ASSESSMENT OF THE ADEQUACY OF VALUE FOR MONEY INSTRUMENT USED BY ROAD FUND BOARD IN TANZANIA

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By

PASCHAL, Dawson K.

A Dissertation Submitted in Partial Fulfillment of the Requirements for Degree of Master of Science in Construction Economics and Management of Ardhi University

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October, 2017

CERTIFICATION

The undersigned certify that he has read and hereby recommend for acceptance by Ardhi University a dissertation entitled: "**Assessment of the Adequacy of Value for Money Instrument used by Road Fund Board in Tanzania"** in fulfilment of the requirements for the degree of Master of Science in Construction Economics and Management of Ardhi University.

……

Dr. Makoba, N. D.

(Supervisor)

Date**……**

DECLARATION

I, PASCHAL, DAWSON KEITELIMA, hereby declare that the contents of this dissertation are the results of my own study and findings and, to the best of my knowledge, they have never been presented elsewhere for a Diploma, Degree, or any Professional award in any institution of Higher Learning.

…….

PASCHAL, DAWSON KEITELIMA

DEDICATION

I, the author of this dissertation, heartily dedicate this thesis to my late father (Ilyarugo, Paschal K.) and my beloved mother (Paschal, Angelina T.). This dedication won't end up here till it drops to my lovely children. May God bless this family so as to stands on prayers and flourish in success. It is hard to forget my lovely wife (Dawson, Christina K.) for her support and encouragement during my study.

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ABSTRACT

This research work deals with assessment of Value for Money practice in road construction in Tanzania. Value for Money practice could maximize performance and minimize costs so that we have maximum effectiveness, efficiency and economy for each project. Although assessment of Value for Money in roads construction projects has been done in Tanzania for number of years to date, still there is under performance scores for roads projects executed by Tanzania National Roads Agency. The specific objectives of this study were to assess the adequacy of the existing of Value for Money Instrument used in road construction in Tanzania, to identify challenges facing Value for Money Instrument in road construction in Tanzania, and to identify and recommend appropriate measures for improvement of Value for Money Instrument in road construction projects in Tanzania.

For successfulness of this study, various research methods were adopted, which included case study, questionnaire and interviews as primary data collection methods. Also, various documents relevant to this study such as books, dissertations, journals, and reports posted to websites were reviewed so as to provide enough and relevant information in this study. This served as sources of secondary data.

It was revealed that assessment of Value for Money in road construction in Tanzania is done using the Value for Money Instrument provided by Road Fund Board to projects executed by Tanzania National Roads Agency or Local Government Authorities. The barriers that are facing the practice include inadequate training and management support, lack of commitment to implement Value for Money practice , lack of expertise to thoroughly conduct Value for Money audits and lack of Value for Money qualified practitioners, also include time limit that has led projects activities to be rushed, difficulties in identifying and measuring outputs and outcomes, lack of awareness and involvement within stakeholders in project processes, inappropriate Value for Money assessment tool and wrong notion that Value for Money that it is a political issue.

Upon mitigating revealed challenges, government should review Value for Money Instrument from time to time to improve its effectiveness, conduct more Value for Money training workshops and seminars in order to enlighten the stakeholders of the Value for Money practice in road construction, having sustainable Value for Money audit legal framework and coordination during auditing enables to realize value in project, therefore Value for Money audit should be conducted to assist in making the right decisions. Early decisions have major influence on future actions. The study recommends a study on the appropriate framework of Value for Money assessment in Tanzania as the area of further study. This study will come up with the common tools/instruments for VfM assessment in construction sector.

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LIST OF ACRONYMS AND ABBREVIATIONS

BOQ	Bills of Quantities
CAG	Controller Auditor General
CAP	Chapter
CDI	Centre for Development Impact
DFID	Department for International Development
EM	Environment Management
EMP	Environment Management Plan
EMP	Environmental Management Plan
FY	Financial Year
IA	Implementing Agency
INTOSAI	International Organization of Supreme Audit Institutions
LGA	Local Government Authorities
MoW	Ministry of Works
NAO	National Audit Office
NCC	National Construction Council
NPM	New Public Management
OECD	Organization for Economic Cooperation
PMORALG	Prime Minister's Office –Regional Administration and Local Government
PPA	Public Procurement Act
PPBS	Planning Programming Budgeting System
PPRA	Public Procurement Regulatory Authority
RFB	Roads Fund Board

RII	Relative Importance Index
SPSS	Statistical Package for the Social Science
TANROADS	Tanzania National Roads Agency
TBS	Tanzania Bureau of Standards
TOR	Terms of Reference
UK	United Kingdom
URT	United Republic of Tanzania
USA	United State of America
VfM	Value for Money
VfMA	Value for Money Auditor
VfMI	Value for Money Instrument

CHAPTER ONE

INTRODUCTION

1. 1. Background to the study

Value for Money is a term generally used to describe an explicit commitment to ensuring the best results possible are obtained from the money spent. For instance, in the UK Government, use of this term reflects a concern for more transparency and accountability in spending public funds, and for obtaining the maximum benefit from the resources available (DFID, 2010).

In Tanzania Value for Money is defined in 3Es (economy , efficiency and effectiveness) whereas economy (means minimizing inputs costs without compromising quality; inputs include materials, equipment, manpower and management) , efficiency (process of doing well an activity, converting inputs into outputs, completed with lesser time at reasonable cost and meet required standards, best workmanship, qualified personnel and program and effectiveness (measures outcomes of the project, assess usability of the road and assess whether the objective(s) is attained. The objective may be to reduce travel time, simulate economy, and reduce accident/congestion (RFB, 2015).

Value for Money in construction is the optimum balance between managing costs without compromising on quality. Value Management is a method of highlighting possible opportunities to create value within a project and subsequently managing those solutions to ensure value is continuously delivered [1](Jonathan, 2016). It encompasses the whole life cycle of a project, from design to completion and

[1] https://www.fgould.com/uk-europe/articles/value-management-vs-value-engineering accessed on 15th December 2016

beyond. The process is undertaken in collaboration with the project team, understanding and managing the balance between cost, time and performance/ function. Prior to value being clear and understood, it is important for the project team to understand cost, time and the needs and wants of stakeholders (function), which means costs, as in whole life costs, and in particular, sizeable or increased initial costs, can be justified and explained if it reduces future maintenance costs. This is therefore decreasing disruption in the future because of the reduced need for maintenance. Function (performance) is the wants and needs of stakeholders (all interested parties within a project). Some of these needs and wants are essential for the project to be built, thus all options must be considered in an effort to ensure true Value for Money.

The main benefit of Value Management is that it gives each and every project a clear path to create value through the understanding of client objectives as well as the needs and wants of the stakeholders. The route to delivery is agreed and developed with the full project team, with the understanding that solutions to achieve the objectives are reliable and cost-effective.

Value for Money (VfM) is an essential test against which a client must justify an outcome and investment decision. From the user or the targeted public point of view, Value for Money is the value (output) attached to some defined cost (input). Therefore, can be said that Value for Money is a way of thinking about, and assessing how well public funds are used; it combines aspects of cost and benefit, also conceptually draws on economic appraisal, disconnects between different sets of people, from those in finance, procurement, administration, political and lay people

that have a different granular approach to money compared to those technical advisers and specialist consultants who concentrate on results and value (Power, 1994).

The important thing is to understand cost drivers and to make sure desired quality of inputs at the cheapest possible price obtained and can maximize each of the performance and costs so that maximum effectiveness, efficiency and economy for each project are met. Where we work through implementers we need to be confident that they have the right systems and doing right to enable and those who determine whether Value for Money is achieved. Several methodologies have evolved in achieving and enhancing Value for Money in construction, but value management is at the forefront thereby receiving special attention due to its added advantage of imparting on strategic decisions right from the earliest stages of project cycle (Male et al., 1998). Value management has over the years evolved to be a widely, accepted methodology for achieving Value for Money (Kelly, Male, & Graham, 2004) and this indicates a strong relationship between the Value for Money and value management. Thus due to the need of Value for Money in construction especially in roads for this case, necessitated Tanzania to establish specific act for the Value for Money audit (performance audit) in 2008 (The Public Audit Act No. 11 of 2008) at Section 28 of this act gives authority to the Controller and Auditor General to carry out Performance Audit (Value-for-Money Audit) for the purposes of establishing the economy, efficiency and effectiveness of any expenditure or use of resources in the Ministries, Departments and Agency, Local Government Authorities and other bodies which involves enquiring, examining, investigating and reporting, as deemed

necessary under the circumstances. Moreover, in 2015, The Road Fund Board (Main funding organ of road projects in Tanzania) prepared the Monitoring and Evaluation Manual to be used by staff of the Board, consultants (auditors) and Implementing Agencies responsible for road maintenance in Mainland Tanzania, including Tanzania National Roads Agency (TANROADS), Local Government Authorities (LGAs) and Ministry of Works, Transport and Communications when assessing Value for Money.

1.2. Statement of the problem

Of recent there have been so many completed and on-going projects on road construction in the country. Both Central and Local Government Authorities insist on consideration of Value for Money in all construction projects taking place in the country. Although Value for Money concept may be ancient, its use became more common in the UK in the 1980's and is also used in many audits in governments projects worldwide (DFID, 2011:4). In Tanzania the assessment of Value for Money through performance audit was initiated in 2008 (The Public Audit Act No. 11 of 2008, Section 28) in assessing construction projects through technical auditing. Despite presence of this performance audit act there is still under performance score according to the evaluation of technical audit reports as shown in Table 1.1, where Value for Money trend for roads projects executed by TANROADS for three consecutive financial years from 2012/13 to 2014/15 was shown. The trend shows that the overall performance dropped consecutively with Value for Money average scores of 66%, 65.82% and 57.04% in fiscal years 2012/13, 2013/14 and 2014/15, respectively. This trend, which is not healthy for the roads as transport sector plays a

major role in the socio-economic development of a country as it provides access to markets, production, jobs, health, education and other social services. Construction and repair of roads costs a lot, which compels the government and sponsors to consider Value for Money before releasing funds for any proposed road construction projects. However, the cause of the underperformance in both road construction and maintenance projects implemented in the country especially by Tanzania National Roads Agency (TANROADS) remains unstudied and therefore unknown. Thus, this study aimed at assessing the adequacy of the existing instrument used by Road Fund Board to assess Value for Money in road construction projects used and consequently recommend strategies that can be employed to improve Value for Money practice for the road construction projects in the country.

Table 1.1 TANROADS'S Value for Money performance trend for three financial years

VfM Indicators / Financial Year	A (100%)	B (100%)	C (100%)	D (100%)	E (100%)	VfM Average Score (100%)
2012/13	88.4	86	65.8	43.9	45.9	66
2013/14	72.4	86	66.6	44	60.1	65.82
2014/15	71.8	83.6	62	21.8	46	57.04

The letters A, B, C, D and E stand for, A: Planning, Design and Tender documentation, B: Procurement stage, C: Construction stage, D: Project completion and closure stage, and E: Quality of executed works

Source: RFB, 2015

1.3. Main objective

The main objective of this study was to assess the adequacy of Value for Money Instrument used by Road Fund Board in road construction and recommend how it may be improved if required in the future.

1.4. Specific objectives

(i) To assess the adequacy of the existing Value for Money Instrument used in assessing in road construction in Tanzania,

(ii) To identify challenges facing Value for Money Instrument in road construction in Tanzania, and

(iii) To identify and recommend appropriate measures for improvement of Value for Money Instrument in road construction projects in Tanzania.

1.5. Research questions

- How adequate is the instrument of assessing Value for Money in road construction in Tanzania?
- What are the challenges facing instrument when assessing Value for Money in road construction in Tanzania?
- How can the Value for Money Instrument be improved in road construction in Tanzania?

1.6. Research Methodology

Primary data were obtained using various research methods: case study, questionnaire and interviews. The case study research focused on the performance evaluation analysis of road works executed by TANROADS under Road Fund Board in September, 2015 for the three consecutive financial year 2012/13, 2013/14 and

2014/15. TANROADS is responsible for the maintenance and development of the trunk and regional road network in Tanzania Mainland. The Agency is managing the National road network of about 33,891 km comprising 12,786 km of Trunk and 21,105 km of Regional roads. The road network being nationally covered was the reason to concentrate on the reports evaluated by the Road Fund Board on Value for Money assessment in roads projects. There was performance agreement between Road Fund Board and roads implementing Agencies namely National Roads Agency (TANROADS) and Local Government Authorities (LGAs) and was supposed to be assessed using Value for Money Instrument. The evaluation intended to assess the road projects implementing agencies' performance trend during that period. Interviews and questionnaires were used to collect opinions and facts about Value for Money practice in Tanzania. On the other hand, secondary information relevant to this work was obtained from different sources: books, previous dissertations/thesis, journals, and trusted websites.

1.7 Significance of the study

The outcomes from this research are important to the road sector for the improvement of construction industry countrywide. The knowledge generated can be used to make the Government aware on what has been done during implementing road projects by practitioners and enhance the adoption of Value for Money guidance recommended in this study to counteract the difficulties that are facing Value for Money practice in road construction identified during the study. The findings of this work are expected to help the personnel, especially those implementing road projects, to understand the right system in a right way to ensure Value for Money in

road construction projects is achieved. Furthermore, the study informs other stakeholders such as financiers, beneficiaries and community at large to provide a guide on the necessary steps for practicing Value for Money concept in construction projects.

1.8 Limitation of the study

Data from case study, interviews and questionnaires on assessing the adequacy of Value for Money Instrument in road construction within Tanzania are scarce. This is because Value for Money is a relatively new concept in development (including construction) projects in Tanzania. Therefore, this is an imposed limitation to the research work. There is the tendency to receive different perceptions from the respondents, which is common to any self-assessment exercise. To mitigate the effect of different perceptions, knowledgeable professionals were involved during data collection through case study, interviews and questionnaires to obtain quality and reliable responses.

1.9 Scope of the study

This research is focused on the Value for Money in roadwork as the roads are important components of infrastructure for the sake of country economy. The Road Fund Board was selected as the study because the Board is responsible to allocate and monitor funds for Tanzania National Roads Agency (TANROADS) and Local Government Authorities (LGAs) to undertake road management at a level that is suitable and affordable.

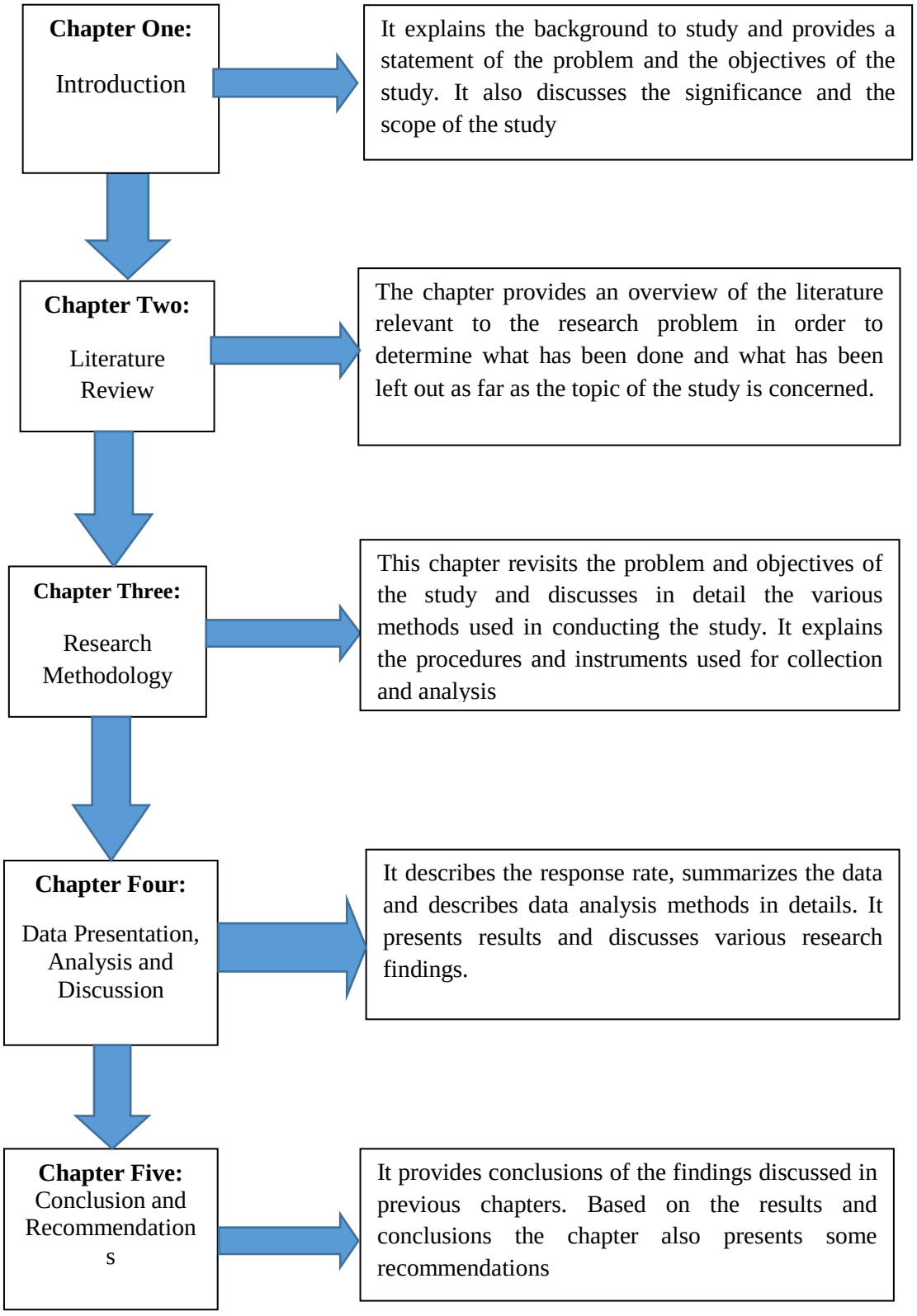
1.10 Structure of the dissertation

This dissertation consists of five chapters. Chapter one gives a general introduction of study which includes statement of the problem, objectives of the study, research questions, research methodology, significance of the study, limitation and scope of the study.

