

**THE ROLE OF MONITORING AND EVALUATION ON SUSTAINABILITY
OF THE ROAD CONSTRUCTION PROJECT IN BAGAMOYO DISTRICT -
TANZANIA**

RESPICIUS SELESTIN

**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF PROJECT
MANAGEMENT OF THE OPEN UNIVERSITY OF TANZANIA**

2018

CERTIFICATION

The undersigned certifies that she has read and hereby recommends for examination by the Open University of Tanzania the dissertation entitled: **“The Role of Monitoring and Evaluation on the Sustainability of Road Construction Projects in Bagamoyo District, Coast Region”** in partial fulfillment of the requirements for the degree of Master of Project Management (MPM) of the Open University of Tanzania.

.....

Dr. Hawa Uiso

(Supervisor)

.....

Date

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DECLARATION

I, **Respicius Selestin**, do hereby declare that this dissertation titled “The role of Monitoring and Evaluation on Sustainability of road construction projects in Bagamoyo, Coast Region” is my own original work, and that it has not been submitted for a similar degree in any other University.

.....

Signature

.....

Date

DEDICATION

This dissertation is dedicated to my parents, Mr. and Mrs. Selestin Benedicto Kalushekya. Their contribution as parents is highly appreciated. Be blessed my parents.

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ABSTRACT

The aim of this study was to assess the role of Monitoring and Evaluation on the sustainability of road construction projects in Bagamoyo District in Coast region. In order to achieve the objective the study assessed compliance to procedures and guidelines in relation to road construction projects and compared resource requirements with resource used. Also, the study assessed the role of time management in enhancing project success. A sample of 100 respondents was used in data collection which comprised of district officials from Bagamoyo works department, village government members' road users and project beneficiaries. The study used correlation and regression analysis to establish the relationship between resource requirements and resources used in successful road construction projects in Bagamoyo. The findings of the study revealed compliance to guidelines and laid down procedures as an important aspect in monitoring and evaluation. Also the findings revealed a statistically significant positive relationship between resource requirements and resource used in successful road construction projects and between time management and sustainable road construction projects in Bagamoyo. The study recommends future studies to be conducted in road construction projects in other districts of Coast region using the same methodology. The study also recommends future studies to be conducted in road construction projects in other regions in Tanzania.

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LIST OF ABBREVIATIONS

| | |
|------|--|
| BDC | Bagamoyo District Council |
| BOQ | Bills of Quantities |
| BWD | Bagamoyo Works Department |
| DED | District Executive Director |
| GDP | Gross Domestic Product |
| KeHA | Kenya Highway Authority |
| M&E | Monitoring and Evaluation |
| MPM | Master of Project Management |
| NGO | Non-Governmental Organization |
| OUT | The Open University of Tanzania |
| SPSS | Statistical Package for Social Science |
| URT | The United Republic Of Tanzania |
| UTT | Unit Trust of Tanzania |
| VEO | Village Executive Officer |
| WEO | Ward Executive Officer |

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter covers the research title, background to the study, statement of the research problem, research objectives, and research questions, relevance of the research and organizational of the dissertation.

1.2 Background to the Study

Monitoring and Evaluation (M&E) for road construction projects has been a custom in most countries of the world (World Bank,2010). It is also claimed in the report that a number of independent contractors and road works are mostly done by force account or awarded to Government Agencies on a negotiated basis. In many of these countries, not only are cost high and quality low, but also the suppliers of construction materials and services have monopoly power (World Bank, 2010).

There has been a growing interest in M&E in developing countries (Kule and Umugwaneza, 2016). Shauri, (2017) found that road construction projects are still associated with sub-standard works, loss of Governments funds and ultimately untimely completion of road construction projects. It further added that a lot of funds were set aside for Monitoring and supervision in the budget for road construction projects but roads were found to be of poor quality compared to those works where there was no funds set aside. This was explained by delays attributed to the contractors and delays in fund allocations to road works. This could be associated with monitoring and evaluation in terms of its strength, evaluation and risk

management. If the situation continues, there will be continuous loss of District funds in form of repairs, low value for money out of the contracted projects and a continued state of poor road conditions in the district hindering the macroeconomic goals and growth through increase in road networks. Hence need to analyze the role of M&E on sustainability of road construction projects in Bagamoyo district. The Bagamoyo District has a road network of about 1,012.3 km that gives access within and outside Bagamoyo. The main tarmac highway covers neighboring Districts and Regions of Kibaha, Kinondoni, Tanga and Morogoro with a total of 204.2 Km. However, there are other Gravel and Earth road networks totaling to 808.1 km (Shauri, 2017).

1.3 Statement of the Problem

In developing countries lack of M&E capacity continues to cause non-sustainable outcomes of the projects, because the outcomes of many projects are not benefited after being implemented (Kule and Umugwaneza, 2016). Nisa, (2015) using critical analysis noted that M&E practices were positively correlated with project success.

He also noted that project design was positively correlated with project success measure. M&E contribute more in enhancing the project success rate as compared to project design in NGO Sector in Pakistan. The study of Kimweli, (2013) in Kibwezi District Kenya revealed that the community was not involved in any monitoring and evaluation of the food security projects, hence the intervention was not sustainable.

Nyandika and Ngugi (2014) in Kenya National Highways Authority revealed that there was a positive significant relationship between user's involvements and performance of road projects in Kenya. In Bagamoyo District, a number of problems

have been noted including the fact that major roads have been completed, but many of them are earmarked for rehabilitation, persistent poor road projects performed associated with irregular funding from the road Fund and Tan roads, low value for money due to careless works, overestimated budget for construction costs and time overruns by the contractors (BWD, 2017).

The Bagamoyo District recorded a high unit of periodic, Spot, Drainage and routine Maintenance of gravel roads, earth roads and tarmac road works amounting to Tshs. 950 million, and unit cost of monitoring road works totaling to Tshs.47.5million (BWD, 2017). If this trend continues, there will be low value for money and low customer satisfactions by constraining the limited financial resources.

The problems mentioned could be associated with poor monitoring and evaluation practices. The current study is based in Bagamoyo district in Tanzania and intended to fill a contextual gap because most of the studies have been done outside Tanzania. Also the study aimed to fill a methodological gap by assessing compliance with specifications as per bill of quantity, resource requirements and time management. Hence the need for study to analyze the role of Monitoring and evaluation on sustainability of road construction projects in Bagamoyo District.

1.4 Research Objectives

1.4.1 General Objectives

The general objective of the study was to analyze the role of monitoring and evaluation on sustainability of road construction projects in Bagamoyo district.

1.4.2 Specific Objectives

- (i) To assess compliance to guidelines and procedures in relation to sustainable road construction projects in Bagamoyo district.
- (ii) To compare resource requirements with resource used in successful road construction projects in Bagamoyo district.
- (iii) To assess the role of time management in enhancing successful road construction projects in Bagamoyo district.

1.5 Research Questions

1.5.1 General Research Question

The general question is to what extent do Monitoring and Evaluation systems enhance sustainability of the road construction projects in Bagamoyo District?

