholder involvement in each stage of monitoring and evaluation process, demand and data usage practice, field visit practice, data collection and report dissemination practice, decision making practice of management from M&E findings.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

This chapter contains the research design and methodology which are useful to carry out the research. It presents research design and approach, the population of the study, Sampling Size and Sampling Technique, source of data, data collection method, and data analysis method.

3.2. Research Design and Approach

The research approach to this study was descriptive. Data was collected through distributing both types of questionnaires closed and open-ended questionnaires to employees of Ethiopian road authority and to accomplish the study the researcher used a descriptive research design to assess and describe the existing situation under the study and to describe a phenomenon and its characteristics. The observation and survey tools are often used to gather data (Gall, Gall, & Borg, 2007) as cited in (Nassaji, 2015). The collected data was analyzed using frequencies, percentages and other statistical analyses of mean and standard deviation. This descriptive research design is appropriate for the study since the study is to assess the practice and challenges of monitoring and evaluation of the construction of road projects.

3.3. Study population

The target/study population is the entire group a researcher is interested in. In this study, as indicated in the scope of the study section assesses the M&E practice and challenges of road construction projects in the Ethiopian Road Authority. The populations for this study is the whole 3,430 employees of Ethiopian Road Authority (ERA) those are working at the head office, in two (2) training center and ten (10) road network management districts located on all over Ethiopia. To research the whole of this population

the cost of the research will be difficult to afford the cost so the researcher conducts his research taking a sample and select a subset of individuals from within a population to estimate the characteristics of the whole population.

3.4. Sampling frame (Source list)

The sampling frame is a list of all those within a population who can be sampled and may include individuals, households, or institutions. From the above-defined populations of 3,430 employees of Ethiopian Road Authority (ERA) the study narrowed down to 505 employees of 8 (eight directorates) who are working on the M&E related activities: planning and program management directories, quality management directories and 6 (six) contact administration management directories excluding employee those have no directly participant with M&E activities like supporting: woman and youth directorate, ethical and anti-corruption directorate, two training center directories, machinery maintenance, security, janitors, and general services providers team.

3.5. Sampling unit

A sampling unit is a basic unit that contains a single element or a group of elements of the population to be sampled. The sampling unit selected is often dependent upon the sampling frame and if no a relatively complete and accurate listing of elements is available sample companies as the basic sampling unit (Kabir, 2016). The sampling unit of this study was 172 employees who were selected from a sample frame of 505 employees those are working on the directorate of M&E related activities this sampling unit of 172 employees are the core professionals doing the actual monitoring and evaluation work activities in 8 (eight directorates) directories and composed of department's heads, team leader and experts Excluding 333 employees those are junior officers to the organization, janitors, secretary, drivers and messengers from 8(eight) the directorates. Each sample unit is described in the following table.

Table 3.1. sample unit from each directorate

Departments Execution M&E	Target Population	Sampling unit
Planning and program management directorate	44	20
Quality management directorate	28	18
Express Way directorate	52	18
Western Region directorate	81	23
Southern Region directorate	72	21
Northern Region directorate	95	23
Central Region directorate	64	25
Eastern Region directorate	69	24
Total	505	172

3.6. Sample size

The main focus of the study was to assess monitoring and evaluation practices in road construction projects on Ethiopian road authority. In conducting some research, it is possible to collect the data from an entire population as it is of a manageable size. However, it does not mean that a census would necessarily provide more useful result than collecting data from a sample which represents the entire population. Sampling can provide a valid alternative to census when the budget and time constraints of the researcher prevent surveying the entire population (Saunders et al., 2009). Due to such reasons the researcher used a sample rather than a census. The study from a target population of 505 determined a sampling unit of 172 who are the core professionals doing the actual monitoring and evaluation work and composed of departments' heads, team leaders and experts for the sake of data consistency excludes janitors, drivers, secretary, and junior employees. That is from

the target population those that are not involved in actual monitoring and evaluation work were left out in framing the sample. The study was conducted taking a total sample of 83 employees which are determined by using a table developed by Glenn (1992) to determine a sample size $\pm 10\%$ Precision Levels and where Confidence Level is 95% and (P=0.5) and finally to them questionnaire is distributed.

The sample size determination table of Glenn (1992) (sample size for $\pm 5\%$ and $\pm 10\%$ Precision Levels and where Confidence Level is 95%)

Size of Population	Sample Size (n) for precision (e)	
	$\pm 5\%$	$\pm 10\%$
500	222	83
1000	286	91
2000	333	95
3000	353	97
4000	364	98
5000	370	98
7000	378	99
9000	383	99
10000	385	99

Since the numbers of people in each sample directorate will not be the same, this needs to be proportionate for each directorate and calculated using the following formula.

$$n_1 = \frac{nN_1}{N}$$

Where n is the total number of sample

N is the total number of population

N1 is the total number of population in each directorate

n1 - sample size in each directorate

So the samples sizes were selected with proportionately from each directorate are as follows:

Table 3. 2. Sample size from each directorate

Departments Execution M&E	Target Population	Sampling unit	sample size in each directorate (out of 83 samples)
Planning and program management directorate	44	20	9.7~10
Quality management directorate	28	18	8.6 ~7
Express Way directorate	52	18	8.6 ~7
Western Region directorate	81	23	12
Southern Region directorate	72	21	11
Northern Region directorate	95	23	12
Central Region directorate	64	25	13
Eastern Region directorate	69	24	11.6~12
Total	505	172	83

Source: Ethiopian road authority

3.7. Sample selection method (techniques)

As Taherdoost (2016), stated Sampling is taking a subset from a chosen sampling frame or entire population and can be used to make inference about a population or to make generalizations with existing theory. To choose the study sample from the entire population the researcher was adopted proportionate stratified random sampling techniques to gather the data from employees of ERA. Proportionate stratified random sampling technique is used to collect the data and to embrace the employees of all directorates of the target

population to reduce the sampling bias. The total sample size was 83 employees those for them questionnaire was distributed.