Chapter two presents the literature review related with Value for Money in road construction and what have been done by others on Value for Money assessment tools nationally and globally, chapter also two covers Value for Money theoretical framework.

Chapter three discusses research methodology including research approach, research design, area of the study, sampling technique, data collection methods, confidence of the researcher in data collected and proposed ways of data analysis and presentation. Chapter four provides discusses on the data analysis and presentation of findings during the study. Chapter five is the last chapter which provides conclusions and recommendations of the study. Figure 1.1 summarizes the organization of the dissertation.

Figure 1.1 Summarizes the organization of the dissertation



1.11 Summary of Chapter one

This chapter explained the background of the study in relation to the value for money in Tanzania, stating the statement of the problem necessitating this study. It has stated the objectives of the study, its significance and the scope of the study. A brief on the methodology to be followed indicating the sampling technique, data collection methods and the general research schedule. Also the confidence of researcher in data collection was explained for the success of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter critically reviews the existing literature in some areas of Value for Money in construction specifically in roadworks. These areas include value management, Value for Money concept, assessment of Value for Money, Value for Money audit, agency implementing road projects and their financiers. Also institutions those are involved in Value for Money will be also reviewed on how they differ in approaches they are using.

2.2 Working definition for the study

2.2.1 Value for Money

Different organizations and government agencies have attempted to define or describe the Value for Money concept. The National Audit Office of Tanzania defines Value for Money /performance audit as the audit of economy, efficiency and effectiveness (also this is according to International Standard for Supreme Audit Institutions) (G. C, Haule, 2010).

The Department for International Development (DFID) defines Value for Money as a term generally used to describe an explicit commitment to ensuring the best results possible are obtained from the money spent. In the UK Government, use of this term reflects a concern for more transparency and accountability in spending public funds, and for obtaining the maximum benefit from the resources available.

New Zealand Aid (NZAID) defines Value for Money as achieving the best possible development outcomes over the life of an activity relative to the total cost of

managing and resourcing that activity and ensuring that resources are used effectively, economically, and without waste. Organization for Economic Co-operation and Development (OECD) defines Value for Money as the optimum combination of whole-life cost and quality (or fitness for purpose) to meet the user's requirement. It can be assessed using the criteria of economy, efficiency and effectiveness.

(Sanjay, 2012) defines Value for Money as being about obtaining the maximum benefit over time with the resources available. It is about achieving the right local balance between economy, efficiency and effectiveness, or, spending less, spending well and spending wisely to achieve local priorities. Value for Money is high when there is an optimum balance between all three elements, when costs are relatively low, productivity is high and successful outcomes have been achieved.

2.1.2 Assessment of Value for Money

From Adam Smith International (2012), Value for Money can be assessed across the 3 E's in the following manner:

2.1.2.1 Economy

The term economy relates to how cost-effectively financial, human or material resources are acquired and used in an intervention. Value for Money is typically assessed in terms of the unit costs of inputs involved at the economy level, Value for Money focuses on cost control, and it is important to scrutinize the unit costs of key Value for Money drivers, such as personnel costs, procurement costs, travel costs,

and other costs, and then compare these costs to the quality received and examination of key cost/value ratios.

2.1.2.2 Efficiency

The term efficiency relates to how resourcefully inputs are converted into outputs and subsequent outcomes. Cost efficiency measures can throw light on options for a financier intervention (for example, project completed with lesser time at reasonable cost and meet standards). Value for Money is typically assessed on how quickly, accurately, and sustainably outputs can lead to desired outcomes. On the other words efficiency is the function of output and inputs. Quality of the work and approach are keys to maximizing Value for Money.

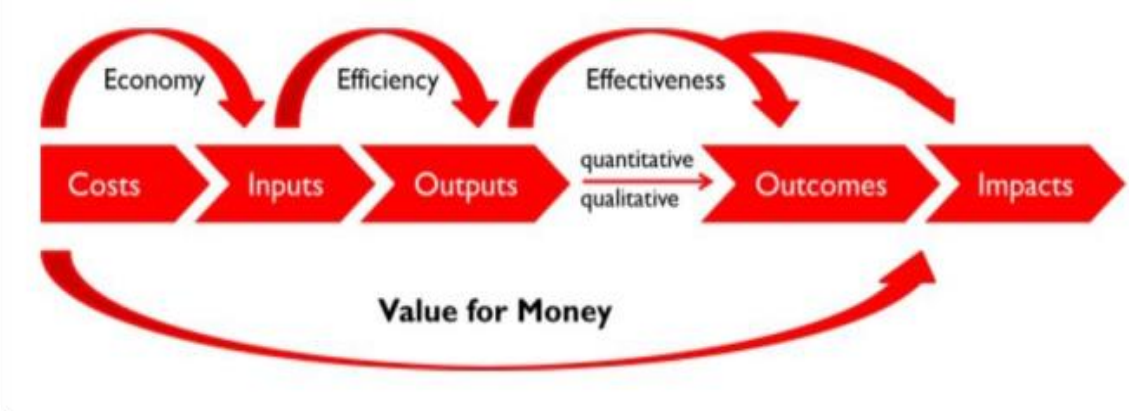
2.1.2.3 Effectiveness

The term effectiveness relates to how successfully an intervention achieves its intended outcomes and subsequent impacts are realized (e.g. reduce travel time, simulate economy, reduce accident or congestion, in attracting additional private financing to fund infrastructure investment, increasing the capacity of infrastructure operations, expanding access of target populations). Value for Money is typically assessed by whether or not the milestones and targets of observable verifiable indicators are achieved. To reach an assessment of the overall Value for Money which can be called overall Value for Money of an intervention or programme requires weighing the analyses of its economy, efficiency and effectiveness, and reaches a synthetic conclusion.

In Tanzania, 'Value for Money' is a measure of how cost-effectively project resources are acquired and utilized (economy), how resourcefully project inputs are

converted into outputs and subsequent outcomes(efficiency), and how successfully the project intervention achieves its intended outcomes and subsequent impacts are realized (effectiveness) (RFB,2015)

Figure 2.1 Conceptualization of Value for Money in 3Es



Source: RFB, 2015

Source: (RFB, 2015)

Figure 2.1 conceptualizes the concept of the 3Es (Economy, efficiency and effectiveness) which tells the balances of these three components of the Value for Money concept that are all equally contributing to achieve the intended objective of the project or programme, incomplete of any component in the value for concept affect the overall Value for Money of the project/programme. Economy means minimizing the cost of resources used for an activity, project or programme without compromising quality, safely efficiency or refers to the relationship of inputs and outputs; it means delivering the same output for less cost, time and effort or getting a better return for the same amount of expense, time and effort. Effectiveness ends the concept that measure impact or the degree to which predetermined goals and

objectives of a particular activity, project or programme are achieved measured quantitatively and qualitatively respectively.

2.2 Origin of Value for Money

Value for Money is considered a recent concept and one specific to the Department for International Development (DFID), its origins are earlier and its implementation widespread across government and not restricted to the UK (Glynn 1995; OECD 2010). While, Value for Money audit is the term that the UK public sector uses for performance audit (Lonsdale 2011). The UK's National Audit Office (NAO) has been producing Value for Money reports on the use of public money, across the spectrum of government operations started since 1984. Value for Money audit has its origins in New Public Management (NPM) and, in turn, the performance auditing aspect of NPM has its origins in the Planning Programming Budgeting System (PPBS) developed in the US in the 1960s (Gruening, 2001). A growth in the volume of Value for Money audits, and audits more generally, was seen in the UK throughout the 1980s (Power, 1994). Through the 1990s and 2000s, a major body of Value for Money audit work was undertaken by the UK Audit Commission, which was established in 1983 to assess Value for Money in local government and National Health Service expenditure. According to (NAO 2013) as cited by (CDI,2015) , a particular focus of government Value for Money activity and academic research through the 2000s related to the use of the Private Finance Initiative (PFI) as a procurement model, and the question of whether or not it offered better Value for Money than conventional procurement.

2.3 Concepts of Value for Money Audit

A Value for Money audit is an objective, professional and systematic examination of the systems and procedures that management has established for the purpose of ensuring that resources, such as financial, human and physical resources are managed with due regards to economy, efficiency and effectiveness. As explained before economy refers to the acquisition of resources in appropriate quality and quantity at maximum cost, safely efficiency refers to the maximum output for any given set of inputs or the minimum inputs for any given quantity and quality of goods or services provided and effectiveness refers to the extent to which any activity achieves the intended results of the above, ensuring effectiveness presents the most difficulty as effectiveness is usually not easy to measure. When commenting on management's procedures for ensuring effectiveness, the auditor should be careful that the organization's policy objectives are not questioned as this would ordinarily go beyond the auditor's terms of reference. It is however the auditor's responsibility to report on management's procedures to review the effects of policy and the arrangements by which policy decisions is reached.

VfM Auditing manual of Canada (2000), defines VfM audits as a systematic, purposeful, organized/and objective examination of government activities. It provides parliament with an assessment on the performance of these activities, with information, observations and recommendations designed to promote answerable, honest and productive government, and encourage accountability and best practices. Its scope includes the examination and of economy, efficiency, cost of efficiency, cost of effectiveness and environmental effects of government activities; procedures

to measure effectiveness, accountability, relationship, protection of public assets and compliance with authorities. The subject of the audit can be a government entity or activity (business line), a sectoral activity or a government wide functional area.

A VfM audit has a broader scope than a financial statement audit. It calls for a variety of techniques. In examining both financial and management controls and could well require a multi-disciplinary audit team. A VfM audit may be conducted by internal auditors reporting to management or by external auditors providing an independent report to those to whom management is recognized as being accountable. These may be legislators, elected representatives, senior administrators and the general public.

According to the International Organization of Supreme Audit Institutions (INTOSAI), Value for Money can also be known as performance auditing. Value for Money audit was introduced in the USA, Canada, Great Britain, Sweden and some other countries at the end of the 1960's. The auditing body may for example enjoy a greater or lesser degree of independence in its planning. In the USA, for example, a congressional committee or an individual congress man must approve the planning proposals. Value for Money audit has more controlling function i.e. where less importance is attached to promoting change, planning can often be longer term.

2.4 Value for Money audit and other types of auditing

Value for Money audit or performance audit differs in many ways from financial auditing referring to Table 2.1 Financial auditing is sometimes called regularity or compliance auditing. As with Value for Money auditing, financial auditing has undergone considerable development in many countries. The approach used in

financial auditing has progressed from the examination of undivided entries to concentrate on testing the control systems within organizations. Computer-based audit methods have been introduced to facilitate this type of financial auditing. At the same time, Value for Money auditing and performance auditing and financial auditing have a number of similarities. The two types of auditors carry out the same type of tasks. Namely to assess and explain the performance of the auditees, in this way they also use similar methods for collecting data. While the Value for Money auditors focuses on the effectiveness, economy and efficiency, the financial auditors focus on the correctness and fairness of the accounts.

Table 2.1 Difference between Performance Auditing and Financial Auditing

Aspect	**Value for Money auditing /Performance Auditing**	**Financial auditing**
Purpose	Assess whether the auditees are effective	Assess whether the accounts are true and fair.
Focus on	The organization/programme audits activities	The accounting system and management system
Academic base	Economics, political science, sociology	Bases on accounting aspect
Methods	Vary from project to project (manuals of limited importance)	Less subjective standardized criteria suitable for all audits
Assessment criteria	More subjective unique criteria for the individual audit	Less subjective standardized criteria for all audits
Reports	Varying structure and content published adhoc basis	More or less standardized. Published on regular basis

Source: RFB, 2015

2.5 Technical Audit

Technical audit is an independent examination and, or investigation into the planning, design, procurement and implementation of a construction project, with a view of providing the top management and stakeholders with an independent opinion on all the issues adversely affecting the project performance in its life cycle. Two

conditions are required to realize Value for Money in a construction project. First, works must be planned, designed and specified properly to take into account economy, efficiency, effectiveness and the built environment. Secondly, the contractor selected must deliver high quality works, consistent with stipulated specifications, at the most cost-effective price.

2.6 Relationship between VfM audit and Technical Auditing

Performance or VfM audit defined as an independent examination of the efficiency and effectiveness of the government undertaking, programs or organization with due regard to economy, and the aim of leading to improvements (INTOSAI). The second edition of the handbook in performance auditing issued by the Swedish National Audit simplifies the definition of the VfM auditing as examining whether public institutions are ‘doing the right thing’ and doing this ‘in the right and while minimizing costs’ this simplified definition bring us again to the core of VfM audit within framework of economy (minimizing cost but considering quality), efficiency (making the most of your resources), and effectiveness (how well a program, project or activity has achieved its objective) and nowadays an environment (minimizing impact is induced by the program, project or activity to the surroundings.

The technical audit is defined as an act of examining and verifying that the road maintenance /construction have been executed in accordance with performance agreement (RFB, 2008: Report No.30), also technical audit of construction project is defined as an independent examination and, or investigation into the planning, design, procurement and implementation of a construction project, with a view of

providing the top management and financiers with an independent appraisal on all the issues adversely affecting the project performance (NCC, 2006).

There are two types of technical audits namely, preventive and post audits. Preventive (on-project or surveillance) audit is conducted on a project while works are in progress while Post audit is conducted after the works completed. The main advantage of preventive audit over post audit is that the immediate experience gained on the project is fed back into the project.

Therefore, the overall objective of VfM audit is to determine whether resources earmarked for a program, a project or an activity are / were utilized for intended purpose and criteria for effectiveness, efficiency and economy were met, the technical audit itself narrow to determine whether resources used for a specific construction project achieve intended objective. However, Eng. Basondole P (2017) in interview conducted in this study differentiated these two terminologies that technical audit is a subset of VfM which concentrates on technical aspects, it looks on compliance to engineering standards like laboratory testing and technical procedures; he also added that technical audit may lack economic aspects.

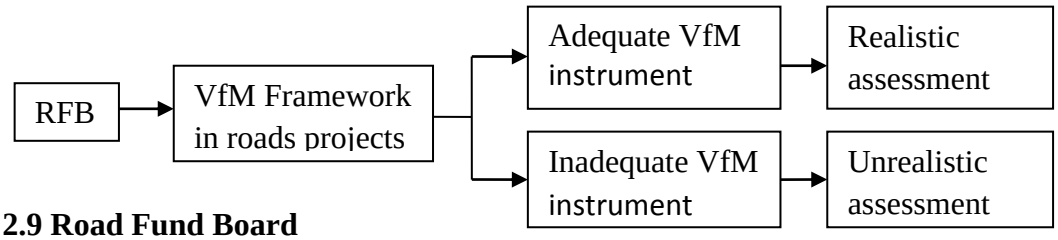
2.7 History of Value for Money audit in Tanzania

Value for Money audit in Tanzania started in 2002 after the Public Finance Act of 2001 being operational. It takes two years to recruit staff and organization structure, In July 2007 the first Value for Money audit/performance audit report was tabled to the Parliament. The report included audits on projects executed by TANROADS, Prime Minister's Office-Disaster Management Department, Regional Administrative Secretary- Manyara, Babati Rural and Town Councils.

2.8 Value for Money theoretical framework

The theoretical framework of the study is a structure that can hold or support a theory of a research work. It presents the theory which explains why the problem under study exists. Thus, the theoretical framework is but a theory that serves as a basis for conducting research. Figure 2.2 indicates the Value for Money framework conducted to achieve the aim of the study. Road Fund Board which is the organ that monitoring performance of the road projects on the value aspect could either succeed or fail depending on the efficiency in place. The proper Value for Money Instrument enables achievement of the adequate Value for Money assessment in road projects.

Figure 2.2 VfM theoretical framework



2.9 Road Fund Board

The Roads Tolls Act, 1985 enacted by the Parliament of the United Republic of Tanzania on 26 July 1985 provided for the imposition and collection of tolls on the vehicular use of public roads and for other matters related to roads tolls. The tolls were treated as normal government revenues. Two Road Funds were established under two separate declarations made by the Minister for Finance at different times. The first declaration called the "Declaration to establish a special Road Fund". Or "the Roads Fund" was made in August 1991, and the second, the "Declaration to Establish the Local Government Roads Fund" was made in August, 1992. The Roads Fund was to be used to meet maintenance costs for the regional roads as well

as to fund the rehabilitation and maintenance of urban and district roads. Funds were to be derived from the Road Toll Levied on petrol and diesel and various sources levied associated with the use of the road for instance the fees collected at weigh bridges points.

In accordance with section 17(i) of the "Exchequer and Audit Ordinance" (Cap 439) which empowers the Government to establish a special fund for the road development, in order to give the Fund some legal force and secure more stable financing for road maintenance and the management of the funds, the Parliament of the United Republic of Tanzania enacted the Roads Tolls (amendment) (No.2) Act of 1998 which established the Road Fund and the Roads Fund Board[2]. The Act was revised in 2006 and is now referred to as the road and Fuel Tolls Act, CAP 220 (Revised editor 2006).

2.9.1 Functions of the Board

The functions of the Board as provided in the Road and Fuel Tolls Act Cap 220 (Revised edition of 2006) with respect to the Fund are to advise the roads Minister on new sources of road and fuel tolls, adjustment of rates of existing roads and fuel tolls and on regulations for collection of road and fuel tolls for the purpose of ensuring adequate and stable flow of funds to road operations, applying the money deposited into the Fund for the purposes approved by the Parliament, setting out procedures for agents with respect to the collection of roads and fuel tolls for the purpose of the Fund, ensure full collection and transfer of collected roads and fuel tolls to the Fund's

[2] Roads Fund Board (online) https://www roadsfund.go.tz cited on 10th February, 2017

account, to develop and review periodically the formula for allocation and disbursement from the Fund to TANROADS, local authorities and other agencies and advices the roads Minister accordingly, recommend to the roads Minister and allocation of funds for TANROADS, local authorities and other road agencies to undertake road management at a level that is suitable and affordable, disburse funds from the Fund to TANROADS, local authorities and other agencies, ensure that the operations of TANROADS, local authorities, other road agencies and the Fund are technically and financially sound, monitor the use of the funds disbursed to TANROADS, local authorities or other agencies for the purpose of the objects of the Fund, appoint the Roads Fund Manager and the Roads Fund Accountant, appoint, subject to approval by the Controller and Auditor General, an auditor or auditors to carry out the audit of the Fund and make any other recommendations to the roads Minister as it considers necessary to enable the Board to achieve its objectives.