1.5.2 Specific Research Question

- (i) What is your assessment of compliance to guidelines and procedures in sustainable road construction projects?
- (ii) What is the relationship between resource requirements and resource used in successful road construction projects in Bagamoyo?
- (iii) What is the role of time managements in enhancing successful road construction projects in Bagamoyo district?

1.6 Relevance of the Research

This study is a pre requisite for the accomplishment of the Masters of Project Management degree programme. It will also provide avenues for future researchers in the area. The finding can also be used by project managers, Engineers in the District,

Technician, top managements of the District and project beneficiaries for supporting monitoring and evaluation efforts.

1.7 Organization of the Dissertation

This study is organized in five chapters, in which chapter one gives the background information to the statement of the problem, objective of the study and coverage of the proposal. Literature review is covered in chapter two which gives the definitions of the basic concepts used in the study, theories supporting the study, empirical literature review and conceptual framework. Chapter three is on research methodology and it covers philosophical assumptions underlying the study, research design, study area, population and sampling. Findings and discussions related to the findings are covered in chapter four. Chapter five presents the summary, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

The main issues discussed in this chapter includes, definitions of the basic concepts, theories supporting the study, empirical literature review, research gap and Conceptual framework.

2.2 Conceptual Definition

Three basic terms have been used in the current study including monitoring, evaluation and sustainability. UNDP, (2009) defined monitoring as the ongoing process by which stakeholders obtain regular feedback on the progress being made towards achieving their goals and objectives. The report also claims that monitoring helps organizations track achievements by a regular collection of information to assist timely decision making, ensure accountability, and provide the basis for evaluation and learning. Evaluation is the systematic and objective assessment of an on-going or completed project, program or policy, and its designing, implementation and results.

The aim is to determine the relevance and fulfillment of objectives, development, efficiency, effectiveness, impact and sustainability (World Bank, 2007). Sustainability is the means to create and maintain conditions, under which human and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements for present and future generations (World bank, 2015). However the issue of sustainability should be observed within time and changing social, economic and political aspects. Dimensions are the highest level of sustainability monitoring

indicators. For Road construction project, four monitoring dimension are used including technical, socio–environment, financial and institutional. Basing on the objectives set by stakeholders of the project, there may be different views of looking at the sustainability aspects of the project.

In this research sustainability of Road construction projects will consider the four dimensions mentioned. Depending on the nature of the project each of these dimensions has the capacity to influence project sustainability in one way or another. The technical dimension ensures the project has received the necessary support (both budgetary and institutional) to enable it to uphold the required level of the services. Financial dimension weights all the costs and welfare under varying conditions and property and assess whether the project guarantee a satisfactory level of financial and economic returns, Socio - environmental dimension ensures that negative impacts on environment are either avoided or alleviated during the project life and that institutions requirements have made adequate provisions of funding to allow for sustainability.

2.2.1 Explanation of the Variables used in the Study

Six independent variables have been addressed in the conceptual frameworks including compliance with guideline and laid down procedures or specification as per bill of quantity, inspections, resource requirements, time managements, allocation and utilization of resources and project documentation as well as four dependent variable of the study. The compliance to guideline and procedure is either a state of being in accordance with established guideline or specification of a given task (Geen, 2014).

Inspections is most generally an organized examination or formal evaluation exercise in this case road construction projects. Resource requirements is the list of hardware or software items needed to accomplish a task, they can be people, equipment's, funding or anything else capable of required for the completion of the project activities. Time managements is the process of planning and exercising conscious control over the amount of time spent on a specific activity to increase effectiveness, efficiency or productivity (Geen, 2014). Resource allocation is the assignments of available resources to various uses and can be allocated by various means such as market or control planning and project.

Documentation is an important part of project managements, thus documentation must lay the foundation for quality traceability and history for both individual documents and for the entire project documentation (Fedel, 2011). Continued community participation is vital for both motivating new actions as well as for cost recovery and maintaining a desirable level of participation of the community in the project activities (World Bank, 2010). Continued operational and maintenance of the project received necessary support to enable it to maintain required level of the facilities in the sustainable manner. Continued flow of net benefit for economic sector projects has all the costs and reimbursements under varying conditions biased properly and does the project guarantee satisfactory level of financial and economic earnings (World Bank, 2010).

2.3 Theories Supporting the Study

This study will use two theories including sustainability theory and Theory of change which link the M&E variables in the results chain.

2.3.1 The Sustainability Theory

Brundtland, (1972) define sustainability as a capacity to maintain some entity, outcome, or process over time, in addition to that, the concepts of sustainability frames the ways in which environmental problems jeopardize the conditions of health economic, ecological and social systems Sustainability theory attempts to prioritize and integrate social responses to environmental and cultural problems. Some critiques have been raised against the theory claiming that the term is too widely used, and thus meaningless, in other instance the theory is completely opposed.

For those broadly in favour of sustainability one common criticism is that it is defined too vaguely (UN publication, 1987). Also there is a meaning that it is too easy to assume that the sustainability have been reached without having detailed understanding of the concept of sustainability, thus governments and industry, can talk about being sustainable while remaining with business as usual. There is also the problem of how to measure whether Sustainability is being achieved.

2.3.2 The Theory of Change

Theory of change explains how activities are understood to produce a series of results that contribute to achieving the final intended impacts Weiss,(1995). The theory of change can be developed for any level of intervention – an event, a project, a programme, a policy, a strategy or an organization. Where objectives and activities can be identified and tightly planned beforehand, that changes and adapts in response to emerging issues and to decision made by partners and other stakeholders. Sometimes the theory of change is used generally to refer to the monitoring and evaluation variables which includes a result chain which shows a series of variables

from implementation stage, inputs to outputs, outcomes and Impacts (World bank, 2010). Some critiques have been raised against claiming that the problem come with the phrase “theory of change” in which to put it frankly, each of the words is somewhat misplaced and doesn’t stand to much scrutiny. Take the use of the word” theory”. A theory is generally taken to mean an idea, principal that is separate from, and more general than, the thing being explained. The advocate of the theory of change use the word theory in an almost opposite sense to describe a specific explanation. The next problem is the use of the word “theory” in a singular form, not plural. Even the word “of “is misplaced. The purpose of the theories of change is to guide action. They are in this sense theories for change, rather than of change. Even the word “change”, but even this is misleading. What we want an explanation for is an effect, an impact or an outcome, not the change process itself Ruesga, (2011).

2.4 Empirical Literature Review

Kule and Umugwaneza (2016) used correlation and regression analysis to assess the role of monitoring and evaluation on project sustainability in Rwanda. The study aimed at identifying the role of effective communication on sustainability of the projects and to examine how partnership influenced sustainability of the projects, ascertain the supportive supervision to the sustainability of projects and to establish the relationship between accountability and sustainability of projects in Rwanda.

The finding of the study revealed that accountability, effective communication, partnership for planning, supportive supervision was significantly correlated with the sustainability of projects in Rwanda. The study recommended that commitments by the management in overseeing the monitoring and evaluation exercise in the project

would enhance project sustainability in Rwanda. This study differs from the current one in that the study was conducted outside Tanzania, hence contextual gap. The study resembles with the current ones in terms of methodology used correlation and regression analysis.