3.8. Data collection method

For achieving the objective of the study the data was collected from both primary and secondary sources: The researcher used the most commonly used primary data collection methods which are questionnaires and can be conducted via telephone, mail; live in a public area, or an institute, through electronic mail or fax and other methods. The data was captured through pre-arranged (both closed and open-ended questions) questionnaires which were distributed to study subject (professionals and expertise) those were able to read and write independently. This method can help the researcher to reach a large number of subjects. The questionnaire was included both closed and open-ended questions and had general information on the participants and research objective-based assessment of practice and challenges of project monitoring and evaluation in road construction. The researcher was also utilized Secondary data from Books, Journals, and different research papers.

3.9. Data processing and analysis methods

After the data collected through questionnaires from the respondents, the collected data was processed using a statistical package for social sciences (SPSS) version 20 and analyzed through descriptive analysis. The demographic information of respondents and questionnaires was analyzed through descriptive analysis and present in frequency table; percentages; mean and standard deviations.

3.10. Reliability

The study used the Cronbach alpha coefficient which is the most widely used measure of reliability in the social and organizational sciences. Cronbach's alpha reliability of the sum (or average) of questionnaires/test item measurements. When the measurements represent multiple questionnaires/test items which is the most common application,

Cronbach's alpha is referred to as a measure of "internal consistency" reliability (Wiley,2014). in the determination of the reliability of the research instrument. Cronbach's coefficient alpha was used to test the internal consistency and reliability of the multiple-item scale. It is a clear indication of reliability if the Cronbach alpha coefficient is 0.7 and above (Bryman & Bell, 2007). Since the alpha values of all 50 items were above 0.7 the questionnaire was reliable.

Table 3. 3. Items reliability

Variables	Cronbach's Alpha	N of Items
Monitoring and evaluation system	0.745	7
Project Monitoring and Evaluation Process	0.756	6
Institutional capacity	0.751	4
Resources and budgetary allocations for M&E	0.836	5
Linkage between planning, budgeting and monitoring & evaluation	0.771	7
Data quality and consistencies	0.732	2
Demand for and utilization of monitoring and evaluation results	0.752	2
Focus of project monitoring	0.790	6
Challenges to implement M&E	0.734	11
The whole items	0.754	50

Source: SPSS reliability analysis

3.11. Validity

There are several categories, of validity including construct, criterion and content validity. Validity refers to the extent to which an instrument used in research is accurate, true and meaningful (Mugenda and Mugenda,1999). Content validity assesses whether a test is representative results, the content to the test cover all relevant parts of the study area

that aims to measure. To ensure the consistency with the content area each item of the questionnaire being evaluated by experts.

3.12. Ethical consideration

The researcher gave the respondents to fill the questionnaires without coercion. Much care was also taken not to touch their personal privacy in sensitive areas. All information gotten from the respondents were treated with confidentiality without disclosure of the respondents' identity. Moreover, no information was modified or changed, hence information gotten was presented as collected and all the literatures collected for the purpose of this study were appreciated in the reference list.

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1. Introduction

This chapter deals with the presentation, analysis, and interpretation of the data collected through questionnaires from employees. Statistical methods of analysis were discussed which included descriptive analysis and frequency table using SPSS version 20. Also, the background information of respondents will be presented.

4.2. Response Rate

A total of 83 questionnaires were distributed for employees of ERA from those 75 questionnaires were returned. The response rate of the questionnaire was 90.3 percent.

Table 4.1. Response rates

Particular	Total	Percentage
Total questionnaires distributed	83	100
Questionnaires collected	75	90.3
Valid response	75	90.3

The response rates were considered admissible given the recommendations by Mugenda and Mugenda (2012) cited in Jacobotach *et al.* (2018) that a response rate of 50% is adequate for analysis and reporting a rate of 60% is generally good while a response rate of above 70% is excellent. Based on this assertion, this implies that the response rate for this study was adequate and increases confidence for generalization.

4.3. Demographic Data Presentation

The demographic characteristics or profile for this study include gender, age, level of education, work experience, and marital status of the respondents, this aspect of the analysis

deals with the personal data on 75 respondents of the questionnaires given to them. The table below shows the details of the background information of the respondents in a cross tabulation.

Table 4. 2. Demographic profile of respondents

no	Variable	classification variable	of Gender				total	
			Male	percent	Female	percent	frequency	percent
1	Gender	-	40	53.3	35	46.7	75	100
2	Age	18-25	4	5.33	5	6.67	9	12
		26-35	8	10.67	12	16	20	26.67
		36-45	22	29.33	11	14.67	33	44
		46-55	6	8	7	9.33	13	17.33
		Total	40	53.3	35	46.7	75	100
3	level of education	diploa	3	4	14	18.67	17	22.67
		Degree	30	40	17	22.67	47	62.67
		MA and above	7	9.33	4	5.33	11	14.67
		Total	40	53.3	35	46.7	75	100
4	work experience	1-5 years	7	9.33	6	8	13	17.33
		6-8 years	14	18.67	20	26.67	34	45.33
		above 8 years	19	25.33	9	12	28	37.33
		Total	40	53.3	35	46.7	75	100
5	marital status	Married	28	37.33	25	33.33	53	70.67
		Single	9	12	7	9.33	16	21.33
		Divorce	3	4	3	4	6	8
		Total	40	53.3	35	46.7	75	100

Source: survey result, 2020

As shown in Table 4.2 above, when gender distribution of respondents is concerned, from a total of 75 respondents 53.3 percent of respondents are male and the remaining 46.7 percent of respondents are female. This indicates there are almost equal number of employees

in gender (male and female) and further it helps the researcher in ethics of research representation of participants in the study.

The age of respondents is categorized according to Uvaneswaran .S.M. *et al* (2017). About the age of respondents, 12 percent of respondents are in the range of 18-25 years, 26.7 percent of the respondents are in the range of 26-35 years, 44 percent are in the range of 36-45 years and 17.3 percent are in the range of 46-55 years. This implies that the majority of employees of the respondents are relatively young & energetic and are likely to contribute more to monitoring and evaluation in road project to complete the project on budget, quality and schedule at the same time who are older are likely to have a better masterly of government policies and programs.