2.10 Road Network and classification in Tanzania Mainland

Referring Table 2.2 Tanzania has a surface area of 945,000 square kilometres and a total road network of approximately 87,581 km categorised as Trunk Roads (12,786km), Regional Roads (22,214km) and District Roads, Urban Feeder roads (52,581km). According to Section 12(2) (a) and (b) of the Road Act, 2007 (No. 13 of 2007) states that the national roads shall include trunk road, national route that links two or more regional headquarters, an international through route that links regional headquarters and another major or important city or town or major port outside Tanzania. But regional roads are secondary to national road which connects trunk roads with district or regional headquarters.

While Section 12(3) (a) (b) and (c) of the Road Act, 2007 (No.13 of 2007) states that the district roads shall include collector road which are road linking a district headquarters and division centre, road linking a division centre with any other division centre, a route linking a division centre with a ward centre and road within an urban area carrying through traffic which predominantly originates from and its destined out of the town and links with either regional or a trunk road. Feeder roads are roads within urban area that links a collector and other minor road within the vicinity, they collects or distributes traffic between residential, industrial and principal business centre of the town and village access road linking wards to other wards centre.

Table 2.2 Classification of roads in Tanzania Main Land

Category	Paved (km)	Unpaved (km)	Total (km)
Trunk Roads	5,755	7,031	12,786
Regional Roads	875	21,339	22,214
District Roads, Urban Feeder roads	981	51,600	52,581
TOTAL	**7,611**	**79,970**	**87,581**

Source: TANROADS & PMORALG 2013

2.11 Tanzania National Roads Agency

The Tanzania National Roads Agency (TANROADS)[3] is an Executive Agency under the Ministry of Works, Transport and Communications, established under section 3(1) of the Executive Agencies Act (Cap 245) and came into operation in July, 2000. The Agency is responsible for the maintenance and development of the trunk and

[3] TANROADS (online) http://www.tanroads.go.tz cited on 13th February , 2017

regional road network in Tanzania Mainland Classified Road Network The total classified road network in Tanzania Mainland is estimated to be 86,472 km based on the Road Act 2007. The Ministry of Works through TANROADS is managing the National road network of about 33,891 km comprising 12,786 km of Trunk and 21,105 km of Regional roads. The remaining network of about 53,460 km of Urban, District and Feeder Roads is under the responsibility of the Prime Minister's Office Regional Administration and Local Government (PMO-RALG).

2.12 Value for Money Instrument provided by Road Fund Board in Tanzania

This is the Value for Money tool/Instrument provided by Road Fund Board (Main funding organ of road projects in Tanzania) to the Value for Money auditors which gather information during auditing regarding particular project. The form includes six parts as shown as follows;

2.12.1. Planning, Design and Tender Documentation

According to this guide from planning stage to tender documentation verifies the procedures that have been done by the procuring entity and the following criteria are used by auditors during the auditing exercise; compliance of project planning with requirements of the performance agreement, accuracy and completeness of design calculations and technical drawings, accuracy, appropriateness and completeness of technical specifications, overall appropriateness of the design in terms of economy and function (fitness for purpose),accuracy and completeness of BOQs for the works and their consistency with the drawings and technical specifications, accuracy of the Engineer's estimates, accuracy and completeness of tender documents

2.12.2 Procurement Stage

At this stage, auditors make a comparison on these procedures against the requirements of Public Procurement Act No. 7 of 2011 and its regulation of 2013; appropriateness of the method of procurement, use of standard tender and contract documents, evaluation process and award of contract, competitiveness of rates quoted for major items of construction when compared with prevailing market prices, overall competitiveness of the most economic tender compared with prevailing market prices in both private and public sectors, capacity and competence of the selected contractor in relation to project size and complexity

2.12.3. Construction stage

At this stage, auditors make a comparison on these parameters; timeliness of site possession, quality of project programme (schedule of work), adherence to project programme, quality of contractor's site organization and staff, quality of supervising engineer's site staff, quality assurance programme, adherence to quality assurance programme, quality of Environmental Management Plan (EMP), management of contractual documents, including surety and insurances bonds ,quality and management of project documentation with respect to assessment (including validity) of variations, assessment (including validity) of claims and related cost overruns and assessment (including validity) of project delays and extensions of time.

2.12.4 Project Completion and Closure Stage

At this stage, auditors make a comparison on these parameters; quality and completeness of as-built-drawings, compilation and management of snag list, timely

issuance of substantial completion certificate, final certificate and settlement of final account, management of the defects liability period, quality and adequacy of the final project report, compliance of final quantities paid for with those reflected by the actual investment as per as-built-drawings, compliance of project cost as per final account with accepted tender price, compliance of actual project completion time with the contract period.

2.12.5 Quality of executed works

At this stage overall qualitative and quantitative achievement of the expected outputs of the construction project are scrutinized by the auditors. This includes achievement of the required project output indicators for example road geometric characteristics, roughness and other road-user driven performance indicators. The aim of this stage is to assess quality, quantity and workmanship of executed works on site and their compliance with technical specifications.

2.12.6 Integrity of Project Implementation

On this part the auditor checks if there was any evidence of inflated quantities in the Bills of Quantities, if so, by what percentage value of the project was noted, any evidence of unjustified over design. If so, by what percentage value of the project executed, evidence of overpriced bid and if so, by what percentage value of the project. Variations with no justification, if so, by what percentage value of the project and any substantial unjustified time overrun if so, by what percentage value of the approved contract period agreed.

2.13 National Audit Office of Tanzania

National Audit Office of Tanzania (NAO)[4] headed by Controller and Auditor General (CAG) was established under Article 143 of the Constitution of the United Republic of Tanzania. The statutory duties and responsibilities of the Controller and Auditor General are given under Article 143 of the Constitution of the URT of 1977 (revised 2005) and in Sect. 45 and 48 (1) of the Local Government Finances Act No.9 of 1982 (revised 2000) together with Sect. 10 (1) of the Public Audit Act No.11 of 2008.

2.14.1 Section 10: Functions of the Controller and Auditor General

The Controller and Auditor-General shall, on behalf of the National Assembly, examine, inquire into and audit the accounts submitted to him as required under the Public Finance Act, Local Government Finances Act and any other written laws and perform any other functions which he is authorized to perform by or under this Act. In exercising his functions or inquiry, examination and audit of accounts, the Controller and Auditor-General shall, in addition to satisfying himself as to the matters specified in that behalf in the Constitution and any other law, satisfy himself that all accounts have been kept in accordance with generally accepted accounting principles as required by relevant laws, all reasonable precautions have been taken to safeguard the collection of revenue, and the receipt, custody, disposal, issue and proper use of public property, and that the laws, directions and instructions applicable thereto have been duly observed. To check if all expenditure of public monies has been properly authorized and applied to the purposes for which they were

[4] National Audit Office of Tanzania (online) http://www.nao.go.tz cited on 5th January, 2017

appropriated and that the laws, directions and instructions applicable thereto have been duly observed and provide an effective check of the assessment and collection of revenue. Also the office checks if economy, efficiency and effectiveness have been achieved in the use of public resources.

2.14.2 Section 28: Performance audit

The Controller and Auditor-General shall, for the purposes of establishing the economy, efficiency and effectiveness of any expenditure or use of resources of the entities, enquire into, examine, investigate and report, in so far as he considers necessary, on the expenditure of public monies and the use of resources by such Ministries, departments, agencies, local authorities and all such public authorities and other bodies, to conduct of and performance of functions by accounting officers, head of department and chief executive officers of all such entities stipulated this Act, compliance with environmental laws, regulations and internal environmental policies and standards and any other activity undertaken by such entities.

2.15 National Construction Council

The National Construction Council (NCC)[5] is a government institution established through Act of Parliament No. 20 of 1979 (National Construction Council Act CAP 162 R.E. 2008) and became operational in 1981. Its establishment was prompted by the need to have an institution for promoting the development of the construction industry in Tanzania.

[5] National Construction Council (online) http://www.ncc.go.tz ,cited on 10th December, 2016

2.15.1 Function of National Construction Council

The functions of the council are to promote and provide strategic leadership for the growth, development and expansion of the construction industry in Tanzania with emphasis on the development of the local capacity for socio-economic development and competitiveness in the changing global environment. The council specifically advises the government on all matters relating to the development of the construction industry and to formulate proposals and recommendations for their implementation, provides advisory services and technical assistance to construction industry stakeholders on all matters related to the construction industry, co-ordinate quality training for persons engaged, or to be engaged in the construction industry. Promote conduct and co-ordinate research on all matters related to the construction industry. To promote the documentation and dissemination of information related to construction industry and to compile and maintain list of projects and directory of construction materials and equipment. To promote and monitor the development and implementation of standards, regulations and codes of practices on all related to the construction industry. To promote the use of innovative technologies and the application of best practices in the construction industry also to promote and establish forums for enhancing industry-wide co-ordination, collaboration and discussion on matters related to the construction industry, benchmark, monitor and evaluate the performance of the construction industry, to solicit and manage the fund for training of personnel in the construction industry, promote quality management including provision of technical auditing services in the construction industry. To promote environmentally sustainable construction practices including health and safety aspects, promote the export of goods and services related to the construction

industry and facilitates efficient resolution of disputes in the construction industry. The functions of the Council are currently undergoing review.

2.16. Differences and similarities of Road Fund Board (RFB), National Construction Council and Controller and Auditor General (CAG)

Three bodies Road Fund Board (RFB), National Construction and Controller and Auditor General (CAG**)** were important in this research because they all relates with auditing which involves Value for Money features. In general Controller and Auditor General‘s office is overall in custody in auditing as stipulated under Article 143 of the Constitution of the United Republic of Tanzania. But these bodies have similarities and differences in their responsibilities according to the law established the institution as explained below;

2.16.1 Similarities of Road Fund Board (RFB), National Construction Council and Controller and Auditor General (CAG)

All Three bodies Road Fund Board (RFB), National Construction and Controller and Auditor General (CAG) for the purpose of this research were significant as all conduct either financial or performance auditing to road project although the Controller and Auditor General‘s office has a duty also to audit the other two bodies, Road Fund Board (RFB) and National Construction Council.

2.16.2 Differences of Road Fund Board (RFB), National Construction Council and Controller and Auditor General (CAG)

Controller and Auditor General (CAG) as the head of National Audit Office of Tanzania (NAO) on the behalf National Assembly examine, inquire into and audit the accounts submitted to him as required under the Public Finance Act. But National

Construction Council was established to promote the development of construction industry in Tanzania while Road Fund Board its main role is to collect road and fuel tolls for the purpose of ensuring adequate and stable flow of funds to road projects.

2.17 Value for Money audit/ Performance Audit in United Kingdom

In United Kingdom the Value for Money auditing has been broken down into six main steps. Not all of these steps may be relevant, depending on the context, and particularly depending on whether the Value for Money analysis is a stand-alone exercise or part of a broader evaluation. The research tried to make comparison in the process compared to what has been done Tanzania.

2.17.1 Step one: Establishing what is 'optimal'

At this step according to the National Audit Office of UK[6], the audit team establishes the criteria against which performance will be assessed by agreeing what optimal arrangements for the system under scrutiny would look like. Here, optimal the most desirable possible given expressed or implied restrictions or constraints. Teams need to consider what reasonable constraints they need to take into account. Clear objectives, based on appropriate best practice/ industry benchmarks and agreed targets. Also realistic plans taking account of constraints and develop in the light of an understanding of risks. While in Tanzania at this step, Value for Money audit conducted by Controller Auditor General starts with background, focus of the conducted study, audit scope and performance and structure of the report, On the National Construction Council side they only work on the project backgrounds, and

[6] National Audit Office of UK http://www.nao.org.uk, Cited on 12th March, 2017

for the guidance provided by Road Fund Board at the first step, they only check the compliance of project activities on planning, design and tender documentation.

2.17.2 Step two: Capturing the scale of resources

According to the National Audit Office of UK at the second step, audit team identifies the resources involved initially in the plans and later, as out turn these may include, staff costs, consultancy spend, land acquisition, equipment, and administration cost, whilst in Tanzania for instance National Construction Council and guidance provided by Road Fund Board both works on the procurements procedures compliance of contractor(s) and consultants, on the Controller Auditor General side, audit team deals with the road works system which includes responsibility and policy, the operative system, key players outside client and additional time and costs.

2.17.3 Step three: Identifying expected and actual outcomes

According to the National Audit Office of UK at the second step audit team identifies the immediate, intermediate and long term outputs and (where possible) outcomes. This needs to be done initially in considering the planned achievements and later, when considering actual achievements, including performance against targets, delivery record (quantity and timeliness), productivity record, unit costs, whole life costs, economy and efficiency measures quality of service (including customer satisfaction record) and adverse, also check for perverse or unintended consequences. For Tanzania at the third step Controller Auditor General its reports concentrates with time variations in a particular projects, while National Construction Council at the same stage looks at physical and financial progress and

the according to Value for Money audit guidelines provided by Road Fund Board concentrates with construction stage from the site possession to management of contractual documents, including surety and insurances bonds.

2.17.4 Step four: Establishing the consequences for Value for Money of the identified level of performance (internal comparison)

Audit team in UK establishes the consequences of the identified performance for Value for Money. For instance were more/fewer resources employed than expected? Was performance in terms of outputs/outcomes greater/less than expected? Was performance better/worse than expected given the resources employed? Do the arrangements in place match up to those of the chosen benchmark established at the first step? Timing of benefits (short, medium or long term) does performance suggest there is a problem with Value for Money. In Tanzania according to Controller Auditor General at the fourth step audit team looks at the cost deviation and cost overrun while for National Construction Council looks at the Scope and Value of Work according to Value for Money audit guideline provided by Road Fund Board at this stage looks executed works where they check physical measurements against drawings and specifications.

2.17.5 Step five: Drawing an overall conclusion on the Value for Money achieved with these resources (external comparison)

At this stage audit team in UK having identifies achieved performance (step 1-3) above and establishes how it compares with what was or could have been expected (step 4), finalise the Value for Money conclusion by comparing performance in this case with external benchmarks such as with alternative actions (could better Value

for Money have been achieved by doing things differently) against accepted good practice or internal/external industry benchmarks comparisons with past years against stakeholder expectations.

While in Tanzania at fifth step, both the National Construction Council and the Controller Auditor General the teams look on quality control of road works but according to the Value for Money audit guideline provided by Road Fund Board at this stage looks at project completion and closure stage.

2.17.6 Step six: Making recommendations to secure improved outcomes

Lastly audit team having identified shortcomings in performance, make costed and timed recommendations for the individual organization or for the government system more widely, designed to improve the policy implementation process, and lead to better Value for Money by correcting weaknesses, improving processes and practices reducing costs, improving performance, securing savings, raising awareness of policy benefits improving management information ending activities or policy where necessary reorganizing processes and practices.

While in Tanzania Controller Auditor General at sixth step (conclusion) and seventh (recommendation) of the report, while National Construction has more three steps, sixth (Variation Orders and Contract Addenda), seventh (General adherence to contractual obligation) and eighth (General adherence to contractual obligation) and lastly ninth (Summary of key findings and Recommendations) but according to Value for Money audit guideline provided by Road Fund Board Value for Money audit ends at step six of Integrity of Project Implementation where they look if any

inflated quantities in the Bills of Quantities, evidence of unjustified over design, any evidence of overpriced Bid, any variations with no justification.

2.18 Summary of Chapter two

The chapter provides an overview of the literature review related to Value for Money, in order to determine what has been done and what has been left out nationally and globally. Road construction stakeholders like Road Fund Board, National Council and Value for Money auditors were reviewed to establish the research gap.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

For successfulness of this study, various research methodologies were adopted, which included case study, questionnaire and interviews as primary data collection methods. Also, various documents relevant to this study such as books, dissertations, journals, and reports posted to websites were reviewed so as to provide enough and relevant information in this study. This served as sources of secondary data.

3.2 Research Approach

In this research study, both quantitative and qualitative research approaches were used. Under qualitative approach means non-numerical form of data were collected that includes views, opinions and suggestions given by Technical Auditors, from National Audit Office Tanzania, National Construction Council and TANROADS staff. It aimed at gathering an in-depth understanding on how respondents perceives, their opinions and views used to find out how Value for Money practice is understood in road construction. Thus clients and other stakeholders gave their opinions on how they have benefited or affected by Value for Money practice when they are implementing road construction projects.

The quantitative research approach determines the relationships between one thing (independent variable) and another (dependent or outcome variable) in a population. Under the quantitative research approach, a survey research was used to study the sample population through questionnaire data collection tool.

3.3 Research design

This research was designed to use the case study design, under which the Road Fund Board was the case study. Also methods for data collection included questionnaire, face to face interview and perusing written documents that are relevant to this study such as reports, books, journals, dissertation as well as internet sources to seek for supplementary information from the case study.

3.4 Selection of the area of study

Road Fund Board was selected as the case study area for this research due to the fact that the board owns all information regarding implementation and monitoring of road projects country wise. The data obtained from Road Fund Board using case study played big role in this study before was supplemented views from questionnaires respondents and Value for Money experts who were interviewed during the data collection.

3.5 Sampling technique

Sampling is the process of choosing an appropriate number of samples in a population in order to make it possible to do generalizations for the study (Sekaran, 2000). Using a sample rather than examining an entire population for a study was fairly obvious regarding time, cost and human resources. For the purpose of this study non-probability sampling was used to obtain a sample.

3.5.1 Non-probability Sampling

Non-probability sampling was that sampling procedure which did not afford any basis for estimating the probability that each item in the population had an equal chance of being included in the sample (Kothari, 2004). The sampling technique

used for this study was a non-probability sampling with a mix of judgmental and purposively sampling. In judgmental sampling according to Saunders et al. (2003) argue that self-selection sampling occurs when you allow each case, usually individuals, to identify their desire to take part in the research. The respondents of this study were selected from different intellectual background of public institutions to answer the questionnaires.