Ngugi and Nyandika (2014), using correlation and regression analysis, found that awareness, feasibility, conference and seminars in user's involvements had a positive influence on the road project performance. The study also realized the critical role of top management as the requirement for funding approval and reported a significant positive relationship between independent and dependent variables. Methodologically, this study is similar to the current one in that they both used correlation and regression analysis but contextually they differ because the current study is conducted in Bagamoyo as opposed with the one done in Kenya National Highway Authority.

Nisa, (2015) claimed to examine the relationship between the two profound dimensions of project performance measurement system including project design, monitoring and evaluation and project success in NGOs of Pakistan. The results showed that M&E practices are being frequently used in NGO projects in Pakistan, particular care has been taken while designing the projects and both variables have a positive relationship with project success. M&E showed the great impact than project design on project success.

Therefore the NGOs should strengthen project design and M&E practices in order to improve project implementation as well as the chance for project success. Methodologically, this study is similar to the current one in that they both used

correlation and regression analysis but contextually they differ because the current study was conducted on Non-Governmental Organization in Pakistan as opposed with the one done on Public sector in Tanzania.

Kiruja and Mbiti (2015) conducted a study on the role of monitoring and evaluation on performance of public organization projects in Kenya. The purpose of the study was to establish the role of monitoring and evaluation on performance of public organization projects in Kenya. The variables namely human resources, implementation strategy, training and planning. The study findings showed that all the independent variable significantly and positively influenced performance of Kenya meat commission projects.

The study also recommends that human resources aspects such as staff entrusted with monitoring and evaluation should have technical skills, be dedicated to the function. Roles and responsibilities of monitoring and evaluation personnel need to be specified at the start of the projects. The managers should be involved in the design, implementation and reporting on monitoring and evaluation and also when clarifying scope, purpose, intended use, audience and budget for evaluation. The study differs from the current one in that the study was conducted outside Tanzania, hence contextual gap.

The study resemble with the current one with the methodology used that is correlation and regression analysis. Ofori, (2013) carried out the study on project management practices and critical success factors- a developing country perspectives. The study sought to identify and assess the quality of project management's practices as well as

the critical success factors for projects in Ghana. The results from the study indicated that the critical factors that contribute to the success of the project include top managements support, effective communication, and clarity of the project purpose and goals and stakeholders involvement. Therefore documentation and dissemination of the critical success factors and best practices in project managements will improve the quality of the project management in Ghana. The study differ from the current one in that the study was conducted outside Tanzania, hence contextual gap also the study differ with the current one with the methodology used thus the study used exploratory, factor analysis in assessing the factors that contribute to the success of a projects.

Wanyoike and Waithera, (2015) carried out the study on the influence of project monitoring and evaluation on performance of youth funded agribusiness projects in Bahati Nakuru, Kenya. The study sought to determine factors that influence the project monitoring and evaluation performance of youth funded agribusiness projects in Bahati, Kenya. The specific objective were to assess the influence of training staff and personnel, stakeholder's participation, and political interference on monitoring and evaluation performance of youth funded agribusiness projects. The descriptive survey was carried out in Bahati sub country Kenya.

The finding showed that only the training of staff had statistically significant influence on project monitoring and evaluation performance of youth funded agribusiness projects. The study conclude that youth fund managers should consider offering short, formal monitoring and evaluation training courses to all youth groups that apply for the funds. Methodologically, this study is similar to the current one in that they both used correlation and regression analysis but contextually they differ because the

current study was conducted on Bahati in Kenya as opposed with the one done on Bagamoyo District in Tanzania.

Table 2.1: A Summary of Empirical Literature Review

| Author & Year | Title | Methodology | Findings |
|-----------------------------|---|-------------------------------------|--|
| Kule & Umugwaneza, (2016) | The role of M & E on project Sustainability in Rwanda. | Regression and Correlation | Accountability, effective communication, Partnership for Planning and Supportive Supervision have a positive effect on sustainability. |
| Wanyoike & Waithera, (2015) | Influence of Project Monitoring and Evaluation on performance of youth Funded Agribusiness projects in Bahati | Descriptive Analysis | The training of staff had statistically significant influence on project M&E |
| Ngugi & Nyandika , (2014) | Influence of stakeholders participation on performance of Road projects at KNH A | Correlation and Regression Analysis | User involvements, IT skills, computer aided designs, use of intranet and internet and IT Policies influenced the performance of road projects. Top management support was critical in overseeing funding approvals of projects. |
| Kiruja & Mbiti ,(2015) | Role of M&E on performance of Public Organization projects in Kenya | Regression and Correlation Analysis | Human resources, implemented strategy, training and planning influenced performance of the Kenya meat commission projects. |
| Nisa <i>et al</i> , (2015) | Impact of project performance measurement systems on project success. A study Based on NGO sector of Pakistan | Correlation and Regression Analysis | There was a positive correlation between M&E practices and project success and between Project design, project success measure. M&E enhanced compared to project design in NGO Sector in Pakistan. |

Source: Empirical Literature Review

2.5 The Research Gap

Most of the studies reviewed were conducted outside Tanzania, hence creating a contextual gap. The studies were conducted in Ghana, Rwanda, Kenya Kiruja and Pakistan and non in Tanzania Nisa, (2015), Ofori, (2013). Hence there is the contextual gap the current study is seeking to fill. The methodology used in the current study of assessing the compliance to guideline and procedures and the variance in material usage is also different, hence there is a methodological gap. The studies did not describe the contribution made by M&E systems in ensuring Sustainability of those projects basing on key sustainability indicators like Environmental, Financial, Socio – Economic, Institutional and Technical Aspects. Therefore, this study is expected to fill that gap, but more specifically on the Road construction projects found in Bagamoyo District.

2.6 Conceptual Framework

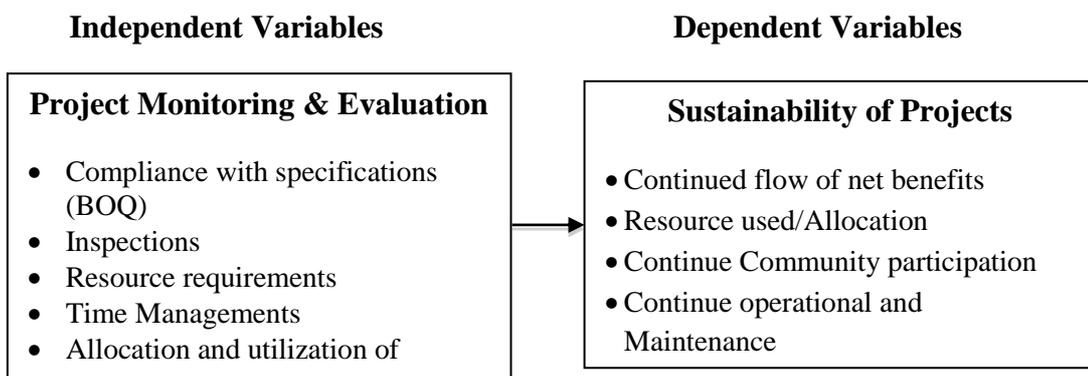


Figure 2.1: Conceptual Framework of the Study

Source: Author's Literature Review

2.7 Theoretical Framework

Theory of change are based on a simple relationship that highlights the effect of monitoring and evaluation on the sustainability of road construction projects. The

proof of effectiveness for any monitoring and evaluation practices is the degree to which it improves the operational performance of the constructed road projects in Bagamoyo district. For the district to ensure that the bottlenecks on their constructed road run smoothly they have to embrace the use of monitoring and evaluation tools that can facilitate operational efficiency and sustainable road projects in the district.