About the education level of respondents, only 22.7 percent of the respondents are diploma holder, 62.7 percent of respondents are degree holders and 14.7 percent of respondents have master's degree and above. From this conclusion that most of the respondents had degree holders which is relatively reasonable in enhancing adoption and use of new technologies in monitoring and evaluation process; data collection, analyse and report dissemination and also can make effective communication with different stakeholder in road project.

Regarding work experience of respondents, 17.3 percent of respondents were 1-5 years' service, 45.3 percent were 6-8 years' service and 37.3 percent of respondents were above 8 years' service. From this, the researcher concluded that the majority of the respondents have enough years of service to have a better masterly of government policies and programs.

Concerning with marital status of respondents, 70.7 percent of respondents were married, 21.3 percent were single, 8 percent is divorced. From this, the researcher concludes that the majority of respondents were married followed by a single.

4.4. Monitoring and Evaluation Practices and Process

4.4.1 Monitoring and Evaluation of Organizational System Overview

To assess the practice of monitoring and evaluation system of Ethiopian road authority the researcher develop 7 statement on the development of measurement (indicators), on data collection and acquisition method, on periodically discussion of the findings, on reporting and disseminating of the findings practices and assess a view of the respondents about their agreement or disagreement on monitoring and evaluation practice with each statement being measured on a 5-point Likert scale the lowest scale of 1 meant Strong Disagreement with the statement posed, 2 meant disagreement with the statement,3 meant neutral/not being sure of the statement, 4 meant an agreement with the statement while 5 meant a strong agreement with the statement. The result was presented in table 4.3 using the Likert scale of 1-5; where SD = Strongly Disagree, D = Disagree, N = Neutral/ not sure, a = Agree, SA = Strongly Agree

Table 4. 3. Monitoring and Evaluation Organizational System

The M&E System of your organization		S.D	D	N	A	S.A	Total	mean	Standard deviation
There are established procedures for doing monitoring and evaluation	Freq.	3	7	49	16	75	4.04	0.687	
	%	4	9.3	65.3	21.3	100.0			
Indicators can effectively measure the progress	Freq.		14	55	6	75	3.89	0.509	
	%		18.7	73.3	8	100.0			
There are Clear methods of data acquisition and frequency	Freq.	3	14	12	33	13	75	3.52	1.107
	%	4	18.7	16	44	17.3	100.0		
Lessons of monitoring did	Freq.		2	14	38	21	75	4.04	0.761

not discuss periodically	%		2.7	18.7	50.7	28	100.0		
Top management give an adequate attention to M&E	Freq.	1	4	20	39	11	75	3.73	0.827
There is accountability in the use of resources	%	1.3	5.3	26.7	52	14.7	100.0		
There is a strong Culture of disseminating M&E findings	Freq.	3	9	15	35	13	75	3.61	1.038
	%	4	12	20	46.7	17.3	100.0		
	Freq.	5	13	19	32	6	75	3.28	1.06
	%	6.7	17.3	25.3	42.7	8	100.0		

From the result in table 4.3 above a significant number of the respondents 61 (81.3 %) agreed that indicators which is developed to measure the achievement of the project to conduct monitoring can effectively measure the progress and 14 (18.7 %) of them were not sure (mean = 3.89, standard deviation = 0.5).

On the lessons from monitoring 59 (78 %) of the respondents believed that they did not discussed lessons of monitoring periodically to take action and 14 (18.7 %) of them were not sure (mean = 4.04, standard deviation = 0.76).

Also 50 (66.7%) of the respondents, they indicated that top management give proper attention to monitoring and evaluation and 20 (26.7%) being not sure (mean = 3.73, standard deviation = 0.8).

Additionally, 46 (61.3 %) of the respondents agreed on clear method of data acquisition and frequency on the monitoring system and 17 (22.7 %) did not agree on the statement while 12 (16 %) of them were not sure (mean = 3.5, standard deviation = 1.1).

In the same vein, 38 (50.7 %) of the respondents indicated that there was strong Culture of disseminating monitoring and evaluation findings while 18 (24 %) of them not agreeing on the statement and 19 (25.3 %) were not sure (mean = 3.28, standard deviation = 1.0).

4.4.2 Project Monitoring and Evaluation Process

The view of the respondents about the monitoring and evaluation process was assessed based on yes, no and partially scale questions that were used to measure 6 items. This would help to assess the process of monitoring and evaluation of the organization. The results were presented below in table 4.4 on a scale of 1-3; 1 meant yes with the statement, 2 meant partially with the statement and 3 meant no of the statement.

Table 4. 4. Monitoring and evaluation process of the organization

Project Monitoring and Evaluation Process		Yes	partially	no	Total	mean	standard deviation
There are guiding principles for the M&E team	Freq.	41	27	7	75	2.45	0.664
	%	54.7	36	9.3	100		
Field visits are conducted inadequately M&E activities	Freq.	14	32	29	75	1.80	0.735
	%	18.7	42.7	38.7	100		
Stakeholders are adequately involved at all levels in M&E activities	Freq.	4	27	44	75	1.47	0.600
	%	5.3	36	58.7	100		
There is a strong culture of institutional learning and knowledge sharing	Freq.	12	25	38	75	1.65	0.744
	%	16	33.3	50.7	100		
Lesson learned of M&E are properly incorporated in M&E activities	Freq.	7	27	41	75	1.55	0.664
	%	9.3	36	54.7	100		
There is a Culture of documentation and information sharing	Freq.	22	31	22	75	2.00	0.771
	%	29.3	32	29.3	100		

From the finding in the above table 4.4 majority of the respondents indicated that field visit had been conducted partially 32 (42.7 %) on monitoring activities and 14 (18.7%) of the respondents agree on proper conduction of field visit in monitoring activities and the remaining 29 (38.7%) of the respondents did not agreed on proper conduction of field visit (mean = 1.8, standard deviation = 0.74).

Also, 44 (58.7 %) of the respondents indicated that there is no consistently involve stakeholders in monitoring and evaluation activities at all levels, 27 (36%) partially and 4 (5.3 %) there was the involvement of stakeholders in monitoring and evaluation process (mean = 1.47, standard deviation = 0.6).