3.5.2 Sample size

This refers to the number of items to be selected from the population to constitute a sample. The size of sample should neither be excessively large, nor too small. It should be optimum. An optimum sample is one which fulfills the requirements of efficiency, representativeness, reliability and flexibility (Kothari, 2004). Respondents were requested to fill the questionnaire right away, return their completed questionnaires to the researcher and researcher make follow-up questionnaires from respondent address supplementary. Data were collected from staff working with TANROADS and LGAs, the researcher obtained 60 respondents out of 130 staff from TANROAD of average of 5 staff each regional office specifically dealing with road projects implementation, from questionnaires, 3 interviewees out of 12 VfM auditors commissioned by Road Fund Board who were purposively selected to add information obtained during the case study.

3.6 Data collection Methods

Data collection method refers to the process used in capturing of specific information that is needed when addressing formulated research questions. In this study a combination of various data collection methods including case study (documents

reviewing), interviews and questionnaires were used. Thus both primary and secondary data were collected.

3.6.1 Primary Data Collection Methods

Primary data are those data collected by the researcher directly from the field. The following are the primary data collection tools that were used during the research: interviews, under which face to face interview technique was used, and questionnaires under which semi-structured questions were prepared.

- **Case study**

"A case study is a method for learning about a complex instance, based on a comprehensive understanding of that instance obtained by extensive description and analysis of that instance taken as a whole and in its context." **(**GAO/PEMD, 1990). "A complex instance" means that input and output cannot be readily or very accurately related. There are several reasons why such a relationship might be difficult. There could be many influences on what is happening and these influences could interact in nonlinear ways such that a unit of change in the input can be associated with quite different changes in the output, sometimes increasing it, sometimes decreasing it, and sometimes having no discernible effect.

Methods of obtaining description and analysis in Case Studies are extensive or "thick" analysis include Analysis of multiple types of data sources such as interviews with all relevant persons, observations over time, participant observation, documents, archives, physical information ,the second method is the analysis via triangulation of data which is analysis through pattern matching, explanation building, and thematic review and lastly the third method is comparison of evidence for consistency

analysis through techniques such as Matrix of categories, Graphic data displays, Tabulation, of event frequencies ,chronological or time series ordering

- **Questionnaire**

The questionnaire is a tool for getting responses to questions by using a form which the respondents, fills by him/herself. Questionnaire like interview tries to get the feelings, opinions, beliefs, experiences or activities of respondents. It is cost effective, it requires much less skill to administer once properly designed, the impersonal nature of questionnaire answer some uniformity from one measurement situation to another, the respondents may have greater confidence in their anonymity and thus feel free to express their views; questionnaire places less pressure on the respondent for immediate response.

The questionnaire distributed to road construction practitioners in this the study was structured into four sections. Section A consisted of the personal information of respondents, Section B consisted of questions aimed at determining the existence of facilitators for enhancing Value for Money practice while Section C was also made up of questions aimed at identifying barriers facing Value for Money practice. Finally, section D was structured with questions to determine the factors that improve Value for Money practice in road construction.

- **Interview**

Face to face interview governed by structured questions for guidance was done. The interview involved three who were Value for Money practitioners, two interviewees among Value for Money Auditors commissioned by Road Fund Board and one from Controller Auditor General of National Audit Office Tanzania. The questions asked

during the interview aimed at understanding the views opinion and thoughts on value for value instrument used for performance assessment in the road construction.

3.6.2 Secondary Data Collection Methods

Secondary data are data which collected from books, reports, journal, magazine, internet sources, and dissertations. Generally, these are data which are relevant to the study and are already collected and analyzed by other researchers. These data include:

- **Documents Review**

Regarding this study, different documents related to Value for Money specifically in construction were reviewed to grasp important materials which were of great importance to this work. These documents include written official reports, presentation papers, books, journals and magazine which provided the lessons about the assurance of Value for Money in construction industry.

3.7 Confidence in data that collected

The researcher is a trained Civil Engineer with experience on road construction field in Tanzania. Moreover, the researcher is also a government employee therefore had no entry barrier to Road Fund Board and other stakeholders' offices during the data collection period. The researcher had previously participated in some stages of the monitoring of the projects specifically Regional Road Board meetings as a member of secretariat. With this regard the data collected are accurate and useful in analysis and assessing adequacy of Value for Money Instrument used in road projects.

3.8 Data Analysis

Under qualitative approach data were analyzed by using content analysis approach. This involves the identification of the main themes arising from the respondents. Quantitative data analysis was done using Statistical Package for the Social Sciences (SPSS). Relative importance index (RII) method (Adnan et al, 2009) was employed to determine stakeholders' views of the relative importance of barriers facing Value for Money practice and features improving Value for Money practice in road construction projects and gave their ranking. The method was useful in analysis because it best fits the purpose of the study. In the calculations of the Relative Importance Index (RII), the formula below was used;

$$RII = \sum W/ (A*N)$$

Where W-weighting given by respondents to each factor/aspect and ranges from 1 to 5, A –the highest response integer (5), and N- total number of respondents.

Relative Importance Index helps in finding the contribution a particular factor which makes to the prediction of a criterion factor both by itself and in combination with other predicting factors. Therefore, the ranking of the either barrier and improves factors were demonstrated according to their importance level on their contribution to Value for Money practice. Normally RII ranges from 0 to 1 which implies from less to most important with 0 value suggesting less important factor while 1 is a RII value for most important barrier/factor.

3.9 Data presentation

In this study, data are presented in words (text), tables and graphics. Furthermore, descriptions made in oral presentations and in a written report according to the department requirements. Tables show compositions of various variables example Value for Money indicators. Charts were used to compare magnitude of various perception of Value for Money practice in road construction.

3.10 Summary of Chapter three

Chapter three has given the methodology used during research work. It explained the procedures for determining the source of information, how the information was collected by indicating the research instruments and how data was analysed. Based on the nature of statement of the problem of this study, the case study was the main research approach, but questionnaire and interviews were used to supplement information from the case study for critical review.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

The data collected to assess Value for Money practice in road construction in Tanzania were analyzed and presented in this chapter**.** In view of the objectives of this study, case study, interviews and questionnaires were used. Case study enabled evaluation of existing Value for Money approach on road construction in Tanzania while interviews facilitated to obtain required supplementary information from Value for Money practitioners.

Content analysis facilitated the analysis of the information obtained from both case study and interviews. In addition, a total of 86 questionnaires were administered to collect information from road construction stakeholders to supplement the other two techniques. The collected questionnaires were carefully coded and the data entered into the statistical package for social science (SPSS V.20). Sixty (60) questionnaires were retrieved from the total number of 86 administered, which presents the study with a sixty one percent (68.8%) return rate. Based on the assertion of Moser and Kalton (1971), the result of a survey could be considered significant if the response rate is not lower than 30%. Based on this, the percentage of the returned questionnaires was adequate for the analysis.

4.2 Data Presentation and Analysis

4.2.1 Assessing the adequacy of Value for Money instrument

This study aimed at assessing the adequacy of the Value for Money Instrument (VfM Instrument), which is used in Value for Money audit in road construction in

Tanzania. The VfM Instrument was launched in Tanzania in 2011 and revised in 2015. The use of VfM Instrument is therefore in its sixth year in this country. The question that has not been answered to-date is if this tool is adequate in assessing Value for Money in road construction in Tanzania. It was therefore imperative to design a study that would generate this information. In this study it was assessed if the VfM Instrument can enable generation of sufficient information on coverage to project cycle, economy, efficiency, effectiveness, contract management, stage of the project, nature of the project, and mode of assessment.

4.2.1:1 VfM Instrument adequacy in assessing coverage to project cycle

One of the common principles from the best practice is that for VfM approach to be effective, it should be applied throughout the project life, although the focus and methods of analysis need to reflect the successive stages of the cycle. Four main stages of the project cycle are identification, design, implementation and monitoring and evaluation Table 4.1.Each stage of project cycle was divided in three parts to satisfy the requirement of 3Es of Value for Money namely economy, efficiency and effectiveness. The first part of Value for Money Instrument which is plan, design and tender documentation covers the two stages of project cycle (identification and design), but implementation stage of project cycle comprises three parts of Value for Money (procurement, construction and project completion and closure). However, the Value for Money Instrument does not take into account the involvement of stakeholders when the Value for Money audit is conducted. The opinions from stakeholders during auditing would contribute to the Value for Money performance for either next stage or future of the project.

Table 4.1 Value for Money Instrument through the Project Cycle

<table>
<tr><th>Stage in Project Cycle</th><th>Key VfM tasks</th><th>Relevant Stage in the RFB VfM Instrument</th></tr>
<tr><td rowspan="3">Identification:
Establishing the rationale for commitment of resources to project</td><td>Economy:
• Identify all the costs to be involved in the planned task</td><td rowspan="4">Stage A
Plan, Design & Tender Documentation</td></tr>
<tr><td>Efficiency:
• Identify if the project is the right solution
• Identify the outputs and benchmarks</td></tr>
<tr><td>Effectiveness:
• Identify the outcomes and the costs of the achieving them</td></tr>
<tr><td rowspan="3">Design:
Defining scope of project, choice of technology and project management processes required to achieve intended outputs and outcomes with optimal use of resources</td><td>Economy:
• Find the ways to minimize costs but retain the functional requirements</td></tr>
<tr><td>Efficiency:
• Identify options for implementation and delivery of outputs</td></tr>
<tr><td>Effectiveness:
• Identify and assess options for ensuring project outputs</td></tr>
<tr><td rowspan="3">Implementation:
Ensuring mobilization of the right resources and procurement of inputs to achieve project outputs</td><td>Economy:
• Monitor procurement and costs</td><td>Stage B
Procurement Stage</td></tr>
<tr><td>Efficiency:
• Monitor progress</td><td>Stage C
Construction Stage</td></tr>
<tr><td>Effectiveness:
• Monitor potential impact of progress in implementation on achievement of outcomes</td><td>Stage D
Project Completion and Closure Stage</td></tr>
<tr><td rowspan="3">Monitoring & Evaluation:
Assessment of performance of ongoing projects and/ or completed projects in delivering intended outcomes with optimal use of resources</td><td>Economy:
• Evaluate against costs and targets</td><td rowspan="3">Stage E
Executed Works</td></tr>
<tr><td>Efficiency:
• Assess extent to which project met cost efficiency targets and if they are realistic</td></tr>
<tr><td>Effectiveness:
• Assessing the entire project’s viability, effectiveness and value</td></tr>
</table>

Source: RFB, 2017

4.2.1.2 VfM Instrument adequacy in assessing the three Es of Value for Money

The definition for Value for Money takes into consideration the 3Es, which are economy, efficiency and effectiveness. Economy means minimizing input costs without compromising quality while efficiency is looked at as a process of doing well an activity, converting inputs into outputs, completed with lesser time at reasonable cost and meet required standards, best workmanship, qualified personnel and program. On the other hand, effectiveness measures outcomes of the project assess usability of the road and assess whether the objective(s) is attained. The objective may be to reduce travel time, stimulate economy, and reduce accident/congestion (RFB, 2015).

The VfM Instrument that is used in Tanzania is assumed to assess the 3Es. It was found out that generally the VfM Instrument captures some information on the economy, efficiency and effectiveness. However, The VfM Instrument does not directly capture the information on the inputs, costs of items used, and satisfaction of end users. As such the tool is more into assessing the contract compliance.

4.2.1.3 VfM Instrument adequacy in assessing nature of the project

The VfM Instrument used in Tanzania assumes all that all projects are of the same nature but in reality road construction projects are of different nature. For instance, bridge construction differs from graveling works while routine maintenance projects are different from periodic maintenance projects. Equally, assessing construction work for new roads cannot follow exactly the same procedure as for maintenance projects. In routine maintenance project, it may be difficult to capture Value for Money for such activities as slashing, de-silting, and light grading. On the contrary,

it is always possible to assess Value for Money for new road construction project whereby, for example, costs for newly constructed structures can be determined and recorded.

4.2.1.4 VfM Instrument as affected by mode of assessment

In the Tanzania VfM Instrument's the scale for scoring has been developed and it ranges from 0 to 3. The lowest score is 0 while the highest is 3. Availability of this score scale should ensure reproducibility of assessment results. However there is likelihood for the results to be affected by assessors' subjectivity. That means in some cases the score may not reflect the actual value of the work. For example, when there are missing items, two different projects may get the same score irrespective of the costs and consequences of the missing items. It could be helpful if the assessor was fully guided on when to give a given score. For instance, if one is asked to score for the sub-indicator 'Overall quality of materials used' under the indicator of executed work, it could be stated that assign 0 if material used has not TBS label, 1 if material has TBS label but not recommended for the structure, 2 has TBS label, recommended for the structure. Common scoring avoids misinterpretation during the assessment between the Value for Money auditors and auditees.

4.2.2 Value for Money assessment using Road Fund Board (RFB) Approach

In Tanzania Value for Money in road projects is assessed using Value for Money Instrument developed by Road Fund Board (RFB) in 2011.The tool is an excel based worksheet used by Value for Money auditors in processing auditor's assessment of different Value for Money performance indicators for road projects that are being executed by Implementing Agencies like TANROADS utilizing Road Fund or other

funds administered by RFB. The VfM Instrument evaluated during this study is illustrated in Table 4.2. The Instrument has five VfM performance indicators, According to the instrument, the fifth indicator, which is quality of executed works was assigned with the highest percentage weighting of 40%, followed by planning, design and tender documentation (20%), Construction Stage (20%), procurement process (10%), and project completion and closure (10%), executed works indicator looks at overall qualitative and quantitative achievement of the expected outputs of the project. This includes achievement of the required project output indicators for instance road geometric characteristics, roughness and other road-user driven performance indicators.

Table 4.2 RFB Value for Money Instrument

VFM Indicator	Purpose	% Weight	No. of Parameters
A:Plan, Design & Tender Doc	To assess project feasibility study and adequacy of design and Specification for the purposes of tendering and project evaluation	20	7
B:Procurement Process	To assess compliance with PPA 2011 & its Regulations (Also as per Amendments of 2016)	10	6
C:Construction stage	To assess adequacy of project monitoring and control, and compliance with contract conditions and Specification	20	13
D:Project completion and closure	To assess project completeness and handing over	10	8
E:Quality of executed Works	To assess quality, quantity and workmanship of executed works on site and their compliance with tech. specifications	40	7

Source: RFB, 2015

4.2.3 VfM Instrument at the stage of project to conduct VfM assessment

The results indicated in Table 4.3 presents the respondents view when asked at what stage of the construction project Value for Money should be assessed. Those who said the Value for Money assessment should be conducted in all stages scored highest responses with 43.4%, followed by planning, design and tender documentation (20%), construction stage (16.7%), project completion and closure stage (13.3%), procurement and maintenance stages each with 3.3%. This result emphasizes the importance of conducting Value for Money assessment at every stage of project cycle since these stages depend on each other. For instance, for inaccurately planned construction project it will be difficult to achieve Value for Money as planning influences much the future of the project.

Table 4.3 Stages of project to conduct VfM assessment

Stage of the Project	Frequency	Valid Percent	Cumulative Percent
Planning, Design & Tender documentation	12	20.0	20.0
Procurement	2	3.3	23.3
Construction	10	16.7	40
Project completion and closure stage	8	13.3	53.3
Operation/Maintenance	2	3.3	56.6
At all stages	26	43.4	100
Total	**60**	**100.0**	

Source: Research data (2017)

4.2.4 Evaluation of VfM audit report of projects executed by TANROADS for three consecutive financial year

A total of 43 VfM audit reports of road projected were evaluated by RFB in three financial years namely 2012/13, 2013/14 and 2014/15 as shown in Table 4.4. The reports obtained from RFB were analysed according to the five different VfM

indicators (Plan, Design & Tender Documentation, and Procurement Process, Project completion and closure and Quality of executed Works) set by the board. However, the trend shows that two indicators Plan, Design and Tender Documentation, and Procurement were doing well with score ranging from 71.8% to 86.3% respectively. At the construction there was an average score ranging from 62% to 66%, while overall performance project completion and closure stage was declining from 43.9% to 21.8%, was the indicator that scored low performance. Quality of executed work indicator was declining from 60.1% to 40%. Each Value for Money indicator to every financial year from 2012/13 to 2014/15 was analyzed to disclose the performance of each parameter in the indicator

Table 4.4 Summary of overall performance for the financial year

Financial Year / **VFM indicator**	**2012/13**	**2013/14**	**2014/15**
	Overall performance in %		
Plan, design & Doc documentation stage	88.4	72.4	71.8
Procurement stage	86	86	86.3
Construction stage	65.8	66.6	62
Project completion & closure stage	43.9	44	21.8
Quality of executed work	45.9	60.1	40

Source: Field data (2017)

4.2.5 Performance in year 2012/13 for the plan, design and tender documentation criteria

The results show that the overall performance annually was good, that is 88.4% (Table 4.5). The Value for Money was achieved for the seven parameters, namely compliance of project planning with requirement to desired need , accuracy and

competence of design calculations and technical drawings , accuracy, appropriateness and completeness of technical specification, overall appropriateness of the design, accuracy and completeness of the design of bill of quantities, accuracy of the engineer's estimates and accuracy and completeness of the design of tender documents set by Road Fund Board. Good performance of individual parameters scoring from 73% to 93% contributed to the success of this indicator for this financial year.