2.7.1 Independent Variables

In this study independent variables are compliance with guideline and procedures, Inspections, Resource requirements, Time managements, allocation and utilization of resources and documentation.

2.7.2 Dependent Variables

This study involved the continues flow of net benefit, resource used, continuous community participation and operational and maintenance as indicators for sustainability which was the dependent variable.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter discusses the Methodology that was used in conducting research. It covers the research Philosophy that guided the entire study, explanation on Survey population, Area of study, Sampling design and procedures, Variables and measurement procedures, methods of data collection and lastly the data processing.

3.2 Research Philosophy

Positivism in this case assumes a scientific approach to a development of knowledge. This assumption supports the collection of data and the understanding of those data (Saunders *et al*, 2012). The philosophy of positivism prefer collecting data about the visible realism and investigation for consistencies and casual relationship of the data to create law-like generations like those produced by natural scientist. For the purpose of this study positivism philosophy was adopted.

3.3 Research Design

A research design is the preparation of conditions for collection and analysis of data in a way that aims to combine relevance to the research purpose with economy in procedure (Kothari, 2004). The current study adopted cross sectional descriptive research design involving both the qualitative and quantitative method in collecting and analysis of data. The researcher used the research instruments and interviews so that could gain real information on the variables, therefore understanding more the relationship between them.

3.4 Area of the Research

Bagamoyo district was selected as the study area because it faces the problem of poor sustainability of constructed road projects, which is caused by irregularities in application of Monitoring and evaluation practices (Bagamoyo District Council profile, 2016). There is long distance in terms of road network approximately to 402.73km which includes tarmac roads, Paved roads, Gravel roads and Earth roads within the district compared to other District within the Coast Region (BWD, 2017).

3.5 Survey Population

The district is politically subdivided into two parliamentary constituencies namely Chalinze and Bagamoyo with seven divisions, 22 wards and 97 villages. According to 2012 National population census the district had 311,740 of which 154,198 are males and 157,542 are female (URT, 2013). The district population density is estimated to be 24.6 people per Sq. km. The people who were interviewed include, Project Managers, District Executive Director (DED), District Engineer, Civil Technicians, Ward Executive Officers, Village Executive Officers (VEO) and households which include Men and Women because some of these peoples were implementers of the road project and others were beneficiaries of the interventions.

3.6 Sampling Design and Procedures

Before deciding on the better method to be used for data collection there was need to determine relevant sampling techniques. This research employed a probabilistic sampling technique whereas all people within a research area had an equal chance of being selected. Also a probability sampling method that utilized some form of random selection ensure that the different units in a population had an equal chance of being

chosen. On the other hand Purposive sampling was used to describe the existence and effective application of M&E practices in ensuring Sustainability especially in road projects found in Bagamoyo district. The researcher consulted road beneficiaries, project managers and district officials in works Department. The mixture of sampling techniques within one research is to figure out, eliminate and overcome the disadvantages found within different procedures.

3.6.1 Sample Size

Normally, the size of the sample should neither be excessively large nor too small as it should be optimum. An optimum sample is one which fulfills the requirements of efficiency representativeness, reliability and flexibility. To achieve these, twenty five families were interviewed from wards, recruiting participants from wards handled and identified by Ward Executive Officer (WEO). The families that were included were both men and women who were involved in implementing community projects.

On the other hand five district officers and Project Managers were interviewed as key implementers of M&E practices. Furthermore questionnaires were administered to respondents irrespective of their marital status provided they were above eighteen years and had at least form four level of education. This enhanced proper understanding of the posed questions and accurate information. According to (Polonia, 2013), Determining sample size that is optimum, requires hundred elements in the population sample that bring a significance level of about 95 percent by taking 5 percent of the population. By using formula it can be stated as:

$$\text{Whereas} \quad n = N / (1+N) * e^2$$

n = the Sample size

N = the population size

e = the acceptable sampling error

*95% Confidence level and $P = 0.5$ are assumed.

Source: Israel, (1992)

3.7 Variables and Measuring Procedures

The conceptual framework of this study consisted of Monitoring and evaluation as independent variables and Sustainability of projects as dependent variable. The monitoring and evaluation were measured by compliance to procedures and guideline, Inspection, Resource requirements, time managements, allocation and utilization of resources and documentation while the sustainability of projects were measured by continues flow of net benefit, resource used, continues community participation and operational and maintenance. Variables for the data used for analysis were well measured through the use of five (5) points Likert scale to get data which were measurable to show the actual relationship between dependent and independent variables.

3.8 Methods of Data Collection

Data was collected from the field basically using the following methods: observation for primary data collection. As for secondary data the researcher reviewed various documents relating to the topic under study as explained in 3.7.2.

3.8.1 Primary Data

The Primary data are those, which are collected fresh and for the first time, and thus happen to be original in attractiveness. These are the original information collected directly from the respondents. Primary data in the current study were obtained through questionnaires. The data collected through primary sources include M&E practices in road construction projects, sustainability of road constructions projects, challenges in implementing M&E practices and recommendations to mitigate challenges facing M&E practices in road construction projects.

Also in this study two types of questionnaires namely; close ended and open ended questionnaire were employed. Open ended questions allow respondents to give subjective answers, while Close ended questionnaire requires respondents to provide fixed answers by choosing the appropriate one. The study used both methods so as to offer a change of pace and help respondents to establish relationship. The study asked the local management to be introduced to M&E staff for interview and questionnaire and give them plenty of time to answer the questions (Kothari 2004).

3.8.2 Secondary Data

The study information was sought from various database including Emerald, Elsevier, Google Scholar and Science Direct.com using various search keywords alone and in combination including monitoring, evaluation and sustainability. In addition the secondary data in this research also were obtained from different sources including, M&E Reports of respective road construction projects in Bagamoyo, Internet, Magazines, Professional Journals Articles, past - dissertations, reference books, published and unpublished reports. The study also employed documentary review in

collecting data as second hand information; the researcher consulted written documents including M&E reports.

3.9 Data Processing and Analysis

Data was analyzed through descriptive statistics by finding the mean and standard deviation of the collected data. A comparison was also made between resource requirements and resource used to establish any variance as key indicators of quality of road construction. Inferential statistics which employed correlation and regression analysis were also applied. Regression analysis involved identifying the relationship between a resource requirements and resource used in successful road construction projects as well as the independent variable which includes sustainability of road construction projects in Bagamoyo district.