Furthermore, 25 (33 %) of the respondents partially agree on the presence of a culture of institutional learning and knowledge sharing in the organization and the remaining 38 (50.7%) respondents could not agree on and 12 (16%) percent of them were agreeing on the presence of a culture of institutional learning and knowledge sharing on the organization (mean = 2.0, standard deviation = 0.77).

Purpose of monitoring and Evaluation

To find out the ERA's main driving reasons for doing project M&E, respondents were asked to rate on a five-point Likert scale where 5 - Strongly agree; 4 - Agree; 3 - Neutral/not sure; 2 - Disagree, 1 - Strongly Disagree. The mean and standard deviations are indicated in table 4.5 below.

Table 4. 5. Motive for monitoring

a key focus of project monitoring of the organization	S.D	D	N	A	S.A	Total	Mean	Standard deviation	
Project Improvement	Freq.		3	5	36	31	75	4.27	0.759
	%		4	6.7	48	41.3	100		
Accountability	Freq.	2	5	11	43	14	75	3.83	0.906
	%	2.7	6.7	14.7	57.3	18.7	100		
Performance management	Freq.	3	4	14	36	18	75	3.83	0.991
	%	4	5.3	18.7	48	24	100		
Impact Measurement	Freq.	12	21	18	10	14	75	2.96	1.347
	%	16	28	24	13.3	18.7	100		
Compliance	Freq.	8	8	4	41	14	75	3.60	1.219
	%	10.7	10.7	5.3	54.7	18.7	100		
Value for money	Freq.	4	8	38	18	25	75	3.77	1.098
	%	5.3	10.7	50.7	24	33.3	100		

From the finding in table, 4.5, study respondents agreed that the most important purposes of M&E are for Project Improvement with 4.27 mean score and Performance management and Accountability with 3.83 mean score.

4.5. Institutional capacity

A view of the respondents about their agreement or disagreement on institutional capacity on 4 statement that was used to assess institutional capacity was sought with each statement being measured on a 5-point Likert scale the lowest scale of 1 meant not at all with the statement posed, 2 meant a little to an extent with the statement, 3 meant moderate extent of the statement, 4 meant great extent with the statement while 5 meant very great extent with the statement. The result was presented in table 4.6 using the Likert scale of 1-5.

Table 4. 6. Institutional capacity of ERA

institutional capacity		v. great extent	great extent	moderat e extent	a little extent	not at all	Total	Mean	Std. Devia
M&E training have Provided to Monitoring and Evaluation staff employees	Freq	3	18	12	20	22	75	2.47	1.256
	%	4	24	16	26.7	29.3	100		
Employees have adequate skills and knowledge to conduct M&E activities of the authority program	Freq		16	18	33	8	75	2.56	0.948
	%		21.3	24	44	10.7	100		
Employees are ethically and legally rich to conduct M&E activities	Freq	21	30	6	14	4	75	3.67	1.223
	%	28	40	8	18.7	5.3	100		
M&E Employees have understood M&E guiding, framework, and manual to harmonize M&E concepts	Freq	7	15	13	23	17	75	2.63	1.292
	%	9.3	20	17.3	30.7	22.7	100		

This study sought to find out whether ERA provides M&E training for its staff and the finding indicated that 42 (56%) of the respondents did not get any training on M&E topic while the remaining 33 (44%) of respondents have agreed that they have gotten a training on M&E (mean = 2.47, standard deviation = 1.26).

Forty-one (54.7%) of the respondents agree that employees did not have adequate skills and knowledge to conduct M&E activities in the authority the remaining 34 (45.3%) of the respondents have expressed their agreement that employees have adequate skills and

knowledge to conduct M&E activities in the authority and of them (mean = 2.56, standard deviation = 0.95).

Also, a significant number 40(63.4%) of the respondents agreed that M&E Employees did not understand all available M&E guiding, framework, and manual to harmonize M&E concepts while the remaining 35(46.6%) of respondents agreed that M&E Employees have understood M&E guiding, framework and manual to harmonize M&E concepts (mean = 2.63, standard deviation = 1.292).

Additionally, 57(76%) of the respondents agreed on employees are rich in ethical and legally to conduct M&E activities and 18 (24 %) of the respondents agreed on ethically and legally of employees while the conduct M&E activities.

4.6. Resources and budgetary allocations for M&E

A view of the respondents about their agreement or disagreement on resources and budgetary allocations for M&E on 5 statement that was used to assess institutional capacity was sought with each statement being measured on a 5-point Likert scale the lowest scale of 1 meant not at all with the statement posed, 2 meant a little to an extent with the statement, 3 meant moderate extent of the statement, 4 meant great extent with the statement while 5 meant very great extent with the statement. The result was presented in table 4.7 using the Likert scale of 1-5.

Table 4. 7. Resources and budgetary allocation of ERA for M&E

resources and budgetary allocations for M&E		v. great extent	great extent	moderate extent	a little extent	not at all	Total	Mean	Std. Devia
Financial resources and budgetary allocations are adequate for project M&E	Freq.	1	10	22	31	11	75	2.45	0.949
	%	1.3	13.3	29.3	41.3	14.7	100.0		
There is an IT system to support M&E works and activities	Freq.	2	3	12	35	23	75	2.01	0.937
	%	2.7	4	16	46.7	30.7	100.0		
M&E structure is organized	Freq.	2	6	9	34	24	75	2.04	1.006

with the required width and value for organization role and responsibility	%	2.7	8	12	45.3	32	100.0		
The M&E structure is organized through an adequate number and skill of expertise.	Freq.	2	5	18	38	12	75	2.29	0.912
	%	2.7	6.7	24	50.7	16	100.0		
The authority has an investment to improve the monitoring and evaluation system	Freq.	2	4	7	34	28	75	1.91	0.961
	%	2.7	5.3	9.3	45.3	37.3	100.0		

From the finding in the above table 4.7, only 42 (56%) of the respondents agreed that financial resources and budgetary allocations for project M&E are not adequate and 33 (43.9%) of the respondents did not agree on the adequacy of financial resources and budgetary allocations for project M&E.