Table 4.5 VfM performance for Planning, Design and Tender documentation criteria in three years

Planning, Design and Tender documentation aspects	2012/13						2013/14						2014/15					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Compliance of project planning with requirement to desired need	0	3	0	7	90	100	13.3	1.3	0	25	60	100	1.1	0	1.1	21.1	76.7	100
Accuracy and competence of design calculations and technical drawings	2	0	0	25	73	100	5	0	11	21	63	100	5.6	0	6.7	34.4	53.3	100
Accuracy, appropriateness and completeness of technical Specification	0	0	0	8	92	100	0	0	0	12	88	100	2.2	0	2.2	17.8	77.8	100
Overall appropriateness of the design (economy and function)	3	0	2	7	88	100	1	0	3	16	80	100	1.1	0	2.2	11.1	85.6	100
Accuracy and completeness of the design of BOQ	0	0	0	12	88	100	0	0	0	27	73	100	1.1	0	1.1	30	67.8	100
Accuracy of the engineer's estimates	0	3	0	2	95	100	0	0	4	25	71	100	0	0	1.1	32.2	66.7	100
Accuracy and completeness of the design of tender documents	5	0	0	2	93	100	1	0	0	27	72	100	0	0	0	25.6	74.4	100
Average performance	**88.4**						**72.4**						**71.8**					

Source: Road Fund Board, 2015

1: Not applicable, 2: Very poor, 3: Poor, 4: Fair, 5: Good, 6: Total

4.2.6 Performance in year 2013/14 for the plan, design and tender documentation criteria

The results show that the overall performance annually declined by 16% compared to previous financial year, that is (2012/2013), from 88.4% to 72.4% (Table 4.5), the decrease was caused by less performance to all parameters; compliance of project planning with requirement to desired need with 60% from 90%, accuracy and competence of design calculations and technical drawings with 63% from 73%, accuracy, appropriateness and completeness of technical specification with 88% from 92%, overall appropriateness of the design with 80% from 88% accuracy and completeness of the design of bill of quantities with 67.8% from 73%. The parameter of accuracy of the engineer's estimates shows 71% from 95% and accuracy and completeness of the design of tender documents with 72% from 93%.

4.2.7 Performance in year 2014/15 for the plan, design and tender documentation criteria

The results show that the overall performance annually declined slightly (by 0.6%) compared to previous financial year (2013/2014), that is, from 72.4% to 71.8% (Table 4.5). The decrease was caused by less performance to four (04) parameters, accuracy and competence of design calculations and technical drawings with 53.3% from 63%, accuracy, appropriateness and completeness of technical specification with 77.8% from 88%, accuracy and completeness of the design of bill of quantities with 66.7% from 71%. However, three parameters increased, which are compliance of project planning with requirement to desired need with 76.7% from 60%, overall

appropriateness of the design (economy and function) with 85.6% from 80% and accuracy and completeness of the design of tender documents with 74.4% from 72%.

Table 4.6 VfM performance for Procurement stage criteria in three years

Procurement stage parameters	2012/13						2013/14						2014/15					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Appropriateness of method of procurement	1	0	2	2	95	100	3	0	1	3	93	100	6	0	2	2	92	100
Compliance of procurement process with PPA 2011 and its amendments	0	0	2	3	95	100	0	1	0	17	81	100	0	0	0	13	87	100
Evaluation process and award of contract	3	0	0	15	82	100	0	3	1	23	73	100	0	0	0	18	82	100
Competitiveness of rates quoted for major items of construction	2	0	0	15	83	100	0	0	0	17	83	100	0	0	0	28	72	100
Overall competitiveness of most economic tender compared with the market price	3	0	0	17	80	100	0	0	0	9	91	100	0	0	0	22	78	100
Capacity and competence of selected contractor in relation to project size and complexity	0	0	5	12	83	100	0	0	1	25	91	100	0	0	4.4	4.4	91.1	100
Average performance	86						86						83.6					

Source: Road Fund Board, 2015

1: Not applicable, 2: Very poor, 3: Poor, 4: Fair, 5: Good, 6: Total

4.2.8: Performance in year 2012/13 for the Procurement stage

The results show that the generally overall performance annually was as good as in the previous financial year, that is; 86% (Table 4.6). The Value for Money was assessed seven (07) parameters namely appropriateness of method of procurement, compliance of procurement process with public procurement act 2011 and its amendments , evaluation process and award of contract, competitiveness of rates

quoted for major items of construction, overall competitiveness of most economic tender compared with the market price, capacity and competence of selected contractor in relation to project size and complexity set by RFB for the procurement criteria. In this financial year, the implementers complied with the criteria in Public Procurement Act 2011 & its Regulations of 2013, which enabled successful implementation of the followed project stages.

4.2.9 Performance in year 2013/14 for the Procurement stage

The results show that the overall performance annually was good, that is 86% (Table 4.6) when the Value for Money was assessed basing on seven (07) parameters. However individually there were some changes in scores where four parameters showed a decreasing trend on the number of projects with a good performance score: appropriateness of method of procurement scored 93% as compared to 95% from previous year, compliance of procurement process with Public Procurement Act 2011 and its amendments had 81% from 95% of good performing projects. There were an increased number of projects with good performance under three parameters: overall competitiveness of most economic tender compared with the market price similar to, capacity and competence of selected contractor in relation to project size and complexity with 91% from 80%. Competitiveness of rates quoted for major items of construction did not change its score for both years with 83% projects getting a good performance score.

4.2.10 Performance in year 2014/15 for the Procurement stage

The results show that the overall performance annually was good that is 83.6% (Table 4.6), A total of seven parameters were used to assess the Value for Money.

However, individually there were some changes in scores where four parameters showed a declining number of projects with a good performance score (with their scores in the brackets), appropriateness of method of procurement had 92% from 93% projects with good score, evaluation process and award of contract with 73% from 83% good performing, competitiveness of rates quoted for major items of construction with 72% from 83% good performing projects. Overall competitiveness of most economic tender compared with the market price with 78% from 91% good performing projects. only three parameters increased their score, evaluation process and award of contract 83% from 73%, capacity and competence of selected contractor in relation to project size and complexity with 91.1% from 91 %.%), compliance of procurement process with Public Procurement Act of 2011 and its amendments 87% from 81%.

4.2.11 Performance in year 2012/13 for the Construction stage

The results show that the overall annual performance was 65.8% (see Table 4.7). The Value for Money was assessed based on thirteen (13) parameters. Four parameters, namely assessment of claims and related overruns, assessment of variations, assessment of project delays and extension of time and quality of environmental management plan scored low marks ranging from 35% to 47%. Encouragingly, there was good performance for nine parameters ranging from 60% to 95% namely, adherence to quality assurance programme completed project, adherence to project programme, management of contractual documents, quality of quality assurance programme completed project, quality of project programme, quality of contractor's site organization and staff, quality of supervising engineer's site staff, quality and

management of project documentation and timeliness of site possession. The aim of this indicator was to assess adequacy of project monitoring and control, and compliance with contact conditions and specification. This stage embraces processing of project inputs in most cost-efficient manner ensuring the output or product is of the required standard and quality. Therefore, the overall performance of 65.8% indicates Value for Money was not adequately achieved in the financial year 2012/2013.

Table 4.7 VfM performance for Construction stage criteria in three years

Construction stage parameters	2012/13						2013/14						2014/15					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Timeliness of site possession	0	0	2	3	95	100	3	0	0	5	92	100	1.1	0	1.1	8.9	88.9	100
Quality of project Programme (Schedule the work)	0	0	2	27	72	100	1	0	11	23	65	100	1.1	0	5.6	39	54.4	100
Adherence to project Programme	0	0	13	25	62	100	3	0	13	27	57	100	4.4	0	8.9	36	61.1	100
Quality of contractor's site organization and staff	0	0	2	13	85	100	5	3	4	15	73	100	2.2	0	0	41	56.7	100
Quality of supervising engineer's site staff	3	0	2	5	90	100	1	1	0	8	89	100	1.1	0	1.1	4.4	93.3	100
Quality of quality assurance Programme completed project	10	12	0	8	70	100	7	11	1	11	71	100	3.3	0	10	29	57.8	100
.Adherence to quality assurance Programme completed project	17	10	2	12	60	100	13	3	7	16	61	100	5.6	0	10	30	54.4	100
Quality of environmental management plan(EMP)	25	15	3	10	47	100	32	9	13	9	36	100	5.6	01.1	33.3	32	27.8	100
Management of contractual documents	18	7	0	10	65	100	12	0	8	8	72	100	5.6	0	6.3	21	66.7	100
Quality and management of project documentation	2	0	0	7	92	100	4	3	1	23	69	100	7.8	0	3.3	20	68.9	100
Assessment of variations	55	2	2	3	38	100	36	0	0	1	63	100	32.2	1.1	0	6.7	60	100
Assessment of claims and related overruns	60	0	2	3	35	100	44	0	0	3	53	100	39	0	1.1	6.7	53.3	100
Assessment of project delays and extension of time	33	0	7	15	45	100	21	1	4	8	65	100	20	0	5.6	12	62.2	100
Average performance	65.8						66.6						62					

Source: Road Fund Board, 2015

1: Not applicable, 2: Very poor, 3: Poor, 4: Fair, 5: Good, 6: Total

4.2.12 Performance in year 2013/14 for the construction stage

The results show that the overall performance for the financial year 2013/2014 increased slightly (0.8%) compared to previous financial year (2012/2013), that is, from 65.8 % to 66.6 % (Table 4.7)., The improvement was due to increased performance in four parameters for construction stages: assessment of project delays and extension of time with good performing projects increasing from 45% to 65% suggesting a decrease in delays and extension of time, assessment of claims and related overruns from with good performing projects increasing from 35% to 53.3%, assessment of variations for which good performing projects increased from 38% to 63%, and management of contractual documents for which good performing projects increased from 65% to 72%. However, there was a decrease in project performance for two parameters, which were quality and management of project documentation for which the good performing projects decreased from 92% to 69% and quality of environmental management plan with good performing projects decreasing from 47% to 36%. The number of projects with good performance did not change appreciably for the remaining parameters. For this financial year, the concern is the poor performance of 33.3% projects, which was observed for the parameter of quality of Environmental Management Plan (EMP).

4.2.13 Performance in year 2014/15 for the construction stage

The results show that the overall performance annually declined by 4.6% compared to previous financial year, that is, the projects with good performance decreased from 66.6% to 62% (Table 4.7) The decrease was caused mainly by decrease in projects with good performance for three (03) parameters, quality of environmental

management plan from 36% to 27.8% projects, quality of quality assurance programme completed project from 71% to 57.8% projects, Quality of contractor's site organization and staff from 73% to 56.7% projects. However, there were an increase in number of projects with good performance for the parameter of adherence to project Programme from 57% to 61.1% projects, and Quality of supervising engineer's site staff 89% to 93.3% projects.

4.2.14 Performance in year 2012/13 for project completion and closure stage

Eight parameters were considered when assessing the performance in financial year 2012/2013. The results show that the overall performance for this year was 43.9% (Table 4.8), Many projects did not get a good performance score in three (03) parameters namely quality and completeness of as built-drawings , quality and adequate of final project report, and compliance of final quantities paid. For the remaining parameters at least 50% of the projects had good performance. The parameters for which most projects had good performance were compilation and management of snag list, compliance of project cost as per final account with accepted tender price, timely insurance of completion certificate, settlement of final account and management of the defect liability period. However, almost all parameters with low performance were due to relaxation of the entities at the end of the projects and failure to fulfill the closure parameters and without closing the project and handing over to the clients. This could lead to the disputes between contractors and clients due to the delay consequences like liquidated damage.

Table 4.8 VfM performance of Project completion and closure stage for three years

Parameters considered when Project completion and closure stage	2012/13						**2013/14**						**2014/15**					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Quality and completeness of as built-drawings	27	40	0	10	23	100	57	81	16	4	15	100	84.4	2.2	5.6	2.2	5.6	100
Compilation and management of snag list	22	20	0	8	50	100	23	7	8	12	51	100	62.2	0	2.2	7.8	27.8	100
Timely insurance of completion certificate, settlement of final account	25	0	2	8	65	100	23	8	1	9	59	100	62.2	0	2.2	6.7	28.9	100
Management of the defect liability period	52	12	0	2	75	100	31	8	1	13	47	100	71.1	1.1	1.1	12.2	23.3	100
Quality and adequate of final project report	50	20	0	5	25	100	33	12	11	21	33	100	71.1	0	6.7	14.4	7.8	100
Compliance of final quantities paid	48	13	0	5	33	100	36	9	4	9	41	100	71.1	0	2.2	7.8	18.9	100
Compliance of project cost as per final account with accepted tender price	43	2	0	3	52	100	24	8	1	9	57	100	63.3	0	0	8.9	27.8	100
Compliance of actual project completion time with the contract period	18	0	5	8	68	100	16	5	9	11	59	100	63.3	0	0	2.2	34.4	100
Average performance	43.9						**44**						**21.8**					

Source: Road Fund Board, 2015

1: Not applicable, 2: Very poor, 3: Poor, 4: Fair, 5: Good, 6: Total

4.2.15 Performance in year 2013/14 for project completion and closure stage

At the stage of project completion and closure the overall performance in financial year 2013/2014, as determined based on eight parameters, increased by 0.1% when it was compared to that observed in the year before. It increased from 43.9% to 44 % (Table 4.8). The increase was attributed to the increase in projects with good performance observed for four parameters: compilation and management of snag list with increase of good performing projects from 50% to 51%, quality and adequate of final project report with good performing project number increasing from 25% to 33%, compliance of final quantities paid with good performing projects increasing from 33% to 41%, and lastly compliance of project cost as per final account with accepted tender price projects with good performance projects increasing from 52%

to 57%. However, there were a decrease in projects with good performance for the remaining four parameters, namely Quality and completeness of as built-drawings which decreased from 23% to 15%, timely insurance of completion certificate, settlement of Final Account, which decreased from 65% to 59%, compliance of actual project completion time with the contract period, which decreased from 68% to 58% and management of the defect liability period from 75% to 47%.

4.2.16 Performance in year 2014/15 for project completion and closure stage

The results for performance in the financial year 2014/15 indicate an overall poor performance with average performance of 21%, which was less than that registered in the previous two financial (Table 4.8). Assessment for Value for Money revealed worst performance for two parameters, namely quality and completeness of as built-drawings and quality and adequate of final project report, with only 5.6% and 7.8% projects registering good performance, respectively. Performance as evaluated based on the remaining parameters was unsatisfactory since only 34.4% projects had good scores for compliance of actual project completion time with the contract period. Performance at good score level for other parameters were in a range of 18.9% to 28.9% projects for compliance of final quantities paid, management of the Defect Liability Period, compilation and management of snag list, compliance of project cost as per Final Account with Accepted Tender Price, and timely insurance of completion certificate, settlement of Final Account, respectively. The poor performance in most projects therefore indicates potential compromise on Value for Money at completion and closure stage, which also implies possible poor performance in earlier stage

4.2.17 Performance in year 2012/13 for Quality of executed works stage

The overall performance for this fiscal year was 45.9% (Table 4.9). In this case the Value for Money was assessed based on the seven (07) parameters. Incompliance in most projects were observed for three parameters: compliance of ongoing construction activities with safety and EMP requirements and quality of materials used in concrete and masonry work both with only 22% good performing projects, compliance with technical specification with only 32% good performing projects, compliance of site cleanup and restoration of disturbed and/or damaged area with 37% good performing projects, But in all other parameters most projects registered a good performance, compliance of culverts and bridge drawings and specifications, dimensions of construction items and completion with satisfaction scored between 53% to 82% marks. Executed works look overall quality, quantity and workmanship of executed works on site and their compliance with technical specifications achievement of the expected outputs of the project and it's an indicator that assigned the highest percentage weighting 40%, followed by planning, design and tender documentation, construction stage (20%), procurement and project completion and closure (10%). This includes achievement of the required project output indicators example road geometric characteristics, roughness and other road- user driven performance indicators

4.2.18 Performance in year 2013/14 for quality of executed works stage

The results show that the overall performance in this year increased by 14.2% compared to the performance in a previous financial year, that is, projects which was assessed as good performing had increased from 45.9% to 60.1 % projects (Table

4.9), The four (04) parameters with most projects scoring at good performance level were compliance of ongoing construction activities with safety and EMP requirements with an increase from 22% to 39% projects, quality of materials used in concrete and masonry work which increased from 22% to 67% projects, compliance with technical specification, which increased from 32% to 68% projects, and compliance of culverts and bridge drawings and specifications with an increase from 53% to 77% projects. However, there was also dropping trends in the rest three (03) parameters in compliance of site cleanup and restoration of disturbed and/or damaged area with EM from 37% to 35% projects, Dimensions of construction items from 73% to 67% and Completion with satisfaction from 82% to 68%.

Table 4.9 VfM performance of quality of executed works in three financial years

Quality of executed works	2012/13						2013/14						2014/15					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Completion with satisfaction	13	0	0	5	82	100	4	1	1	25	68	100	20	0	0	16.7	63.3	100
Dimensions of construction items	17	0	2	8	73	100	12	4	1	16	67	100	27.8	1.1	2.2	15.6	53.3	100
Compliance of culverts and bridge drawings and specifications	40	2	0	5	53	100	15	3	3	3	77	100	25.6	0	0	11.1	63.3	100
Compliance with technical specification	53	7	2	7	32	100	15	4	9	4	68	100	47.8	0	0	3.3	48.9	100
Quality of materials used in concrete and masonry work	57	13	2	7	22	100	17	3	11	3	67	100	44.4	0	2.2	4.4	48.9	100
Compliance of site cleanup and restoration of disturbed and/or damaged area with EM	37	0	0	27	37	100	29	4	7	25	35	100	44.4	0	2.2	33.3	20	100
Compliance of ongoing construction activities with safety and EMP requirements	57	2	0	20	22	100	29	0	15	17	39	100	43.3	0	6.7	25.6	24.4	100
Average performance	**45.9**						**60.1**						**40**					

Source: Road Fund Board, 2015

1: Not applicable, 2: Very poor, 3: Poor, 4: Fair, 5: Good, 6: Total

4.2.19 Performance in year 2014/15 for quality of executed works stage

The results for the financial year 2014/15 under quality of executed works criterion show that the overall performance was poor with average good performance of 40%, which was less than performance in the previous two financial years (Table 4.9). The decrease in number of projects with good performance scores was observed in all seven (07) parameters assessed for Value for Money for the fifth indicator. Number of projects with good performance decreased for all parameters: completion with satisfaction parameter (68% to 63.3% projects), dimensions of construction items (67% to 53.3% projects), Compliance of culverts and bridge drawings and specifications (77% to 63.3% projects), compliance with technical specification (68% to 48.9% projects), Quality of materials used in concrete and masonry work (67% to 48.9%), compliance of site cleanup and restoration of disturbed and/or damaged area with EM (35% to 20% projects), and compliance of ongoing construction activities with safety and EMP requirements.