A model of the relationship hypothesized, and estimates of the parameter values were used to develop an estimated regression equation. Regression refers to a broad class of relationships in statistics that involves dependence. Dependence in statistics means a relationship between two sets of data or two random variables. So in the current study the correlation and Regression analysis were used for data analysis, hence giving the results. The classical assumption for regression analysis includes, the sample is representative of the population for the inference prediction, the error is a random variable with a mean of zero conditional on the explanatory variables, the independent variables are measured with no error (Note if this is not so, modeling may be done instead using error in variables model techniques, the independent variables (predictors) are linearly independent, the errors are uncorrected, that is the variance - covariance matrix of the error is diagonal and each non zero elements is the variance

of the error and the variance of the error is constant across observations Kothari, (1990). Therefore, the formulae applied in the study was driven by Kraus, and Schwarz (2006) which is stated as follows:

$$SCP = \beta_0 + \beta_1CPG + \beta_2RBRRRU + \beta_3TM + e$$

Where by

SCP = Sustainability on Construction Projects

β₀ = Constant factor

β₁CPG = Compliance to Procedures and Guidelines

β₂RBRRRU = Resource Requirements and resources used

β₃TM = Time Management

e = Random variable

β₁ = Constant for CPG

β₂ = Constant for RBRRRU

β₃ = Constant for TM

3.10 Ethical Consideration

Saunders et al, (2009) “Ethics refers to the appropriateness of the behavior in relation to the rights of those who became the subject of your work, or affected by it”. The key ethical issues considered when conducting this study were: informed consent of the participants, unpaid participation and privacy of possible and actual participants. Furthermore, the respondents were informed that data collected was intended for academic purpose and that will be treated confidential. All the source of information included in this dissertation are acknowledged including research clearance from Open University of Tanzania.

CHAPTER FOUR

RESEARCH FINDINGS, ANALYSIS AND DISCUSSION

4.1 Overview

This chapter contains the findings of the study, analysis of the data and discussions on the findings.

4.2 Respondents Profile

The study presents the profile of the respondents based on the findings gathered from the thematic areas. Table 4.1 shows respondent profile which includes age, gender and level of education.

Table 4.1: Profile of the Respondents

| Demographic Characteristics | | Frequency (%) | Percentage (%) |
|-----------------------------|-----------------|---------------|----------------|
| Sex | Male | 68 | 68.0 |
| | Female | 32 | 32.0 |
| | Total | 100 | 100.0 |
| Age | 18 – 30 | 24 | 24.0 |
| | 31 - 40 | 30 | 30.0 |
| | 41 – 50 | 16 | 16.0 |
| | 51 – 60 | 10 | 10.0 |
| | Above 60 | 6 | 6.0 |
| | Total | 100 | 100.0 |
| Level of education | Secondary level | 2 | 2.0 |
| | Diploma | 9 | 9.0 |
| | Bachelor Degree | 68 | 68.0 |
| | Professional | 2 | 2.0 |
| | Total | 100 | 100.0 |

Source: Field Data (2016)

Table 4.1 indicates findings on age of respondents and their level of percentages. This implies that practitioners in the construction industry as professionals and beneficiaries of the developments and outcomes consists of all age categories and

groups. The statement is in line with Acevedo, (2010) that project implementers and practitioners in the construction industry are professionals of different age groups such as the youth, the young, matured and the elderly. They all work together heavily depending on each other as professionals together with level of experience and the entire process of mentoring others. Apart from that, beneficiaries of the projects on the other hand consist of anyone regardless of the age because they benefit from good infrastructures that come out of the projects.

Table 4.1 on the other hand state findings on gender of the respondents and their level of percentage. This implies that in Tanzania construction industry is still largely dominated with male as practitioners in various professions such as Architects, Engineers, Quantity Surveyors, Contractors and several others. The view is still in line with Basha, (2017) suggesting that for many years since independence to date construction industry has been and still dominated by men in large number and quantity as practitioners and professionals. Though at the moment there is an increasing number of female professionals and practitioners in the construction industry to the extent that the progress is well.

Ofori, (2013) on the other hand suggests that construction industry in Tanzania is largely dominated and led by men as practitioners due to the study the number of construction firms owned and fully led by women practitioners are very few to the extent that countrywide they are countable. This is clear and evident that for many years the industry has been largely consisted of male as practitioners in different fields within the industry; though the number is largely increasing on women engaging in entrepreneurship particularly in the construction industry.

Finally, the education level of respondents and their percentages have implications on the study. This implies that construction activities are purely technical practices and operations to the extent that they only require professionals in operations as well as thorough and in-depth monitoring and evaluations to give and provide adequate professional opinions.

The views are in line with Lahey, (2015) that construction industry is an area constituting different professionalism, which are mainly technical in theory and practices and need to be handled by professionals in the industry with clear and adequate knowledge on what they are doing for rational decision making process.

4.3 Result of Reliability and Validity Measure of the Study

4.3.1 Validity of the Study

Validity refers to the credibility of the research. A pilot study was conducted so as to test whether the instrument created would supply the appropriate information, and to check if there were ambiguous questions. The pilot test involved 10 employees of the district and the results revealed that the instruments was measuring the projected outcomes and all question were clearly understood.

4.3.2 Reliability of the Study

The reliability refers to the consistency of findings. Reliability in this case was first tested and established before the actual analysis to show whether the values of the variable were reliable for further analysis using the inferential tests. The measurement was conducted through the use of Cronbach Alpha test.

Table 4.2: Cronbach Alpha Test

| | Cronbach Alpha Values | Number of items |
|--|------------------------------|------------------------|
| Compliance to procedures and laid guidelines | 0.823 | 4 |
| Relationship between resource requirements and resource used | 0.857 | 4 |
| Time management | 0.916 | 4 |
| Sustainability of road construction projects | 0.798 | 3 |

Source: Field Data (2016)

Findings as indicated in Table 4.2 shows the Cronbach Alpha values for the variables and constructs of the study that varied from 0.798 to 0.916 which is evident that the research instrument was reliable. This is evident because (Ritter, 2010) provide that values within 0.7 and above shows that the research instruments is reliable to the extent that they are fit and well for analysis.

4.4 Findings, Analysis and Discussion of Each Research Specific Objective

The study mainly intended to assess the role of monitoring and evaluation on the sustainability of road construction projects. The findings based on each specific objective are analyzed and discussed as follows:

4.4.1 Findings and Analyses of Data from First Specific Objective

To assess compliance to guideline and procedures in relation to sustainable road construction projects in Bagamoyo district this was the first specific objective of the study. Basing on the responses received, a majority of people were of the opinion that procedures and guidelines were complied with. Compliance to procedures and guideline was described as it is seen in Table 4.3 with the mean of 3.46 and standard deviation of 0.904. From the results it is evident that compliance to guideline and laid down procedures through its indicators has a great influence on sustainability of road

construction projects in Bagamoyo district, since the mean was 3.46 implying that there was compliance to laid down procedures as stipulated in the tender documents issued to the contractors during the bidding process and thereafter the contract which guide the whole construction process in Bagamoyo district.