Also, a significant number of respondents 58(77.3%) of the respondents agreed that the existing information and technology (IT) system to support M&E works and activities are not adequate and only 17(22.7%) of the respondents agreed that the existing it system is adequate to support M&E works and activities (mean = 2.01, standard deviation = 0.94).

Further only 17(22.7%) of the respondents indicated that existing M&E structure is organized with the required width and value for organization role and responsibility and a significant respondent 58(77.3%) did not agree on the existing M&E structure are organized with the required width and value for organization role and responsibility (mean = 2.04, standard deviation = 1.0).

Additionally, from the above table 4.7, the study sought that a significant number of the respondents 62 (82.7%) did not agree on the adequacy of the authority's investment to improve the monitoring and evaluation system only few respondents 13(17.3%) agreed on the statement (mean = 1.91, standard deviation = 0.96).

4.7. The Linkage between planning, budgeting, and monitoring & evaluation

A view of the respondents about their agreement or disagreement on the linkage between planning, budgeting, and monitoring & evaluation on 7 statement that were used to assess the practice of monitoring and evaluation was sought with each statement being measured on a 5-point Likert scale the lowest scale of 1 meant Strong Disagreement with the statement posed, 2 meant disagreement with the statement, 3 meant neutral/not being sure of the statement, 4 meant an agreement with the statement while 5 meant a strong agreement with the statement. The result was presented in table 4.8 using the Likert scale of 1-5; where SD = Strongly Disagree, D = Disagree, N = Neutral/ not sure, A = Agree, SA = Strongly Agree

Table 4. 8. Linkages between planning, budgeting, and monitoring & evaluation

		S.D	D	N	A	S.A	Total	Mean	Std. Devia
There is a clear plan or road map for projects	Freq.	4	7	18	34	12	75	3.57	1.042
	%	5.3	9.3	24	45.3	16	100		
There are timeframe and schedule for data collection and processing	Freq.	4	10	14	33	14	75	3.57	1.105
	%	5.3	13.3	18.7	44	18.7	100		
There is a plan engagement stakeholder in monitoring and evaluation processes	Freq.	2	13	22	32	6	75	3.36	0.954
	%	2.7	17.3	29.3	42.7	8	100		
The project plan has a clear strategy for M&E	Freq.	1	10	18	34	12	75	3.61	0.957
	%	1.3	13.3	24	45.3	16	100		
Roles and responsibility of staff in M&E clear stated	Freq.	7	16	19	20	13	75	3.21	1.233
	%	9.3	21.3	25.3	26.7	17.3	100		
Resources needed for M&E adequate	Freq.	14	28	14	11	8	75	2.61	1.251
	%	18.7	37.3	18.7	14.7	10.3	100		
Plan/schedule for the dissemination of finding	Freq.	2	7	19	39	8	75	3.59	0.902
	%	2.7	9.3	25.3	52	10.7	100		

From the finding in the above table 4.8 majority of the respondents 46 (61.3%) indicated that the project has clear road maps and 11 (14.6 %) of the respondents are not agreeing with the statement the remaining respondents 18 (24%) are not being sure (mean = 3.57, standard deviation = 1.04).

Also, 47(62.7%) of the respondents have expressed their agreement that there are a timeframe and schedule for data collection and processing whereas only 14(18.7%) of the respondents not agreeing on the statement whereas 14(18.7%) of the respondents are not being sure (mean = 3.57, standard deviation = 1.1).

Further 38(50.7%) of the respondents have expressed their agreement that there is a plan to engagement stakeholders on monitoring and evaluation processes and 15(20%) of the respondents did not agreeing on the statement whereas 22(29.3%) of the respondents are not being sure (mean = 3.36, standard deviation = 0.95).

Also, 47(62.7%) of the respondents indicated that there is a Plan/schedule for the dissemination of finding of monitoring and evaluation, and 9(12%) of the respondents not agreeing with the statement whereas 19(25.3%) of the respondents is not being sure (mean = 3.59, standard deviation = 0.9).

4.8. Data quality and consistencies

The view of the respondents about data quality and consistencies was assessed based on yes, no, and have no idea scale questions which was used to measure 2 items. This would help to assess data quality and consistencies of the organization. The results were presented below in table 4.9 on a scale of 1-3; 1 meant yes with the statement, 2 meant to not sure with the statement, and 3 meant no of the statement.

Table 4. 9. Data quality and consistencies

		Yes	Not sure	No	Total	Mean	Std. Devi
Does your organization regularly	Freq.	55	18	2	75	2.71	0.514
analyze data to assess achievements?	%	73.3	24	2.7	100		
Does regularly M&E information	Freq.	40	13	22	75	2.24	0.883
provision to program	%	53.3	17.3	29.3	100		
managers/officers to assist in							
decision-making and planning							

From the finding in the above table 4.9 majority of the respondents 55(73.3%) indicated that ERA has regularly analysed data to assess achievements and 2(2.7%) of the respondents did not agree on the statement whereas, 18(24%) of the respondents they have no idea to the statement (mean = 2.71, standard deviation = 0.5).

Also, 40(53.3%) of the respondents indicated that program managers/officers regularly provided M&E information to assist their decision-making and planning, and 22(29.3%) of respondents did not agree on the regular provision of M&E information to assist their decision-making and planning and the remaining 13(17.3%) of them have no idea on the statement (mean = 2.24, standard deviation = 0.88).

4.9. Demand for and utilization of monitoring and evaluation results

The view of the respondents about the demand for and utilization of monitoring and evaluation results was assessed based on yes and no questions are they asked to report M&E activities by different stakeholders and organization through different format and how the effect is and the statement being measured on a 4-point Likert scale the lowest scale of 1 meant no with the statement posed, 2 meant low with the statement,3 meant high with the statement, 4 meant very high with the statement. The result was presented in table 4.10 b using a scale of 1-4

Table 4. 10. Demand for and utilization of monitoring and evaluation results

Table 4.10 a

		yes	no	Total	Mean	Std. Dev
M&E expertise are asked to report M&E activities by different stakeholders and organization through different format	Freq.	50	25	75	1.67	0.475
	%	66.7	33.3	100		

Table 4.10 b

		very high	High	Low	No	Total	Mean	Std. Devia
To what extent have a Burden on M&E expertise to report with different reporting format to different stakeholder and organization	Freq.	24	22	4	25	75	2.6	1.252
	%	32	29.3	5.3	33.3	100		

From the finding in the above table 4.10 out of 75 respondents 50 of them indicated that they were asked to report M&E activities by different stakeholders and organization through different format and 25 of them say no for the statement further in table 4.10 b from them who were agreed (i.e, 50) 46(61.3%) of study respondents agreed that had a high burden of ask to report with different reporting format to different stakeholder on them and 4(5.3%) of the study respondents agreed on the had low burden to report to different stakeholder with a different format.