4.2.20 VfM Instrument compared to other VfM tool (CAG & PPRA)

The VfM Instrument used by Road Fund Board resemble in content with that used by Public Procurement Regulatory Agency (PPRA) while the Controller General Auditor (CAG) differs much from these two to because it comprises the financial auditing which assess whether the accounts are fair and true according to the financial regulations regarding the payments of executed works. Both tools used by RFB and PPRA purely uses technical audit which is specific for construction project.

4.2.21 Barriers facing Value for Money practice in road construction Tanzania

In this study attempts were made to identify challenges to Value for Money practice in road construction. Sixty persons responded to the question that aimed at identifying challenges associated with Value for Money practice in road construction projects. The results on barriers facing money for value are indicated in Table 4.10. Barriers facing Value for Money in road construction were ranked by the relative index of inequality (RII) method basing on respondents opinions where training and support from management scored high level with RII of 0.73, followed by difficulties in the involvement of all key stakeholders in project processes (0.72), budgetary constraints in the sense that to fund the practice (0.69), lack of commitment to implement Value for Money practice throughout project cycle and lack of expertise to thoroughly conduct Value for Money audits both with (0.68), lack of Value for Money qualified practitioners (0.65), difficulties in establishing Value for Money parameters by all participating organization(0.64), three aspects namely lack of time due to rushed project activities, outputs and outcomes are hard to identify and measure especially in the short term and organizational resistance to change scored the same weight (0.63), lack of awareness or knowledge of Value for Money to road implementation stakeholders(0.62), inappropriate Value for Money assessment tool and lack of encouragement on the part of the government/agency both scored 0.61, wrong beliefs that Value for Money practice impede or delays projects (0.54) and the wrong notion that Value for Money that it is a political issue scored least RII (0.51). In this study, the RII values ranged from 0.51 to 0.73. The RII value of above 0.5 is considered significant for a factor to be considered a barrier. Therefore, the

values obtained in this study implied that all the fifteen factors considered are barriers.

Each aspect was later analysed using Statistical Package for the Social Sciences (SPSS) starting with the one with the highest ranking in RII to the lowest one. In addition to answers from sixty persons also interviews from three experts of Value for Money practice were involved to better explain the existence of these barriers to Value for Money practice in road construction.

Table 4.10 Barriers facing Value for Money practice in road construction

s/n	Barriers facing Value for Money practice in road construction	Level of Existence					ΣW	RII	Ranking
		1	2	3	4	5			
1	Inadequate training and management support	1	9	21	7	22	220	0.73	1
2	Difficulties in the involvement of all key stakeholders in project processes	2	8	16	19	15	217	0.72	2
3	Budgetary constraints in the sense that to fund the practice	8	9	15	13	17	208	0.69	3
4	Lack of commitment to implement Value for Money practice throughout project cycle	2	15	12	18	13	205	0.68	4
5	Lack of expertise to thoroughly conduct Value for Money audits	5	11	16	11	17	204	0.68	5
6	Lack of Value for Money qualified practitioners	6	7	24	11	12	196	0.65	6
7	Difficulties in establishing Value for Money parameters by all participating organization	2	14	25	9	10	191	0.64	7
8	Lack of time due to rushed project activities	6	9	26	7	12	190	0.63	8
9	Outputs and outcomes are hard to identify and measure especially in the short term	7	13	15	14	11	189	0.63	9
10	Organizational resistance to change	7	11	17	17	8	188	0.63	10
11	Lack of awareness or knowledge of Value for Money to road implementation stakeholders	3	14	27	5	11	187	0.62	11
12	Inappropriate Value for Money assessment tool	5	19	14	11	11	184	0.61	12
13	Lack of encouragement on the part of the government/Agency	6	16	19	8	11	182	0.61	13
14	Wrong beliefs that Value for Money practice impede or delays projects	13	17	10	14	6	163	0.54	14
15	Wrong notion that Value for Money that it is a political issue	18	9	19	11	3	152	0.51	15

Source: Research data (2017)

4.2.22 Inadequate training and management support about Value for Money

The results from Table 4.11 indicates that 83.4 % of the respondents agreed that inadequate training and management about Value for Money is one the barrier to improvement of Value for Money practice in road construction, 15% said it rarely contribute as barrier while only 1.7% disagree that inadequate training and management about Value for Money cannot an impede Value for Money practice in road construction. The findings from questionnaires was also supported by Eng. Basondole Paul-VfM Auditor during the interview of this study that updated and conservative practitioners in road construction are not ready to implement Value for Money principles when they are implementing road projects.

Table 4.11 Training and management support about Value for Money

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	1	1.7	1.7
Rarely exist	9	15.0	16.7
Sometimes exist	21	35.0	51.7
Mostly of the times exist	7	11.7	63.3
Always exist	22	36.7	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.23 Difficulties in the involvement of all key stakeholders in project processes

The results from Table 4.12 indicates that 70 % of the respondents agreed that Difficulties in the involvement of all key stakeholders in project processes about Value for Money is one the barrier to improvement of Value for Money practice in road construction, 18.3% said it rarely contribute as barrier while only 11.7% disagree that difficulties in the involvement of all key stakeholders in project processes can not a impede Value for Money practice in road construction. The findings from questionnaires was also supported by Eng. Basondole Paul-VFM

Auditor during the interview of this study that all road projects stakeholders have to be involved in implementation of the project from identification to operation stage.

Table 4.12 Involvement of stakeholders in project process

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	7	11.7	11.7
Rarely exist	11	18.3	30.0
Sometimes exist	17	28.3	58.3
Most of the times exist	17	28.3	86.7
Always exist	8	13.3	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.24 Budgetary constraints to fund the practice

The results from Table 4.13 indicates that 75% of the respondents agreed that budgetary constraints were one the barrier to improvement of Value for Money practice in road construction, 11.7% said it rarely contribute as barrier while only 13.3 % disagree that budgetary aspect can not a impede Value for Money practice in road construction.

Table 4.13 Budgetary constraint affects Value for Money practice

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	8	13.3	13.3
Rarely exist	7	11.7	25.0
Sometimes exist	15	25.0	50.0
Mostly of the times exist	13	21.7	71.7
Always exist	17	28.3	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.25 Lack of commitment to implement Value for Money practice throughout project cycle

The results from Table 4.14 indicates that 71.7% of the respondents agreed that lack of commitment of those who implements projects affects the Value for Money practice in road construction, 25% said it rarely contribute as barrier while only 3.3

% disagree that commitment can not a hinder Value for Money practice in road construction.

Table 4.14 Lack of commitment to implement VfM practice throughout project cycle

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	2	3.3	3.3
Rarely exist	15	25.0	28.3
Sometimes exist	12	20.0	48.3
Mostly of the times exist	18	30.0	78.3
Always exist	13	21.7	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.26 Lack of expertise to thoroughly conduct Value for Money audits

The results from Table 4.15 indicates that 73.3 % of the respondents agreed that Lack of expertise has existence of being barriers to Value for Money practice in road construction, 18.3% said it rarely contribute as barrier while only 8.3 % disagree that lack of expertise can not a hinder Value for Money practice in road construction.

Table 4.15 Lack of expertise thoroughly conduct Value for Money audits

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	5	8.3	8.3
Rarely exist	11	18.3	26.7
Sometimes exist	16	26.7	53.3
Mostly of the times exist	11	18.3	71.7
Always exist	17	28.3	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.27 Lack of VfM qualified practitioners

The finding from Table 4.16 indicates that 78.3 % of the respondents agreed that lack of lack of qualified Value for Money staff when implementing road projects hinder the development of Value for Money practice, 11.7% said this factor it rarely contribute as barrier to Value for Money and 10% disagree that qualified VfM

practitioners were not a barrier to Value for Money practice. The findings from questionnaire were supported by Eng. Basondole Paul-VfM Auditor during the interview supported was necessary to involve those who are VfM knowledgeable so as to enable achievement of intended objective.

Table 4.16 Lack of VfM qualified practitioners

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	6	10.0	10.0
Rarely exist	7	11.7	21.7
Sometimes exist	24	40.0	61.7
Mostly of the times exist	11	18.3	80.0
Always exist	12	20.0	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.28 Difficulties in establishing Value for Money parameters by all participating organization

The results from Table 4.17 indicates that 73.3 % of the respondents agreed that lack of VfM parameters in road construction has existence of being barriers to Value for Money practice in road construction, 23.3% said it rarely contribute as barrier while only 3.3 % disagree that lack of established parameters can not a hinder Value for Money practice in road construction.

Table 4.17 Establishing Value for Money parameters

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	2	3.3	3.3
Rarely exist	14	23.3	26.7
Sometimes exist	25	41.7	68.3
Mostly of the times exist	9	15.0	83.3
Always exist	10	16.7	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.29 Lack of time due to rushed project activities

The results from Table 4.18 indicates that 72% of the respondents agreed that rushing activities when implementing in road construction has existence act as barriers to Value for Money practice in road construction, 18% said it rarely contribute as barrier while only 10 % disagree that rushing activities can not a impede Value for Money practice in road construction.

Table 4.18 Rushed project activities

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	6	10.0	10.0
Rarely exist	9	18.0	28.0
Sometimes exist	26	40.3	68.3
Mostly of the times exist	7	11.7	80.0
Always exist	12	20.0	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.30 Outputs and outcomes are hard to identify and measure especially in the short term

The results from Table 4.19 indicates that 67.7% of the respondents agreed that difficulties to identify and measure of Value for Money in road construction has existence act as barriers to Value for Money practice in road construction, but 21.7% said it rarely contribute as barrier while only 11.7 % disagree that identify and measure of Value for Money cannot an impede Value for Money practice in road construction.

Table 4.19 Outputs / outcomes are hard to identify and measure in the short term

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	7	11.7	11.7
Rarely exist	13	21.7	33.3
Sometimes exist	15	25.0	58.3
Mostly of the times exist	14	23.3	81.7
Always exist	11	18.3	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.31 Resistance to change

Table 4.20 indicates that 63.9 % of the respondents agreed that organization resistance to change hinder the developing to Value for Money practice in road construction, 18.3% said resistance to change it rarely contribute as barrier and 11.7% disagree that resistance to change can not a impede Value for Money practice in road construction. The findings from questionnaire were supported strongly by the Deputy CAG (Eng. George Haule (2017) who had this to say, '*Level of implementing recommendations is low because some are resistant to change*'. *Practically, practitioners like Engineers, Quantity Surveyors they think they have final say in road construction activities while their level of awareness of Value for Money approach is minimal*.

Table 4.20 Resistance to change

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	3	5.0	5.0
Rarely exist	14	23.3	28.3
Sometimes exist	27	45.0	73.3
Most of the times exist	5	8.3	81.7
Always exist	11	18.3	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.32 Lack of Awareness on VfM as a barrier in VfM practice

The results indicated that 71.6 % of the respondents agreed that lack of awareness or knowledge of Value for Money is one of the barriers in practicing Value for Money in road construction sector (Table 4.21). About 23% were of the views that lack of awareness on VFM rarely contributed as barrier to Value for Money practice. Only 5% disagreed that awareness and knowledge are barriers to Value for Money practice. These findings were strongly supported by the Deputy CAG (Eng. George Haule (2017) who had this to say, *'VfM is still a new phenomenon especially in construction projects, which makes auditors to conclude differently on whether VfM was achieved or not when assessing the same project. The level of awareness of VfM is very minimal to all project stakeholders; contractors complains that they only receive instructions from consultants'*

The need for creating awareness on VfM in road construction project was also pointed out by Eng. Basondole Paul (VfM Auditor) who said that '*VfM concept is new and therefore stakeholders should be made aware of it such that there will be no excuses during VfM auditing'.*

Table 4.21 Awareness and knowledge on Value for Money in road projects implementation

Level of existence	Frequency	Valid Percent	Cumulative Percent
Never exist	3	5.0	5.0
Rarely exist	14	23.3	28.3
Sometimes exist	27	45.0	73.3
Most of the times exist	5	8.3	81.7
Always exist	11	18.3	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.33 Factors improving Value for Money practice in road construction Tanzania

The study looked also at the aspects that could improve Value for Money practice in Tanzania. Sixty persons responded to the questions that aimed identifying factors that supports the efforts which are of helpful to Value for Money improvement in road construction projects. Briefly, the results as indicated in Table 4.22 factors improving Value for Money in road construction were ranked by RII method basing on respondents views where creating good project planning highest level of RII of 0.85, involvement of Value for Money practitioners during project implementation and ensuring transparency especially during procurement both scored 0.84, ensuring compliance to Value for Money criteria scored the same weight (0.83), client excellently communicates his requirements and needs or objectives to the design team and establishing clear objectives through a participatory process again both scored(0.82), Communication and feedback to project stakeholders to improve the practice(0.81), developing awareness of Value for Money related to all stakeholders(0.80), identify key Value for Money questions on the project and benchmark for comparison(0.77) ,identify the immediate, intermediate and long term outputs and (where possible) outcomes (0.74),Lastly establishing clear and good Value for Money risk transfer throughout project cycle scored the lowest RII of 0.66. In this study RII produces a value ranging from 0.72 to 0.85 which gives clear meaning of the importance of those factors that improves to Value for Money practice. These findings justify that respondents agreed with all factors that improves to Value for Money practice in the study area.

Nevertheless, each aspect was analysed using Statistical Package for the Social Sciences (SPSS) starting with the one with the highest ranking in RII. In addition to answers from questionnaires' respondents also interviews from three experts of Value for Money practice were involved to supplement the need.

Table 4.22 Features that improves Value for Money practice in road construction

Features improves Value for Money practice in road construction	Level of existence					∑W	RII	Ranking
	1	2	3	4	5			
Creating good project planning	1	2	5	25	27	255	0.85	1
Involve Value for Money practitioners during project implementation	2	2	6	21	29	253	0.84	2
Ensuring transparency especially during procurement	4	2	4	19	31	251	0.84	3
Ensuring compliance to Value for Money criteria	1	2	11	18	28	250	0.83	4
Client excellently communicates his requirements, needs/objectives to the design team	2	3	7	22	26	247	0.82	5
Establishing clear objectives through a participatory process	1	2	10	23	24	247	0.82	6
Communication and feedback to project stakeholders to improve the practice	1	6	4	28	21	242	0.81	7
Developing awareness of Value for Money related to all stakeholders	2	3	5	32	18	241	0.80	8
Identify key Value for Money questions on the project and benchmark for comparison	1	5	12	25	17	232	0.77	9
Identify the immediate, intermediate and long term outputs and (where possible) outcomes	1	4	19	23	13	223	0.74	10
Establishing clear and good Value for Money risk transfer throughout project cycle	5	6	9	28	12	216	0.72	11

Source: Research data (2017)

4.2.34 Creating good project planning

Table 4.23 indicates that 86.7 % of the respondents agreed that good planning of the projects contribute to improvement of Value for Money practice, 8.3% agreed to some extent that it improves Value for Money and 3.3% disagree this factor that does not improve Value for Money practice. The findings from questionnaires was also supported by Value for Money Instrument (RFB, 2015) that a good creating

planning which is termed as first Value for Money indicator used by VfM auditing which includes compliance of project planning with requirements of the performance agreement, accuracy and completeness of design calculations and technical drawings, accuracy, appropriateness and completeness of technical specifications, overall appropriateness of the design in terms of economy and function (fitness for purpose),accuracy and completeness of bills of quantities for the works and their consistency with the drawings and technical specifications, accuracy of the engineer's estimates, accuracy and completeness of tender documents

Table 4.23 Creating good Project planning

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strong disagree	1	1.7	1.7
Disagree	2	3.3	5.0
Somewhat agree	5	8.3	13.3
Agree	25	41.7	55.0
Strongly agree	27	45.0	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.35 Involvement Value for Money practitioners during project implementation

Results from Table 4.24 indicates that 83.4 % of the respondents agreed that involvement of Value for Money practitioners during project implementation contribute to improvement of Value for Money practice, 10% agreed to some extent that it improves Value for Money but 6.6% were either strongly disagree or disagree with this factor that does not improve Value for Money practice.

Table 4.24 Involvement Value for Money practitioners during project implementation

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strongly disagree	2	3.3	3.3
Disagree	2	3.3	6.6
Somewhat agree	6	10.0	16.6
Agree	21	35.0	51.6
Strongly agree	29	48.4	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.36 Ensuring transparency especially during procurement

Results from Table 4.25 indicates that 83.5 % of the respondents agreed that transparency during the project procurement improves Value for Money practice in road construction, 6.6% agreed to some extent that it improves Value for Money and 9.9% opposed the factor to improve Value for Money. These findings were strongly supported by VfM expert Eng. Paul Basondole (2017) who had this to say, '*When plan and design of the project was done accurate or properly, contractor was procured in transparency way, therefore the stage has efficiency*'. The findings from questionnaires was also supported by Value for Money Instrument (RFB, 2015) in its second Value for Money indicator(procurement stage) which considers six (06) parameters namely appropriateness of method of procurement, compliance of procurement process with PPA 2011 and its amendments, evaluation process and award of contract ,competitiveness of rates quoted for major items of construction, overall competitiveness of most economic tender compared with the market price, capacity and competence of selected contractor in relation to project size and complexity.

Table 4.25 Ensuring transparency especially during procurement

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strongly agree	4	6.6	6.6
Disagree	2	3.3	9.9
Somewhat agree	4	6.6	16.5
Agree	19	31.6	49
Strongly agree	31	51.9	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.37 Ensuring compliance to Value for Money criteria

Results from Table 4.26 indicates that 76.7 % of the respondents agreed that putting in place mechanisms that helps to comply Value for Money criteria improve Value for Money applicability in road projects, however 18.3% were not sure on this factor and 5% opposed the factor to improve Value for Money. These findings were also supported by the establishment of Value for Money Instrument by Road Fund Board (revised 2015), the instrument aimed to put general guidelines to all those who implement road projects to have the same understanding especially when assessment of Value for Money conducted.