Table 4.3: Mean and Standard Deviation

| | Mean | Standard Deviation |
|--|-------------|---------------------------|
| Sustainability of road construction projects | 3.36 | .816 |
| Compliance to procedures and guidelines | 3.46 | .904 |
| Relationship between resource requirements and resource used | 3.61 | .985 |
| Time management | 3.53 | .915 |

Source: Field Data

4.4.2 Findings and Analyses of Data from Second Specific Objective Using the Mean and Standard Deviation Values

The second objective was to compare resource requirements with resource used in successful road construction projects in Bagamoyo district. Table 4.3 shows the mean and standard deviation of this variable. The mean is 3.61 and standard deviation of 0.985 which indicates that the influence is high than it was in compliance to guideline and laid down procedures. The findings indicate that the relationship between resources requirements and resources used influences the sustainability of road construction projects in Bagamoyo district. This indicates that most of the people in Bagamoyo agreed with the statements that it influence mostly in road construction projects in Bagamoyo district, since it has higher mean compared to the other as analyzed in Table 4.3. Above all this has a great influence on sustainability of road construction projects in Bagamoyo district, since if not enough resources as an input

for construction works, hence there will be no projects that will be implemented in the district. Also if the district allocated the resources for implementing the projects especially road construction projects if not utilized fully, hence there will be variations of the construction works therefore the statements has shown that as great impact in the construction industry.

4.4.2.1 Findings and Analysis of Data from Second Specific Objective Using the Secondary Data Obtained from the Works Departments of Bagamoyo District

Table 4.4: Variance Analysis for the Resource Requirements and Resource Used

| Roads | Resource Planned | Resource Used | Variance of Resource Usage | Comments |
|--|----------------------|----------------------|----------------------------|--|
| Kiwangwa – Wami 15Km | 1,052,786,800 | 1,092,488,900 | -39,702,100 | Actual project implementation required more materials than anticipated during the design stage |
| Kisauke – Matipwili 8.5Km | 966,940,400 | 935,565,000 | 31,375,400 | Over estimation of quantities of materials during the design stage |
| Upgrading of Msoga road 1.1Km | 536,048,200 | 596,470,525 | -60,422,325 | Unforeseen activities during design stage, actual implementation require more materials |
| Upgrading of Bagamoyo town road 2Km | 744,485,000 | 773,705,000 | -29,220,000 | Unforeseen activities during design stage, actual implementation require more materials |
| Lugoba – Tlawanda road 2Km | 97,000,000 | 88,697,500 | 8,302,500 | Over estimation of quantities of materials during the design stage |
| Demostration site along Bago – Talawanda road 22Km | 1,294,954,336 | 1,202,773,132.20 | 92,181,203.80 | Over estimation of quantities of materials during the design stage |
| Grand Total | 4,880,474,736 | 4,877,960,057 | | |

Source: Secondary Data

Table 4.4 shows the variance analysis of the secondary data obtained from the works department of the Bagamoyo district, hence this analysis indicate that variance is the measure of the reliability of the measured secondary data from the average value of the set of data. However the high the variance of the resource requirements and resource used, indicate that there is relatively great variability. Moreover, also indicate that the average is of minimal use in projecting the future values for the resource requirements and resource used in relation to the road construction projects in the district.

4.4.3 Findings and Analyses of Data from third Specific Objective Using the Mean and Standard Deviation Values

The third objective was to assess the role of time management in enhancing successful road construction projects in Bagamoyo district. Table 4.3 shows the mean and standard deviation of this variable. The mean was 3.53 and standard deviation of 0.915 which indicates that the influence is high, hence to the above data further indicate that time managements play a big role in carrying out the necessary to meet the required schedules or program of works provided by the client. The findings also revealed that there was high response from the respondents that time managements was necessary in order for the projects to be completed within the set completion time to avoid cost overrun and delay of the intended service to beneficiaries.

Table 4.5 shows the time management of the road construction projects in the district since 2010 to 2017. The effectively capture of the secondary data relating to time management practices and sustainability thus indicate how the time was set starting with the contract date to the completion date which show the great difference.

4.4.3 Findings and Analysis of the Data from the Third Specific Objective using Secondary Data

Table 4.5: Time for Implementation of Road Projects in the District

| Project Name | Contract Signing Date | Commence ment Date | Planned Completion date | Actual Completion Date | Comments |
|--|-----------------------|--------------------|-------------------------|------------------------|-------------------------------------|
| Bago -Talawanda road 22Km | 18/08/2010 | 23/08/2010 | 05/8/2011 | 05/8/2011 | Completed on time |
| Bagamoyo town road 2Km | 28/07/2017 | 04/8/2017 | 29/09/2017 | 29/09/2017 | Completed on time |
| Bagamoyo – Ukuni and Mwavi – Mkenge 10Km | 28/07/2017 | 04/8/2017 | 29/09/2017 | 29/09/2017 | Completed on time |
| Upgrading of Bagamoyo town road 2Km | 05/12/2015 | 28/05/2015 | 28/05/2015 | 31/08/2015 | Three Months delay and cost overrun |
| Upgrading of Msoga road 1.1Km | 19/01/2015 | 21/01/2015 | 05/01/2015 | 19/01/2015 | Two weeks delay and cost overrun |
| Kiwangwa – Wami road 15Km | 01/10/2015 | 31/03/2016 | 31/04/2016 | 15/05/2016 | Two weeks delay and cost overrun |
| Kisauke – Matipwili 8.5Km | 01/10/2015 | 01/04/2016 | 20/05/2016 | 15/07/2017 | 55 days delay and Cost overrun |

Source: Secondary data

Four projects out of seven (7) were not completed within the budgeted time, because during this period the district experienced major road construction projects where some projects were completed within the set time and others were not. This caused a great loss to the district in items of items of cost of the projects and the service that projects intended to deliver to the community and the government at large. Also time managements was explained using Mean and standard deviation as follows:

The third objective was to assess the role of time managements in enhancing successful road construction projects in Bagamoyo district. Table 4.3 shows that mean was 3.53 and which means that time managements had a large influence on sustainability of road construction projects in Bagamoyo. Above all time managements had more impact on sustainability of road construction projects in Bagamoyo district, since it had a second mean higher compared to the compliance to guideline and laid down procedures as analyzed in Table 4.3. Time managements statements was agreed by most of the people who are working on the road construction projects, since all the activities were scheduled and had a time frame for completion.

In case the contractor failed to complete the projects in the give time frame for any reasons which fell on the contractors or client all this contributed to the cost overrun of the road construction projects in the district. Also the field experience had indicated that if the projects was constructed within the time frame it delivered the intended service to the community, hence the sense of ownership and thereafter sustainability of road construction projects in Bagamoyo district is achieved automatically. The presentation of the research findings, analysis of the findings and the discussion were conducted through mean and standand deviation in disseminating the variable among the independent variables which influence the dependent variable most as the strong predictor than the different levels of opinion among respondents.

On top of that, correlation and regression analyses were used to show the actual relationship between variables of the study. In that regard, findings were clearly elaborated using descriptive statistics in form of frequency table through Table 4.6.

Table 4.6: Descriptive Statistics

| | Frequency | Percent |
|--|------------------|----------------|
| Compliance to Procedures and Guidelines | 18 | 18.0 |
| Relationship between Resource Requirements and Resource Used | 58 | 58.0 |
| Time Management | 24 | 24.0 |
| Total | 100 | 100.0 |

Source: Field Data (2016)

Table 4.6 shows findings on descriptive statistics pertaining to the value of the mean and standard deviation on variables as study predictors influencing dependent variable as the sustainability on road construction projects that relationship between resource requirements and resource used is the leading predicting variable in the study among all independent variables since it constitutes the highest level of percentage among all other predictors in the data set. This is clear and evident that the variables influences the dependent variable more than others in the data set.