4.10. Challenges of M&E

A view of the respondents to determine the main challenges of M&E on road projects on 11 statement that were used to assess the challenges of M&E was sought with each statement being measured on a 5-point Likert scale the lowest scale of 1 meant Strong Disagreement with the statement posed, 2 meant disagreement with the statement,3 meant

neutral/not being sure of the statement, 4 meant an agreement with the statement while 5 meant a strong agreement with the statement. The result was presented in the table 4.11 using the Likert scale of 1-5; where SD = Strongly Disagree, D = Disagree, N = Neutral/ not sure, A = Agree, SA = Strongly Agree

Table 4. 11. Possible challenges monitoring and evaluation organizational System

Possible challenges		S.D	D	N	A	S.A	Total	Mean	Std. Deva
Inadequate financial resources	Freq.	6	7	14	28	20	75	3.65	1.202
	%	8	9.3	18.7	37.3	26.7	100		
Lack of expertise	Freq.	1	12	15	26	21	75	3.72	1.085
	%	1.3	16	20	34.7	28	100		
Uncommitted management	Freq.	16	14	15	28	2	75	2.81	1.227
	%	21.3	18.7	20	37.3	2.7	100		
Unavailability of funder	Freq.	3	11	17	27	17	75	3.59	1.116
	%	4	14.7	22.7	36	22.7	100		
Less involvement of stakeholder	Freq.	3	7	20	23	22	75	3.72	1.110
	%	4	9.3	26.7	30.7	29.3	100		
Inaccuracy in data collection	Freq.	5	18	10	26	16	75	3.40	1.252
	%	6.7	24	13.3	34.7	21.3	100		
Failure to process and analyze data	Freq.	2	16	13	36	8	75	3.43	1.029
	%	2.7	21.3	17.3	48	10.7	100		
Failure in planning	Freq.	11	26	11	23	4	75	2.77	1.192
	%	14.7	34.7	14.7	30.7	5.3	100		
Failure in selecting the correct performance indicator	Freq.	12	49	14			75	2.03	0.592
	%	16	65	18.7			100		
Failure in evaluation design	Freq.	17	20	10	16	12	75	2.81	1.421
	%	22.7	26.7	13.3	21.3	16	100		
Managerially ineffectiveness or insufficient implementation	Freq.	9	21	14	29	2	75	2.92	1.124
	%	12	28	18.7	38.7	2.7	100		

From table 4.11, the finding indicates that lack of expertise with a mean score of 3.72, inadequate financial resources, unavailability of the funder and less involvement of

stakeholders with a mean score 3.65, 3.59 & 3.51 respectively and is the most frequently cited challenge of implementing M&E in ERA. This is followed by other challenges namely failure to process and analyse data, inaccuracy in data collection, managerially ineffectiveness or insufficient implementation & uncommitted management with a mean score 3.43, 3.4, 2.92 & 2.81 respectively. Failure in evaluation design, failure in planning, and failure in selecting the correct performance indicator are accorded as relatively less significant challenges that hamper proper implementation of M&E in ERA.

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1. Introduction

In this chapter, the main summary of findings, conclusion, and recommendations of the study based on the survey results are presented. First, the major findings from the frequency table and descriptive, analysis are summarized shortly. Then conclusions are followed. Subsequently, recommendations about monitoring and evaluation practices are presented.

5.2. Summary

This study was done with the main objective to assess the practice and challenges of project monitoring and evaluation of road construction projects and to identify the main challenges being encountered while implementing the M&E activities. To meet these objectives, the researcher was used a descriptive survey design and analysed the response of study respondents through SPSS version 20. The study was conducted on 83 study samples of Ethiopian road authority employees which is taken from 172 sample units was selected using proportionate stratified random sampling from 8 directories and questionnaires were distributed to them.

The results from background information of respondents indicated that the majority of the total respondents (53.3%) are male and the remaining 46.7 of them are female, the majority of respondents (44%) aged in the range of 36-45 years, considered to their education level most of the respondents (62.7%) were degree holders. Regarding their work experience, the majority of respondents (45.3%) have 6-8 years of service and (37.3%) of respondents have above 8 years of service and the majority of respondents (70.7%) were married.

From the distributed questionnaire 90.3% was returned. This collected data was edited, sorted, cleaned, and coded for data analysis. The findings were presented using percentages and frequencies and tables.

A Cronbach alpha test was conducted to measure the internal consistency and reliability of the data collection instruments (questionnaires) and was found out 0.754 reliable since all the alpha values were above 0.7 as recommended.

Regarding the ERA's organizational M&E system overview, the findings show that majority of the respondents agreed that there were established procedures for doing monitoring and evaluation and established strong culture of disseminating monitoring & evaluation findings as areas ERA doing better, on the contrary lessons of monitoring of did discussion periodically to take action.

Regarding the process of project monitoring and evaluation in the organization, most of the study respondents agreed that less level of a field visit conducted in the project site and also stakeholders did not involve consistently in monitoring and evaluation activities but there was not enough presence of culture of institutional learning and knowledge sharing.

Regarding the purpose of M&E, the majority of respondents agreed that they monitor projects for project improvement, performance management, followed by compliance as the main purpose in mind. Therefore, performance management and project improvement are drive motivation for monitoring projects.