Table 4.26 Ensuring compliance to Value for Money criteria

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strong disagree	1	1.7	1.7
Disagree	2	3.3	5.0
Somewhat agree	11	18.3	23.3
Agree	18	30.0	50.0
Strongly agree	28	46.7	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.38 Client excellently communicates his requirements, needs/objectives to the design team

Results from Table 4.27 indicates that 80.1 % of the respondents agreed that client must properly communicate his requirements or objectives to the design team

improve Value for Money in road projects, however 11.6% were not sure on this factor and 8.3% opposed the factor to improve Value for Money. These findings were also supported by the establishment of Value for Money Instrument by Road Fund Board (revised 2015), at its first Value for Money indicator (Planning, Design and Tender Documentation) which considers seven (07) parameters namely compliance of project planning with requirement to desired need (90%), accuracy and competence of design calculations and technical drawings, accuracy, appropriateness and completeness of technical specification, overall appropriateness of the design, accuracy and completeness of the design of bills of quantities, accuracy of the engineer's estimates and accuracy and completeness of the design of tender documents.

Table 4.27 Client excellently communicates his needs/objectives to the design team

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strongly disagree	2	3.3	3.3
Disagree	3	5	8.3
Somewhat agree	7	11.6	19.9
Agree	22	36.7	56.6
Strongly agree	26	43.4	100.0
	60	100.0	

Source: Research data (2017)

4.2.39 Establishing clear objectives through a participatory process

Results from Table 4.28 indicates that 78.5 % of the respondents agreed that establishing clear objectives through a participatory process improve Value for Money in road projects, however 16.7% were not sure on this factor and 4.8% opposed the factor to improve Value for Money. Clear objectives known to all involved in road projects implementation help them to comply with Value for Money criteria. At the end of the project Value for Money will be achieved.

Table 4.28 Establishing clear objectives through a participatory process

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strong disagree	1	1.6	1.6
Disagree	2	3.2	4.8
Somewhat agree	10	16.7	21.5
Agree	23	38.3	59.8
Strongly agree	24	40.2	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.40 Communication and feedback to project stakeholders to improve the practice

Results from Table 4.29 indicates that 81.7 % of the respondents agreed that communication and feedback to project stakeholders improve Value for Money practice improves Value for Money practice in road construction, 16.7% agreed to some extent that it improves Value for Money and 4.8% opposed the factor to improve Value for Money. The necessity of communication and feedback was also insisted by VfM expert Eng. Paul Basondole (2017) who had this to say, '*There is communication and feedback but not formal, there is a need to formalise it for the improvement of Value for Money practice'*. The Deputy CAG (Eng. George Haule (2017) who had this to say, '*All Value for Money Audit reports after presentation to the Tanzanian Parliament by* CAG, the reports are public therefore to be easier accessed', also supported the statement on feedback. Value for Money audit reports will only add value to projects when the recommendations for the previous projects are used to improve next projects. The importance of feedback in Value for Money practice was supported by interview and questionnaires during the study. Interviewees were asked if the VfM Instrument has feedback when it is, it was discovered that there was informal feedback through media and when quarries arise.

Table 4.29 Communication and feedback to project stakeholders to improve the practice

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strongly disagree	1	1.7	1.7
Disagree	6	10	11.7
Somewhat agree	4	6.6	18.3
Agree	28	46.7	65
Strongly agree	21	35	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.41 Developing awareness of Value for Money related to all stakeholders

Results from Table 4.30 indicates that 83.4 % of the respondents agreed that awareness of Value for Money related to all stakeholders improve Value for Money practice improves Value for Money practice in road construction, 6.6% agreed to some extent that it improves Value for Money but 11.7% did not agree that this factor to improve Value for Money. The necessity of communication and feedback was also insisted by VfM expert Eng. Paul Basondole (2017) who had this to say, '*There is communication and feedback but not formal, there is a need to formalise it for the improvement of Value for Money practice'*. Value for Money audit reports will only add value to projects when the recommendations for the previous projects are used to improve next projects.

Table 4.30 Developing awareness of Value for Money related to all stakeholders

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strongly Disagree	2	3.3	3.3
Disagree	3	5.0	8.3
Somewhat agree	5	8.3	16.6
Agree	32	53.3	69.9
Strongly agree	18	30.1	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.42 Identify key Value for Money questions on the project and benchmark for comparison

Results from Table 4.31 indicates that 70 % of the respondents agreed that identification of key Value for Money questions on the project and benchmark for the comparison when assessing Value for Money improve Value for Money practice in road construction, 8.3% agreed to some extent that it improves Value for Money but 8.3% did not agree that this factor to improve Value for Money. Established benchmark and shared by stakeholders avoids the differences especially when assessing Value for Money and determine whether Value for Money was achieved or not.

Table 4.31 Identify key Value for Money questions on the project and benchmark for comparison

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strong disagree	1	1.7	1.7
Disagree	5	8.3	10.0
Somewhat agree	12	20.0	30.0
Agree	25	41.7	71.7
Strongly agree	17	28.3	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.43 Identify the immediate, intermediate and long term outputs and (where possible) outcomes

Results from Table 4.32 indicates that 70 % of the respondents agreed that identification of Value for Money outputs or outcomes gradually when implementing road projects are important to improve Value for Money but 31.6% of sixty people were not ready either agree or disagree this aspect and 8.4% did not agree that this factor to improve Value for Money. Without the same understanding of what

expected from the project, it's likely to conclude differently at the end whether the planned objectives have been achieved.

Table 4.32 Identify the outputs and (where possible) outcomes

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strongly disagree	1	1.7	1.7
Disagree	4	6.7	8.4
Somewhat agree	19	31.6	40
Agree	23	38.3	78.3
Strongly agree	13	21.7	100.0
Total	60	100.0	

Source: Research data (2017)

4.2.44 Establishing clear and good Value for Money risk transfer throughout project cycle

Results from Table 4.33 indicates that 66.7 % of the respondents agreed that necessity of establishing Value for Money risk transfer in improving Value for Money when implementing road projects but 15% of sixty persons were not ready either agree or disagree this aspect and 18.3% did not agree that this factor to improve Value for Money. Construction projects associate with various risks like tight project schedule, design variations, variations by client, unsuitable design, inflations, change of government policy, inaccurate cost estimates, low management competency and always resources are scarce. Therefore, it's the role of those who implement projects to identify risks and find possible mitigation as the way of improving Value for Money in road construction.

Table 4.33 Establishing clear and good Value for Money risk transfer throughout Project Cycle

Level of existence	Frequency	Valid Percent	Cumulative Percent
Strongly disagree	5	8.3	8.3
Disagree	6	10.0	18.3
Somewhat agree	9	15.0	33.3
Agree	28	46.7	80
Strongly agree	12	20	100.0
Total	60	100.0	

Source: Research data (2017)

4.3. Discussions of the findings

4.3.1 Value for Money Instrument

Based on 4.2 on page 50 show that the Value for Money Instrument prioritizes assessment of quality of completed works which has more weight with 40% which is contrary to the principles of enhancing Value for Money which is supposed to be done in earlier stages that is during the project identification and planning, at this stage it is the point where goals are set to target Value for Money for the specific project, therefore the instrument could has located more weight to earlier stages than.

The VfM Instrument has its strengths like vital in VfM determination, reflects best practices as a recognized way to achieve VfM in case of compliances, it emphasis on doing right procedures but whether they are right, is still questionable, it focus is on vital outcomes, generally, the instrument promotes professional ethics and basic principles and intends to standardize VfM audit findings and reporting for the projects financed and monitored by Road Fund Board. Nevertheless, the instrument has its weaknesses. Firstly, it assumes all roads construction projects are new while in actual fact most of the works in road construction financed by RFB are maintenance activities. Secondly, it also assumes there is a separation of designers

and those who implement the projects but in reality the same staffs who design construction projects also implement them in what is known as in-house approach. The in-house approach has a well-known weakness of lack of checks and balances, which compromises quality and thus Value for Money. Thirdly, the instrument does not attach much emphasis on testing of samples during auditing and cannot directly reveal the 3Es (economy, efficiency and effectiveness) and lastly, the instrument is more procedural (bureaucratic) which causes delays in Value for Money implementation due to necessity of procedures even for the different situation.

4.3.2 VfM Instrument through the Project Cycle

Referring to Table 4.1 on page 47 the relationship between Value for Money Instrument and the project cycle does not show the looping essence that could allow the feedback to the stakeholders like designers, contractors, and user for the improvement either from lower stage to the higher stage during implementation of the project or to the following project(s). For instance, the VfM audit finding during the assessment could have been shared with those involved in the project implementation, from the inception to operation stage, this enhances the organization mechanism for the value aspect. Projects parties namely client, consultant and contractors while implementing the project the VfM Instrument should be useful to make sure either the next stage or project benefits from the previous one. The importance of project cycle was also quoted ‘Result should be an understanding not only of the importance of each phase individually but also of the way they interrelate to form an integrated whole project (Bennett, 2003).

4.3.3 The stage of the project to conduct VfM assessment

The results on Table 4.3 on page 51 shows that respondents supported the necessity of conducting Value for Money audit at every stage of the projects, the success of predecessor stage of contribute to the achievement of the successor stage of the project. The sequential arrangement of project implementing project stages are namely plan, design and tender documentation, procurement, construction, project completion and closure and quality of executed works. Therefore the findings identified at each stage allows rectification prior to the next stage, for instance the proper handling of findings at the first stage (plan, design and tender documentation) ensure a good start of the second stage (Procurement).

4.3.4 VfM evaluated project reports using VfM Instrument executed by TANROADS

Based on the results in Table 4.4 on page 52 showing the performance trend of each Value for Money indicator for three consecutive three financials years it implies that the Value for Money was not realized since the performance started declining from the third stage (construction) this would cause not meeting the quality and standards those were agreed during the earlier stages (planning and procurement). The quality of project implementation mainly depends on the quality of contractor and sufficiency of contract management. This also tells us that the project implementers relax after the contract has been started. It is necessary to make sure Value for Money parameters in the completion and closure and Quality of executed Works of the projects are well managed as per agreed during the planning and design of the project. Therefore the Value for Money Instrument should be the means of revising

the previous stage before proceeding with the next. For instance the quality of work at the construction in terms of materials and workmanship affect the output of the project.

4.3.4.1 Plan, design and tender documentation criteria

Planning, design and tender documentation as indicated in Table 4.5 on page 53, includes traffic counts, developing plans, specifications and standards as per liaison Ministry for roads requirements, feasibility studies, project evaluations and cost estimates for looking fund, while in design activities like survey, geometric design, preparation of design standards, therefore the weakness at this stage has effect to the whole project. For three consecutive financial years the indicator has overall performance declining due noncompliance to plan, design and tender documentation. Therefore, there is a need to strengthen planning and design capacity to TANROADS staff for the benefit of future project to be implemented.

4.3.4.2 Procurement stage criteria

Based on Table 4.6 on page 55, the aim of this stage was to fulfill PPA 2011 and its regulations of 2013; principally this stage means buying, purchasing goods, works or services. Procurement being the second Value for Money indicator also has dependence to the previous stage and the next one, poor planning, design documentation affect the output of the procurement stage so as to obtain the required service, goods, or works and improper procurement ends up with incompetent contractor then affect the effectiveness of the next stage. The trend here shows that the agency maintained excellent performance for procurement criteria therefore complied with the PPA of 2011 and its regulations of 2013.

4.3.4.3 Construction stage criteria

Construction holds the process of project inputs in the most cost-efficient manner ensuring the output or product of the required standard and quality as shown in Table 4.7 on page 58, the work normally managed by project manager and supervised by construction manager. The success of this stage depends on the accuracy of the previous stages as they are sequential arranged in Value for Money Instrument provided by Road Fund Board to be used during the Value for Money assessment. This third Value for Money indictor according to the evaluation of Value for Money audited reports was not doing well due to improper claims handling which has cost implication by increasing the total project cost, also issues associated with environment as cross cutting parameter also contributed decline the performance of construction stages. Work program and its compliance also was the weakness in these reports and this has the effect of delays of the project compared to planned completion time.

4.3.4.4 Project completion and closure criteria

The results of Table 4.8 on page 61 showing the results of fourth Value for Money indicator which checks the whether the outcomes of the project have been achieved in qualitative, quantitative and contractual terms. Parameters of this indicator include quality and completeness of as built drawings, compilation and management of snag list, certificates and settlement of final account, liability period, final quantity paid and the project completed with planned time. The trend shows the score moderate performance because people tend to relax at the stage by assuming that the project

has been completed. The information obtained here are useful for project records for the future projects.

4.3.4.5 Quality of executed works criteria

Based on Table 4.9 on page 64, quality of completed work indicator aims to assess quality, quantity and workmanship of the executed work on site and their compliance with technical specification. It was the indicator that is more weighted of 40% while the other has been located with 10% and 20%. The higher weighting of this part is one of the weaknesses as the Value for Money Instrument, instrument emphasis auditing when the project is completed. The disadvantage of this approach is that auditing findings of the certain project can assist nothing project itself, can only help future project(s) if at all there are mechanisms of sharing findings of previous projects.

4.3.5 Comparison to other VfM tool (CAG & PPRA)

The VfM Instrument used by Road Fund Board resemble in content with that used by Public Procurement Regulatory Agency (PPRA) while the Controller General Auditor (CAG) differs much from Public Procurement Regulatory Agency and Road Fund Board and because it comprises the financial auditing which assess whether the accounts are fair and true according to the financial regulations regarding the payments of executed works. Both tools used by RFB and PPRA purely uses technical audit which is specific for construction project. Thus to eliminate these differences of existing VfM tools in their same country there are a need of having framework to confined all the needs to a one tool for assessing Value for Money in road projects and come up with common tool to both auditors and auditees.

4.3.6 Barriers facing VfM in road construction

Results in Table 4.10 on page 67 shows the summarizes facing the Value for Money assessment using the Value for Money instrument, mainly associates with the personnel affairs that is management and knowledge, well equipped staff in terms of contractual management and awareness of Value for Money really affect the achievement of Value for Money in road construction. Therefore key members in the construction team without enough knowledge and experiences will end up with failure to meet project objectives.

4.3.7 Factors improving VfM in road construction

Results in Table 4.22 on page 76, shows the summarizes features that improves Value for Money assessment using the Value for Money Instrument based on the importance weight of the contribution of each factor, generally benchmarks of what should be achieved in terms of resources are the basics to improve Value for Money un road construction. Value for Money is the process therefore it is supposed to well-planned and sufficiency target have to be well understood to road implementations before and during execution of the road projects.

4.4 Summary of Chapter four

Chapter four has shown the responses/opinions obtained from case study, interview and questionnaires. Data was analysed and presented to establish findings of the research by Statistical Package for the Social Sciences (SPSS). Content analysis, Relative Importance Index (RII) tools of analysis were useful during the data analysis and discussion. Data from Road Fund Board was analysed by content

analysis, while questionnaires collected views from construction practitioners and interviews from Value for Money Experts supplemented the information to establish the findings of the research.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The first objective of the research intended assess the adequacy of existing of Value for Money Instrument used by Road Fund Board in assessing Value for Money in road construction in Tanzania, The Tanzania National Roads Agency (TANROADS) being the case study. The second objective was to identify barriers that are facing Value for Money practice in road construction in Tanzania and the third was to recommend how Value for Money practice in road construction could be improved in the country. From the literature reviewed on Value for Money in construction industry, it was clear that Value for Money is important towards achievement of the objectives planned for the road construction projects. The major aim should be achieving the best value from a road projects for stakeholders and community at large.

It has been learnt also from literature review that Value for Money does not have a standardized definition. However, irrespective of the definition used, the core of Value for Money auditing is the framework of a combination of economy, efficiency and effectiveness (the 3Es).

Roads are an asset to the nation. Considering the sums of money involved in the construction and maintenance of roads, the critical role the road infrastructure plays in poverty reduction, and the unique level of penetration the road infrastructure has to rural accessibility, it is essential that Roads Fund Agency maximize and measure VfM in the road infrastructure provision and sustainability. The main rationale for

directing such high volumes of funding to roads is that a well-functioning road infrastructure provides the foundation for the development of other sectors and overall economic growth. Economies are literally and figuratively built on transport infrastructure.

There is fragmented Value for Money audits by various organs like Controller and Auditor General, National Construction Council, Public Procurement Regulatory Authorities, Private Auditors commissioned by Road Fund Board and Parental Ministries on the same auditees. This causes repetition of VfM auditing and thus wasting of public funds, which may result in neither of the organs being able to conduct VfM for lack of funds.

In Tanzania the assessment of Value for Money through performance audit was initiated in 2008 (The Public Audit Act No. 11 of 2008, Section 28) for assessing performance construction projects road being inclusive where The Controller and Auditor-General (CAG) conducts audit for the purposes of establishing the economy, efficiency and effectiveness of any expenditure or use of resources of the entities, enquire into, examine, investigate and report, in so far as he considers necessary.

In 2011 RFB prepared Monitoring and Evaluation Manual consisting Value for Money Instrument (VfM Instrument), Value for Money Instrument guide and terms of reference (TOR) for conducting Value for Money audits. It was leant that the existing Value for Money Instrument relies on procedures especially when the construction are in pace which results in delay due to necessity of procedural compliances.

It was revealed that Value for Money sound when project planning and designing done accurate or properly, contractor procured in transparency way that is a procured

contractor is a competent contractor and construction is done as per specifications and standards. Also looks at overall qualitative and quantitative achievement of the expected outputs of the project.

In pursuit of the second objective, which was aimed at appraising the understanding from road construction practitioners on Value for Money and identifying the barriers to Value for Money practice, and looks the way of tackling those barriers and in the third objective was to find out the solutions to counterpart the barriers facing Value for Money practice in construction industry narrowed to road sector.