4.5 Correlation and Regression Analysis

Correlation and regression analyses were performed and conducted to show the existing relationships between dependent and independent variables of the study. Since the analyses were specific to each and every variable in the data set; they were first preceded by model fitness test to indicate the overall contribution of the independent variables on the dependent variable. Therefore, the findings and analysis were presented in Table 4.7.

Table 4.7: Model Fitness

| Model | R | R Square | Adjusted R Square | Standard Error of Estimate | Change Statistics | | | Durbin-Watson |
|--------------|----------|-----------------|--------------------------|-----------------------------------|--------------------------|--------|------|----------------------|
| 1 | .876 | .767 | .790 | 56.065 | .543 | 98.553 | .000 | 1.998 |

Source: Field Data (2016)

Independent Variables (Predictors): Compliance to procedures/guidelines, Relationship between resource requirements and resource used, Time management
 Dependent Variable: Sustainability of road construction projects.

Findings in table 4.7 indicates the overall contribution of the independent variables on the dependent variables through the value of R^2 as well as the value of adjusted R^2 . However, with the value of R^2 the study shows that 79% of sustainability of road construction projects is determined and influenced by compliance to procedures/guidelines, relationship between resource requirements and resource used, as well as time management. The value yield the F- ratio of 98.55 which is significant at ($p < .001$). Since that is the case, the Durbin Watson statistics shows that the assumptions as predictors and or hypotheses of the study are tenable which implies that they have all been met and realized.

4.6.1 Correlation Analysis

Since that is the case, the analysis was clearly stipulated through Table 4.8.

Table 4.8: Correlation Analysis

| | Sustainability of road construction projects | Compliance to procedures | Resource relationship | Time management |
|-------------------------------------|--|--------------------------|-----------------------|-----------------|
| Sustainability of road construction | 1 . 0 0 0 | | | |
| Compliance to procedures | .575*** | 1.000 | | |
| Resource relationship | .592*** | .101* | 1.000 | |
| Time management | .568*** | .080** | .101** | 1.000 |

Source: Field Data (2016)

Table 4.8 shows that the highest correlation is on relationship between resource requirements and resource used which implies that the independent variable correlates best than other independent variables on the dependent variable. Despite the

significance of the correlation, the coefficient is small to the extent that it is difficult to detect and have the multicollinearity. This is an issue of great importance which is well tackled by multiple regression analysis.

4.4.2 Multiple Regression Analysis

In that case, all independent variables were subjected to the analysis to determine the individual contribution of each and every variable on the dependent variable influence. Therefore, the findings and analysis were presented through Table 4.9.

Table 4.9: Multiple Regression Analysis

| Model | Unstandardized coefficients | | Standardized coefficients | T | Sig. |
|--|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. error | Beta | | |
| (Constant) | -26.113 | 7.657 | | -1.633 | .127 |
| Compliance to procedures/guidelines | .088 | .007 | .553 | 12.433 | .000 |
| Relationship between resource requirements and resource used | 3.221 | .242 | .521 | 12.136 | .000 |
| Time management | 3.479 | .251 | .538 | 12.386 | .000 |

Source: Field Data (2016)

Table 4.9 shows the individual contribution of each and every independent variable on the dependent variable that all three independent variables of the study which are compliance to guidelines and or procedures, relationship between resource requirements and resource used and time management were all found to be positive and statistically significant on sustainability of road construction projects as the dependent variable of the study.

4.6 Discussion of the Findings

4.6.1 Compliance to Procedures and Guidelines and Sustainability of Road Construction Projects

Compliance to procedures and guidelines as independent variable of the study was found to be positive and statistically significant on sustainability of road construction projects in Bagamoyo district with significant value of 12.433 that sustainability on road construction projects was partly influenced by compliance to procedures and guidelines. The view is in line with (Banyenzaki, 2015) that construction activities are projects mostly considered as large ones specifically on infrastructure developments with large impacts at the moment and coming future to different categories of beneficiaries and stakeholders at the moment and the near future. In the end as positive outcomes on long term basis. In that regard, it is important for the project implementers and several stakeholders involved to adhere to the procedures and guidelines in place agreed for the greater good of the project sustainability because guidelines are always clear and largely significant as once all adhered outcomes tend to be positive and not otherwise.

Berg, (2010) on the other hand suggests that construction projects constitute several risks in the implementation process to the extent that in the planning process most of the associated risks are always accounted for and well anticipated in the guidelines of the projects as well as the entire procedures to be undertaken to commence the entire project(s) to cater for the intended purposes. Consequently, the adherence on procedures and guidelines of the project is very important and highly significant for ensuring their sustainability on long term basis.

4.6.2 Relationship between Resource Requirements and Resource Used in Successful Road Construction Projects

The relationship between resource requirements and resource used as the independent variable was found to be positive and statistically significant on the sustainability of road construction projects as dependent variable with the T value of 12.136 which is clear that sustainability of road construction projects was partly influenced and determined by relationship between resource requirements and resource used. The view is as well in line with (UNDP, 2009) that construction projects like any other projects regardless of their type, scope, requirements and nature; heavily require and depend on resources.

This is important because resources are key means and engines to facilitate the implementation and execution process such that with the absence of resources none of the project can ever be implemented. Since construction projects are large and require huge and massive resources both financial, human and others necessary; there must be good, adequate, reliable and realistic relationship on the resource requirements and resource used to emphasize on project sustainability because in the end project implementers must account for all spending and utilization of the resources.

Perrin, (2012) suggests that construction projects in most cases are large projects to be undertaken whereas some are long term and others short term. Since that is the case, they demand massive resources to fast - track for their completion and sustainability. In that account, there must be a thorough and adequate mechanism to indicate and carefully determine and stipulate the existing relationship between resource

requirements and resource used to ensure and fast-track for successful project(s) sustainability.

4.6.3 Time Management and Sustainability of Construction Projects

The study results showed that time management as the independent variable of the study was found to be positive and statistically significant on sustainability of construction projects as the dependent variable with a T value of 12.386 which implies that sustainability of construction projects was influenced by time management as among the key determinants. The view is as well shared with (World Bank, 2010) that any project whether construction and any other as long as it is categorized and considered as a project; is bounded to be conducted from the beginning to the end on a specific time frame.

This entails the relevance of the project to start being enjoyed and utilized by the beneficiaries on the actual timing to cater for efficiency, effectiveness, continuity and sustainability. Therefore, time factor is highly essential in project sustainability. Odhiambo, (2015) suggests that a successful project in any discourse and investment including construction is sustainable enough depending on the timing. The time of implementation covers the entire period which the project needs to be undertaken up to the completion and handing over to the client. Apart from that, the other important measurement and determinant is the timing after the completion and handing over of the project to the beneficiaries. For instance, if a road is constructed and perceived to be in good shape and conditions for the next thirty (30) years; it must reach the projected life span and more if possible and necessary. In that way, the project can definitely be regarded as sustainable and vice versa.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

The chapter presents the conclusion of the study, recommendations as well as the area for further research.