Regarding institutional capacity building the findings, indicate that there was no adequate training provided to employees on issues related to M&E. Most of the respondents don't believe that it is adequate to conduct the M&E vigorously. Also most of them did not agree on adequate availability of required expertise and structure of M&E was not organized with the required width and value for organization role and responsibility. Even if most of the

ERA's employees are ethically and legally good in M&E activities on their skills and knowledge as well as their understanding on M&E guiding, framework, and manual to harmonize M&E concepts are not adequate.

Regarding ERA's resource and budgetary allocations for M&E, the finding indicated most of the respondents did not agree on adequacy of financial resources and budgetary allocations for project M&E and also inadequacy of existing of information & technology (IT) system to modernize and digitalize M&E works & activities and authority's investment to improve monitoring system are not adequate.

Regarding linkage between planning, budgeting, and monitoring & evaluation the majority of the respondents agreed that the project has clear road maps, timeframe (schedule) and plan/schedule for data collection & processing and dissemination of monitoring and evaluation finding.

Regarding data quality and consistencies study respondents agreed that their organization regularly analyse of data to assess the achievements of projects and M&E information regularly provided to program managers/officers to assist their decision-making and planning to improve the project progress.

Regarding the demand for and utilization of monitoring and evaluation results of ERA, the study respondents agreed that there was a high burden when they asked to report in different reporting formats to different stakeholders.

Regarding the main challenges faced while conducting M&E in ERA, the finding indicates that lack of adequate M&E expertise, inaccuracy in data collection, inadequate financial resources, unavailability of the funder, failure to process and analyse data, and less involvement of stakeholder are the main challenges hampering proper implementation of

M&E. This in turn indicates, lack of the necessary leadership and technical M&E expertise in ERA.

5.3.Conclusion

In overall the assessment of monitoring and evaluation practice in ERA had established procedures through regularly collect data, analyse data, produce information and reporting and dissemination of finding, monitoring and evaluation employees have ethically and legally rich for M&E activities, they are tried to develop clear road maps for project, they had a schedule & timeframe for data collection & processing, they had a schedule for the dissemination of monitoring and evaluation findings and also had well-established culture of disseminating monitoring & evaluation findings.

On the other hand absence of periodical discussion on monitoring lessons, less focusing on a field visit in the project site, stakeholders did not involve consistently on monitoring and evaluation activities, inadequate training provided to employees on M&E related topics, inadequate available of required expertise, inadequate availability of financial resources and budgetary allocations for project M&E, low-level utilization of information & technology (IT) system to support M&E works & activities, low-level investment to improve monitoring system, lack of organized reporting format to a different stakeholder that have create a burden on expertise.

In the overall conclusion of the assessment the challenges to the implementation of monitoring and evaluation ERA are weak institutional capacity: in the utilization of information & technology (IT) system, inadequate available of required expertise, insufficient resources and budgetary allocations for monitoring & evaluation, the weak linkage between planning, budgeting, and monitoring & evaluation: lack of organized reporting format which is a burden of expertise and poor data quality and inconsistencies

were identified as the most significant factors to implementation M&E in road construction projects.

5.4. Recommendation

Based on the finding of the study the researcher recommends as follows:

ERA can improve its project monitoring and evaluation through conducting training needs assessments on employees regarding their knowledge and skills, their motivation to fulfil their responsibilities and the organisational environment within which they operate and again provide consecutive training on M&E related topics like the types of information/data needed, how collected, how analysed & used, and also how the final report be structured, documented, presented in an informative way and how disseminate the information/findings in order to overcome some skill gaps of the employee's.

Since field visit are an essential monitoring tool, ERA can conduct effective monitoring through applying it consecutively in the project site and can gauge the progress towards achieving the operation's objectives, understand beneficiaries' perceptions and reactions to activities, can collect detailed and updated data/information that would help to organized and analysed the project M&E reports in a good manner and finally can identify any negative effects/ problems and make decisions to overcome them.

ERA should consistently involve stakeholders in M&E and incorporate their feedback in to its analysis that would help the stakeholder to believe that the project is their own and help to easily collect relevant data for M&E on time with a short period and can minimize the risk that will face in the project further they help to sustain the project and ensure the optimum use of resource budgeted for the project.

ERA should expand its use of innovative approaches to M&E, using information and communication technology to harness the power of technology to increase the accuracy of

data collection, to reduce the costs of gathering real-time data, and to improve data consistency.

Also to improve M&E of the project ERA should arrange an organization through adequate staff, required & sufficient quantity and quality of skills and resources, clearly define the organization's responsibility who collect/captured the data, who analyse the information and who disseminate the information

The top management should provide proper attention for M&E, follow and ensure the presence of proper and clear M&E guidelines and properly communicated throughout the organization & everybody involved in M&E. This is important to have a common understanding across the stakeholders since in a project different stakeholders involve too and further help to conduct effective project M&E.

Also, ERA should allow investment to improve the M&E system and try to communicate with different reporting organs to have a common and organized reporting format that would minimize the burden of expertise to report in a different format.

5.5. Suggestions for Further Studies

The study focused on an assessment on the practice and challenges of road project monitoring and evaluation; since the researcher could not assess all issues regarding monitoring and evaluation through its vastness in nature and behaviour. So issues that have not been discussed here can be encouraged in future studies. And study can also be extended in other sectors.

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Appendix

St. Mary's university

Department of project management

Dear /Sir

I kindly request your participation and support on “AN ASSESSMENT ON THE PRACTICE AND CHALLENGES OF PROJECT MONITORING AND EVALUATION: THE CASE OF ROAD CONSTRUCTION PROJECTS IN ETHIOPIAN ROAD AUTHORITY” which is being conducted as partial fulfillment of MA in project management. Any information you will provide will remain confidential and your participation is greatly appreciated.

You can **tick “√”, write in words, or rank** on the space provided.

The identity of the respondent shall be kept confidential. I would like to extend my gratitude for your helpfulness taking your precious time to respond to the questionnaire.