Case study technique used to evaluate the Value for Money practice in Tanzania, questionnaires were administered, and their responses were analysed using SPSS. Interview was also conducted to Value for Money practitioners for information supplement to restrain the study.

Notwithstanding the limitations, the study serves the role of an important trial in assessing the adequacy of the Value for Money assessment tool for in construction especially in roads to achieve the project objectives. The major contribute of this research was identification of weaknesses of the existing VfM Instrument and suggests rectifications to improve it for better Value for Money assessment. Generally, the study revealed that the existing Value for Money Instrument used Road Fund Board is adequate if and only if modified by adding parameter of assessing feedback from project stakeholders, rectifying mode of assigning scores in assessment and necessities Value for Money auditing to each project stage.

The findings from this research hold also important practical implication for the Road Fund Board and parent Ministry of Works, Transport and Communication, and

all Roads implementing agencies uses adequate instrument/tool used for assess Value for Money in road construction.

5.2 Recommendations

Based on the findings and conclusions, the following recommendations are put forward:

(i) Road Fund Board should review Value for Money Instrument from time to time for improvement on its effectiveness especially Value for Money audit findings should be shared to all road stakeholders when implementing projects for the benefit of either next stage or project.

(ii) The review of Value for Money Instrument should include the necessity of involving and feedback project stakeholders when Value for Money assessment has been done for the improvement of the next stage or project.

(iii) There is the need for more Value for Money training workshops and seminars in order to enlighten the stakeholders of the Value for Money on the principles, concept and techniques involved in the Value for Money practice.

(iv) There is a need of having coordination for Value for Money so that they reduce tension to auditees because auditing consume institution's time while sometimes they audit the same thing to the same project.

(v) There is a need to have in place VfM audit legal framework to avoid auditing interferences to the same entities hence saving public fund.

(vi) At every stage of the project Value for Money auditing should be conducted as it has an effect to next stage or to the next project for the completed project(s) for instance if design is poor the whole project will be affected, and if incapable contractor was procured the construction likely to be poor too.

(vii) Value for Money Auditing should be done with relevant professionals depending on the nature of the project(s) for instance Engineers, Quantities, Economists, Valuers, Sociologist, Environmentalists and Accountants are involved during the Auditing for sake of economy, efficiency and effectiveness achievement in construction projects depends on the nature of the project.

(viii) The issue of starting it earlier so as to assist in deciding on "what should be done to solve the problem in hand." This will assist in "doing the right thing", which even if all the following audits are found to be ok, deciding doing the wrong thing will not enhance any Value for Money.

5.3 Area of further research

This research was conducted to assess the adequacy of Value for Money Instrument used by Road Fund Board. The research would suggest that, for further research one would study on the framework of Value for Money assessment in Tanzania and propose the common tool/instrument for VfM assessment in construction sector.

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APPENDIX 1: VALUE FOR MONEY INSTRUMENT

VALUE FOR MONEY INSTRUMENT (VfM Instrument) FORM							
	Agency:			Original Contract Price:			
	Project:			Project Length/ Size			
	Contract Number:			Contract Period:			
	Supervising Engineer:			Start Date:			
	Contractor:			Actual Completion Date:			
	Audit Date:			Final Contract Price:			
No	**INDICATORS/ PARAMETERS/ SUB-PARAMETERS**			**Evaluation scale: 1=Poor, 2=Fair. 3= Good, INA =Information not available**			
				EVALUATION SCORE			
				Poor	Fair	Good	INA	Comments
				1	2	3	4	
A	**Planning, Design and Tender Documentation**							
	1		Compliance of project planning with requirements of the Performance Agreement, particularly with respect to:					
			(1) Assessment of competing alternatives based on updated road inventory and condition survey					
			(2) Analysis of feasibility based on appropriate road maintenance software (such as HDM 4, DROMAS, or RMMS)					
			(3) Timely appointment of independent design professional or Consultant					
	2		Accuracy and completeness of design calculations and technical drawings					
	3		Accuracy, appropriateness and completeness of technical specifications					
	4		Overall appropriateness of the design in terms of economy and function (fitness for purpose)					
	5		Accuracy and completeness of BOQs for the works and their consistency with the drawings and technical specifications					
	6		Accuracy of the Engineer's estimates					
	7		Accuracy and completeness of tender documents					
			Aggregate Performance: Planning, Design and Tender Documentation					
B	**Procurement Stage**							
	1		Appropriateness of the method of procurement [Reg. 149 of GN. No. 446]					

	2	Compliance of the procurement process with PPA 2011 and its Regulations [GN. No. 446 of 2013], particularly with respect to:					
		(1) Use of standard tender and contract documents [Reg. 184(3) and 287(4) of GN. No. 446]					
		(2) The tender notice [section 68 (2)]					
		(3) The selection method [section 64]					
		(4) Prequalification and shortlisting [section 52]					
		(5) Time for submitting tenders					
		(6) Communication of clarification to bidders					
	3	Evaluation process and award of contract					
		(1) Composition of tender evaluation committee [section 40; Reg. 202(1) and 297(1) of GN. No. 446]					
		(2) Members of evaluation team signing code of ethics [section 40(6) of PPA 2011]					
		(3) Evaluation done as per the evaluation criteria contained in the tender dossier or Request for Proposal					
		(4) Minutes of tender board meeting specifying reasons for rejecting a lower tender [Reg. 237(3) of GN. No. 446]					
		(5) Notification of intention to award the contract [Regulation 231(2) and 231 (3) of GN. No. 446]					
		(6) Publication of awards [Regulations 20 and 234 of G.N. No. 446]					
		(7) Quality and comprehensiveness of the tender evaluation report					
	4	Competitiveness of rates quoted for major items of construction when compared with prevailing market prices					
	5	Overall competitiveness of the most economic tender compared with prevailing market prices in both private and public sectors					
	6	Capacity and competence of the selected contractor in relation to project size and complexity					
		Aggregate Performance: Procurement Stage					
C	**Construction Stage**						
	1	Timeliness of site possession					
	2	Quality of project programme (schedule of work)					
	3	Adherence to project programme					
	4	Quality of contractor's site organization and staff					
	5	Quality of supervising engineer's site staff					
	6	Quality of quality assurance programme					

	7	Adherence to quality assurance programme					
	8	Quality of Environmental Management Plan (EMP)					
	9	Management of contractual documents, including surety and insurances bonds					
	10	Quality and management of project documentation with respect to:					
		(1) general correspondence					
		(2) site instructions					
		(3) minutes of site meetings					
		(4) progress reports					
		(5) works measurement and inspection records					
		(6) material testing records					
		(7) interim and final payment certificates					
		(8) variation orders					
		(9) claims					
	11	Assessment (including validity) of variations					
	12	Assessment (including validity) of claims and related cost overruns					
	13	Assessment (including validity) of project delays and extensions of time					
		Aggregate Performance: Construction Supervision and Contract Administration					
D	**Project Completion and Closure Stage**						
	1	Quality and completeness of as-built-drawings					
	2	Compilation and Management of snag list					
	3	Timely issuance of Substantial Completion Certificate, Final Certificate and settlement of Final Account					
	4	Management of the defects liability period					
	5	Quality and adequacy of the final project report					
	6	Compliance of final quantities paid for with those reflected by the actual investment as per as-built-drawings					
	7	Compliance of project cost as per final account with accepted tender price					
	8	Compliance of actual project completion time with the contract period					
		Aggregate Performance: Project Completion and Closure Stage					
E	**Executed Works**						
	1	Based on visual assessment, determine whether the completed works are satisfactory in terms of:					
		(1) Overall quality of workmanship					

		(2) Overall quality of materials used					
		(3) Overall quality of riding surface					
		(4) Absence of defects, such as cracks, ruts and localized potholes					
		(5) Camber and/or super-elevation					
		(6) Routine maintenance: Grass kept at minimum height: Height less than 50 cm at all time					
		(7) Routine maintenance: Presence of potholes on paved network: Potholes patched within 48 hours					
		(8) Routine maintenance: Drainage: Culverts and ditches clear and open					
		(9) Routine maintenance: No debris and solid waste dumped on road shoulder and drainage system					
		(10) Routine maintenance: Quality of graded /reshaped unpaved road					
		(11) Routine maintenance: Quality of pothole patching/ pothole filling for paved/ unpaved road					
		(12) Routine maintenance: Quality of crack sealing for paved road					
		(13) Bridges Preventive Mt'ce./ Major repairs: Quality of Bridge Mtce. Works / Major repairs					
	2	Based on physical site measurements, determine whether dimensions of the following major items of construction of the completed works comply with the drawings and technical specifications:					
		(1) Pavement structure					
		(2) Road carriageway					
		(3) Foot paths					
		(4) Road side drains					
		(5) Mitre drains					
		(6) Road signs					
	3	Based on site measurements, determine whether dimensions of culverts and bridges comply with the technical drawings and specifications					
	4	Based on sample field tests determine whether the quality of materials used in the pavement structure comply with the technical specifications					
	5	Based on sample field tests determine whether the quality of materials used in concrete and masonry works comply with the technical specification					
	6	Assess compliance of site clean-up and restoration of disturbed and/or damaged areas with EM					
	7	For uncompleted projects, assess compliance of on-going construction activities with safety and EMP requirements					
	8	Performance Based Contracts: Compliance of Maintenance Services with the required Service Level as per PBC Specifications					

	9	Performance Based Contracts: Compliance with other Service Quality Levels as per PBC Specifications					
		Aggregate Performance: Executed Works					
F	**Integrity of Project Implementation**		**%ge**	**Condition**			**Threshold Value**
	1	Is there any evidence of Inflated quantities in the Bills of Quantities? If so, by what percentage value of the project?		Not VFM if >=			10%
	2	Is there any evidence of unjustified Over design? If so, by what percentage value of the project?		Not VFM if >=			25%
	3	Is there any evidence of Overpriced Bid? If so, by what percentage value of the project?		Not VFM if >=			30%
	4	Are there any Variations with no justification? If so, by what percentage value of the project?		Not VFM if >=			20%
	5	Is there substantial unjustified Time overrun? If so, by what percentage value of the approved contract period?		Not VFM if >=			40%
		Overall Project Performance:					

APPENDIX 2: RESEARCH QUESTIONNAIRE

ARDHI UNIVERSITY

School of Architecture, Construction Economics & Management

Msc. Construction Economics & Management

QUESTIONNAIRE

Dear Respondent,

I am undertaking a research as part of my M.Sc. Program in the School of Architecture, Construction Economics & Management at Ardhi University in Dar Es Salaam. The title of the study is **Assessment of the adequacy of Value for Money Instrument used by Road Fund Board in Tanzania.** The study, if successfully completed, will explore the best assessment criteria of Value for Money approach for the road construction projects in Tanzania. It will also recommend improvement in the system so as to improve Value for Money in road construction in Tanzania.

I would be grateful if you spare your time to answer the questions. The information provided will be treated confidentially and used for data analysis only.

I would be glad to share the summary of my findings with you, if you provide your contact details.
Thank you very much for your time.

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SECTION A: GENERAL INFORMATION

For each of the following questions, you are requested to write the required information in the space indicate, using a single tick (√) or more where applicable, the options that best represent your opinion

1	Personal Information(**Optional**)					
	Name:		Email:	Contact Address:	Others:	
2	How many years have you been involved in the construction sector especially in roads?					
Less than 5 years	6-10 years	11-15 years	16-20 years	21-25 years	26 and above	
3	What is your position in your organization					
Planning Level	Execution of projects level		Operation level			
4	How familiar are you with the term Value for Money in road construction?					
Very knowledgeable	Knowledgeable	Fairly knowledgeable	Less knowledgeable	Not Knowledgeable		
5	What do you know Value for Money as?					
A concept	A technique	Approach	A profession	All of the above		
6	Has your organization ever participated in a project executed using Value for Money approach?					
Yes		No				
7	At what stage of the project, in your organization Value for Money is assessed?					
Planning, Design & Tender Doc.	Procurement	Construction	Project Completion and closure stage	Operation (Maintenance)	At all stages	
8	Does VFM Audit/performance audit improve Value for Money practice in road construction in terms of cost, time and quality?					
Strong Disagree		Disagree	Agree		Strong agree	
9	Does your organization give feedback and Communication on VfM audit findings to stakeholders (Financier, Contractor, Consultant and User)?					
Yes		No				

SECTION B: FACTORS FOR ENHANCING VALUE FOR MONEY PRACTICES

The following are some factors for enhancing Value for Money practice. Using a scale 1 to 5, where 1 represents "never exist", 2 represents "rarely exist", 3 represents "sometimes exist", 4 represents "most of the times exist" and 5 represents "always exist", indicate your assessment of the level of existence of each of the drivers/facilitators within Tanzania. Please indicate in the space, using a single tick (√)

S/N	FACTORS	LEVEL OF EXISTENCE				
		1	2	3	4	5
1	Client's interest in the use of the Value for Money approach					
2	Availability of well-trained individuals to act as facilitators in Value for Money practice					
3	Availability of appropriate policy act and regulations enforcing Value for Money approach					
4	Public awareness on the benefits of the approach					
5	Commitment and cooperation of professional bodies to the implementation of the approach					
6	Other stakeholders support in the use of the Value for Money approach					
7	Improving measurement systems for Value for Money					
8	Improving the availability of standardized unit cost data					
9	Ensuring transparency within the procurement process					
10	Establish a better risk transfer and optimum allocation of risks between the various parties in project					
11	Exercise Value for Money practice throughout project cycle					
12	Identifying and assessing options to minimize input costs					
13	Put in place VfM M&E Framework for the duration of project implementation					
14	Realize of minimizing the cost of resources used while having regards to quality					
15	Establish best assessment criteria of Value for Money approach prior to road projects implementation					

SECTION C: BARRIERS FACING VALUE FOR MONEY PRACTICE IN ROAD CONSTRUCTION

The following are some barriers facing Value for Money practice in road construction in Tanzania. Using a scale 1 to 5, where 1 represents "never exist", 2 represents "rarely exist", 3 represents "sometimes exist", 4 represents "most of the times exist" and 5 represents "always exist", indicate your assessment of the level of existence of each of the barriers. Please indicate in the space, using a single tick (√)

S/N	BARRIERS	LEVEL OF EXISTENCE				
		1	2	3	4	5
1	Lack of awareness or knowledge of Value for Money to road implementation stakeholders					
2	Organizational resistance to change					
3	Lack of Value for Money qualified practitioners					
4	Lack of time due to rushed project activities					
5	Wrong beliefs that Value for Money practice impede or delays projects					
6	Inadequate training and management support about Value for Money					
7	Lack of commitment to implement Value for Money practice throughout project cycle					
8	Lack of encouragement on the part of the government/Agency					
9	Wrong notion that Value for Money that is a political issue					
10	Difficulties in establishing Value for Money parameters by all participating organization					
11	Difficulties in the involvement of all key stakeholders in project processes					
12	Inappropriate Value for Money assessment tool					
13	Lack of expertise to thoroughly conduct Value for Money audits					
14	Budgetary constraints in funding the practice					
15	Outputs and outcomes are hard to identify and measure especially in the short term					

SECTION D: FEATURES OF VALUE FOR MONEY THAT CAN IMPROVE ITS APPLICABILITY

The following are some features that can improve Value for Money in your organization. Using a scale 1 to 5, where 1 represents "strongly disagree", 2 represents "disagree", 3 represents "somewhat agree", 4 represents "agree" and 5 represents "strongly agree", indicate the extent to which you agree with the following as features of Value for Money in road construction. Please indicate in the space, using a single tick (√)

S/N	**FEATURES**	**LEVEL OF AGREEMENT**				
		1	2	3	4	5
1	Establishing clear objectives through a participatory process					
2	Creating good project planning					
3	Ensuring transparency especially during procurement					
4	Ensuring Compliance to Value for Money criteria					
5	Establishing clear and good Value for Money risk transfer throughout project cycle					
6	Developing an awareness of Value for Money related to all stakeholders					
7	Client excellently communicates his requirements, needs/objectives to the design team					
8	Involve Value for Money practitioners during project implementation					
9	Identify key Value for Money questions on the project and benchmark for comparison					
10	Identify the immediate, intermediate and long term outputs and (where possible) outcomes					
11	Communication and feedback to project stakeholders to improve the practice					

APPENDIX 3: INTERVIEW QUESTIONS

ARDHI UNIVERSITY

School of Architecture, Construction Economics & Management

Msc. Construction Economics & Management

Title: Assessment of the adequacy of Value for Money Instrument used by Road Fund Board in Tanzania

Interview guide

A. General information

1	Personal Information(**Optional**)			
	Name:	Email:	Contact Address:	Others:
2	How many years have you been involved in the roads construction sector?			
< 5 years	6-10 years	11-15 years	16-20 years	21-25 years	26 and above
3	What is your position in your organization			
Management level		Operation level/auditing		Others specify …… ……
4	How familiar are you with the term Value for Money in roads construction?			
Very knowledgeable	Knowledgeable	Fairly knowledgeable	Less knowledgeable	Not Knowledgeable
5	What is your background as regards to Value for Money Assessment?			

B. Questions related to Value for Money in Roads construction

S/N	Questions	Response
1	How generally VFM is going to be assessed, detected or measured?	
2	How do you differentiate Technical Audit from Value for Money Audit?	
3	Was VfM auditdone on sample approach or to every project?	
4	How do you comment on VfM Instrument used by RFB to assess Value for Money , Does it really assess VfM?	
5	What kind of profession is involved when VfM audit of road project is conducted (VfM auditteam) Is the team sufficient? If not, who is to be added or removed?	
6	At what stage of the project cycle the VFM is assessed	
7	Does VfM auditadd value to road projects? How?	
8	Is there any Feedback to stakeholders (Designers, Contractors, Consultants and end user) after VFM Audit?	
9	Is there any interferences of audit organs (CAG,NCC,PPRA and Private VfM auditFirms) regarding to National Audit Legal Framework in Tanzania	
10	What are the main challenges facing VfM assessment in Tanzania?	

11	What action is taken if the VFM is not achieved during Auditing? Does it assist in elevating VFM?	
12	Comment on the future of Value for Money in Tanzania	

Any other comments:

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