5.2 Conclusions

5.2.1 Compliance to Procedures and Guideline

Basing on the findings of specific objective one, the study concluded that there was compliance to procedures and guidelines in the road construction projects in Bagamoyo district. This is a pre re requisite for sustainability of the projects.

5.2.2 Resource Requirements, Resource used and Sustainability

The study concluded that the variance between resource requirements and resource used was associated with overestimated requirements at the design phase. In addition there were variance related to price fluctuation which affected the implementation negatively.

5.2.3 Time Management and Project Sustainability

The study also concluded in objective three that some projects took longer than planned causing, delays of the intended service to the community and cost overrun to road construction projects in Bagamoyo district. Therefore from the above conclusions, it is evident that monitoring and evaluation systems have great influence on the district road construction project sustainability. For a district to benefit it

should choose an appropriate M&E systems that will be suitable in controlling road construction projects in the district. In general the sustainability of road construction projects in Bagamoyo district is the function of several variables including compliance to procedures and guideline, resource requirements and resources used as well as time managements of the constructed road projects.

5.3 Recommendations

5.3.1 Compliance to Procedures and Guideline

The study recommended that more emphasis be placed on compliance to procedures and guidelines to ensure that at a minimum the system is complied with. Problems in implementation can then be explained by other factors and not noncompliance.

5.3.2 Resource Requirements, Resource used and Sustainability

The study recommended more care to be exercised in preparing the budget for requirements at the design stage so that more truthful figures are used in the estimates. Also provision should be made for variations in prices to accommodate inflation.

5.3.3 Time Management and Sustainability

Time management in a project must be carried out by the Bagamoyo district to ensure value for money. The time management should be carried out to the projects and make sure that road construction projects are completed within the set life of the projects as well as goals and objectives. The study recommends quantitative project management's techniques to be used in project managements to ensure that the various activities are completed within the specified time. Progress evaluation and

review meetings should be used to monitor the projects and speedy action be taken to avoid longer time of execution than plan.

5.4 Areas for further Research

The study was limited to Bagamoyo district: therefore future studies can be conducted in road construction projects in other district in coast region using the same methodology. The study could also be done in other regions in Tanzania.

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APPENDICES

Appendix I: Questionnaires for Road Construction Projects in Bagamoyo District Council

Dear respondent,

The purpose of this questionnaire is to seek your news on the role of monitoring and Evaluation on the sustainability of road construction projects in Bagamoyo District. Please feel free to fill this questionnaire which is mainly intended for academic purposes. The information collected will be treated confidential

SECTION A

BIO DATA

Kindly tick the appropriate option:-

- 1) What is your gender? Male Female
- 2) Age Group? 18 – 30 31- 40 41 – 50 51 – 60
Above 60 years
- 3) Number of years working with road construction projects? Less than year
1 – 6 years above 7years
- 4) What is your Educational l?

Secondary School Diploma Bachelor Degree
Professional

SECTION B

Please rate your agreement/Disagreement with the statements listed by putting a tick to the appropriate scale:-

1 = Strongly Disagree (SD)

4 = Agree A)

2 = Disagree (D)

5 = Strongly Agree (SA)

3 = neither agree nor Disagree (ND)

| S/N | STATEMENT | SD | D | N | A | SA |
|-----|--|----|---|---|---|----|
| 1 | There is continue flow of net benefit in the road construction projects | 1 | 2 | 3 | 4 | 5 |
| 2 | Materials used by contractors are the same as planned in the bill of quantity | 1 | 2 | 3 | 4 | 5 |
| 3 | Road construction project are completed within the budgeted estimates | 1 | 2 | 3 | 4 | 5 |
| 4 | Formal monthly inspections are carried out by road authority as planned | 1 | 2 | 3 | 4 | 5 |
| 5 | The contractors compliance with the provided procedures and guideline while constructing road | 1 | 2 | 3 | 4 | 5 |
| 6 | The cost of constructing roads is averagely low | 1 | 2 | 3 | 4 | 5 |
| 7 | Supervisors on the road projects carry out the necessary road inspection | 1 | 2 | 3 | 4 | 5 |
| 8 | Project managers carry out the necessary road projects inspection to meet the required standards | 1 | 2 | 3 | 4 | 5 |
| 9 | There is a well maintained records book to follow the complaints of the road users | 1 | 2 | 3 | 4 | 5 |
| 10 | Funds are utilized only for the fulfillment of the project goals and objectives | 1 | 2 | 3 | 4 | 5 |
| 11 | Most of the road users are relatively satisfied with the standard of the road in Bagamoyo District | 1 | 2 | 3 | 4 | 5 |
| 12 | Funds are always available to execute the duties of the road construction projects | 1 | 2 | 3 | 4 | 5 |
| 13 | Road Construction projects are affected by changes in weather condition | 1 | 2 | 3 | 4 | 5 |
| 14 | The road projects are completed in the scheduled time frame | 1 | 2 | 3 | 4 | 5 |
| 15 | The contractors give voice to stakeholders experience during execution | 1 | 2 | 3 | 4 | 5 |
| 16 | There is enough documentation by Bagamoyo District in relation to road construction projects | 1 | 2 | 3 | 4 | 5 |
| 17 | The road construction projects give enough time the participant to give their experience | 1 | 2 | 3 | 4 | 5 |
| 18 | Information is provided to enhance the quality of the road construction projects | 1 | 2 | 3 | 4 | 5 |
| 19 | The District has a continued operational and maintenance of road construction projects facilities | 1 | 2 | 3 | 4 | 5 |
| 20 | Timely decision about the future of the road construction projects are | 1 | 2 | 3 | 4 | 5 |
| 21 | Timely decision about the future of the road construction projects are taken | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|----|---|---|---|---|---|---|
| 22 | The road projects meet the expected quality specification | 1 | 2 | 3 | 4 | 5 |
| 23 | The roads are safe for the road users | 1 | 2 | 3 | 4 | 5 |

Thank you for your Cooperation

Appendix II: Interview Guide

Dear respondent,

The purpose of this Interview guide is to seek your news on the role of monitoring and Evaluation on the sustainability of road construction projects in Bagamoyo District. Please feel free to respond to the questions which is mainly intended for academic purposes. The information collected will be treated confidential.

1. Explain the importance of compliance to procedures/guideline in relative to the road construction projects in Bagamoyo District?
2. Explain the importance of time managements in enhancing projects success of the road construction projects in Bagamoyo District?

3. How resource requirements/used are managed by the contractors in road construction projects?
4. Do the Project Managers of road construction projects have time managements schedule in place? If yes are they implemented?
5. Is project monitoring understood by stake holders in road construction projects in Bagamoyo District? How often is project monitoring undertaken in road construction projects?
6. Is project evaluation understood by stake holders in road construction projects in Bagamoyo District? How often is project evaluation undertaken in road construction projects?
7. How are the contractors performing on the road construction projects in Bagamoyo District?
8. How has Monitoring and Evaluation affected the road construction projects in Bagamoyo District?
9. Do you have a road operational and Maintenance plan at the district? If yes is it being executed?