SUGGESTIONS FOR COMPLETION OF QUESTIONNAIRE

1. Please note that your response is anonymous and will be treated in absolute Confidentiality.
2. Writing your name is not required
3. The questionnaire comprises three parts and seven Sections and would take approximately 20 to 25 minutes to complete.
4. Should your company or organization wish to receive a copy of the final research report, you are welcome to write to:

Mr. Lamesgin Mulugojjam; Phone no; +251922366654

Email; lamesgin351@gmail.com

THANK YOU

Part I. Demographic Information

1. Gender A. Male B. Female
2. Age A. 18-25 B. 26 - 35 C. 36 – 45
- D. 46 – 55 E. 56 - 65
3. Level of education A. Certificate B. Diploma
- C. Degree D. Masters and above
4. Work experience A. Below 1 B. 1 - 5
- C. 6- 8 D. Above 8
5. Marital status A. Married B. Single
- C. Divorced D. Widowed

Part II. Questions Related to Monitoring and Evaluation Practice

Section I. monitoring and evaluation system

1. Indicate your level of agreement with the following statements as regards monitoring and evaluation in t0he authority? Using a scale of 1 to 5 where 1 - strongly disagree, 2 - disagree, 3 - not sure, 4 -agree, and 5 - Strongly agree

No.	The M&E System of your organization	S. Agree	Agree	Neutral	Disagree	S. Disagree
a.	There are established procedures for doing monitoring and evaluation	5	4	3	2	1
b.	Top management did not give adequate attention to M&E	5	4	3	2	1
c.	Lessons of monitoring did not discuss periodically	5	4	3	2	1
d.	Indicators can effectively measure the progress	5	4	3	2	1
e.	There are Clear methods of data acquisition and frequency	5	4	3	2	1
f.	There is accountability in the use of resources	5	4	3	2	1
g.	There is a strong Culture of disseminating M&E findings	5	4	3	2	1

Section II. Project Monitoring and Evaluation Process

2. Question related to Project Monitoring and Evaluation Process	no	Partially	yes
a. There are guiding principles for the M&E team	1	2	3
b. Field visits are conducted adequately in M&E activities	1	2	3
c. Stakeholders are adequately involved at all levels in M&E activities	1	2	3
d. lesson learned of M&E are properly incorporated in the activities	1	2	3
e. There is a strong culture of institutional learning and knowledge sharing	1	2	3
f. There is a Culture of documentation and information sharing	1	2	3

3. The key focus of project monitoring in your organization is?	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Project Improvement	5	4	3	2	1
Accountability	5	4	3	2	1
Performance management	5	4	3	2	1
Impact Measurement	5	4	3	2	1
Compliance	5	4	3	2	1
Value for Money	5	4	3	2	1

Section III. Institutional capacity

4. Indicate your level of agreement with the following statements as regards institutional capacity?

No.	Question on institutional capacity	very great extent	great extent	moderate extent	a little extent	Not at all
a.	M&E training have Provided to Monitoring and Evaluation staff employees	5	4	3	2	1

b.	Employees have adequate skills and knowledge to conduct M&E activities of the authority program	5	4	3	2	1
c.	Employees are ethically and legally rich to conduct M&E activities	5	4	3	2	1
d.	M&E Employees have understood M&E guiding, framework, and manual to harmonize M&E concepts	5	4	3	2	1

Section IV. Resources and budgetary allocations for M&E

5. Indicate your level of agreement with the following statements as regards resources and budgetary allocations for M&E?

No.	Questions related to resources and budgetary allocations for M&E	very great extent	great extent	moderate extent	a little extent	Not at all
a.	Financial resources and budgetary allocations are adequate for project M&E	5	4	3	2	1
b.	There is an IT system to support M&E works and activities	5	4	3	2	1
c.	The M&E structure is organized through an adequate number and skill of expertise.	5	4	3	2	1
d.	M&E structure is organized with the required width and value for organization role and responsibility	5	4	3	2	1
e.	The authority has an investment to improve the monitoring and evaluation system	5	4	3	2	1

Section V. linkage between planning, budgeting, and monitoring & evaluation

6. Which of the following aspects are specified in the plan that guides M&E activities of ERA	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a) There is a clear plan or road map for projects	5	4	3	2	1
b) There are a timeframe and schedule for data collection and processing	5	4	3	2	1
c) There is a plan engagement stakeholder in monitoring and evaluation processes	5	4	3	2	1
d) The project plan has a clear strategy for monitoring and evaluation	5	4	3	2	1
e) Roles and responsibility of staff in M&E clear stated	5	4	3	2	1
f) Resources needed for M&E are adequate	5	4	3	2	1
g) Plan/schedule for the dissemination of finding	5	4	3	2	1

Section VI. Data quality and consistencies

7. Does your organization regularly analyze data to assess achievements?

- a. Yes b. No c. I have no idea

8. Does regularly M&E information provided to program managers/officers to assist in decision-making and planning? a. Yes, b. No

Section VII demand for and utilization of monitoring and evaluation results

9. In some organization, M&E expertise is asked to report M&E activities by different stakeholders and organization through different format how about in your authority is asking? Yes no

10. If your answer is yes, To what extent have a Burden on M&E expertise to report with different reporting format to different stakeholder and organization

A. very high B. High C. Low d no

Part III. Questions Related to main strengths and weaknesses of the organizational approach to M&E and to be a Challenges to implement M&E in ERA

11. Rate the possible challenges in M&E activities of projects in your organization

No.	Possible challenges	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a.	Inadequate financial resources	5	4	3	2	1
b.	Lack of expertise	5	4	3	2	1
c.	Uncommitted management	5	4	3	2	1
d.	Unavailability of funder	5	4	3	2	1
e.	Less involvement of stakeholder	5	4	3	2	1
f.	Inaccuracy in data collection	5	4	3	2	1
g.	Failure to process and analyze data	5	4	3	2	1
h.	Failure in planning	5	4	3	2	1
i.	Failure in selecting the correct performance indicator	5	4	3	2	1
j.	Failure in evaluation design	5	4	3	2	1
k.	Managerially ineffectiveness or insufficient implementation	5	4	3	2	1

1. Please mention any other challenges in monitoring and evaluation of any project in the organization.

2. Please mention any other monitoring and evaluation issues that might not have been covered above. Additional issue:

3. What recommendations would you give to help improve the M&E system of road projects?
