ASSESSMENT OF QUALITY OF GOVERNMENT FUNDED CONSTRUCTION WORKS IN LOCAL GOVERNMENTS IN UGANDA.

(A CASE STUDY OF BUVUMA DISTRICT LOCAL GOVERNMENT)

BY

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20/U/GMET/13141/PE

A DISSERTATION SUBMITTED TO THE DIRECTORATE OF RESEARCH AND GRADUATE TRAINING IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE IN CONSTRUCTION TECHNOLOGY AND MANAGEMENT OF KYAMBOGO UNIVERSITY

DECEMBER, 2024

DECLARATION

I, Mayega Jasper hereby declare that this dissertation report titled ***"ASSESSMENT OF QUALITY OF GOVERNMENT FUNDED CONSTRUCTION WORKS IN LOCAL GOVERNMENTS IN UGANDA. A CASE STUDY OF BUVUMA DISTRICT LOCAL GOVERNMENT"*** is my original work and has never been presented for a degree in any other university.

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APPROVAL

The undersigned certifies that this dissertation, ***"ASSESSMENT OF QUALITY OF GOVERNMENT FUNDED CONSTRUCTION WORKS IN LOCAL GOVERNMENTS IN UGANDA. A CASE STUDY OF BUVUMA DISTRICT LOCAL GOVERNMENT"*** was completed under our guidance and is now prepared for submission to Kyambogo University.

Assoc. Prof. Muhwezi Lawrence (Supervisor)

Signed…….

Date……

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Signed……

Date……

ACKNOWLEDGEMENTS

My greatest appreciation goes to the Almighty God. Surely, I can say Ebenezer because of Him who lives forever the LORD Jesus Christ, thank you for your grace, mercy, good health, guidance and wisdom to pursue the Master's Degree of Construction Technology and Management. My supervisors, Assoc. Prof. Muhwezi Lawrence and Dr. Muhumuza Kakitahi; words cannot describe my gratitude to you; thank you for your guidance, patience, motivation, enthusiasm, immense knowledge and understanding.

I also do extend my appreciation to my family and my wife for the support they offered me, to my brother George Ganafa and my dear sister Nazziwa Susan for the support, the homely and peaceful environment you have always provided.

Lastly, I thank my dear friends: Denga Yosia, Lusundo Fred and Matovu Duncan for stimulating discussions and all the fun we had together. You all are simply the best that one could have.

May the Almighty God bless you all!

DEDICATION

This dissertation is dedicated to the Almighty God, my wife Mrs. Nagawa Justine and my children, my friend Athiyo Martin, my brother George Ganafa and also to my classmates who have supported me throughout the entire process.

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LIST OF ABBREVIATIONS/ACRONYM

AG	Auditor General
BD	Buvuma District
BDLG	Buvuma District Local Government
BOO	Build Operate Own
CVI	Content Validity Index
DLG	District Local Government
FF	Funding Factors
FY	Financial Year
GFCPs	Government Funded Construction Projects
LGs	Local Governments
Mi	Miles
OECD	Organization for Economic Co-operation and Development
PDU	Procurement and Disposal Unit
R-SQUARE	Root square
QMS	Quality Management system
S.D	Standard Deviation
SAQ's	Self-Administered Questionnaires
SPSS	Statistical Package for Social Sciences
TQM	Total Quality Management
UgIFT	Uganda Intergovernmental Fiscal Transfers Program
UGx	Uganda Shilling
UNBS	Uganda National Bureau of Standards
UNCHS	United Nations Centre for Human Settlements

ABSTRACT

The study sought to assess the causes of the rampant non-compliance to quality standards of construction works in Local Governments (LGs) of Uganda. According to the Auditor General's report of 2021, 80% of works in LGs under Uganda Intergovernmental Fiscal Transfers Program (UgIFT) constructions had defects such as honey combing, delayed completion and observed poor mixes. The study employed a cross-sectional research design that included the use of both quantitative and qualitative data collection approaches. Data were collected using stratified sampling and analyzed using Statistical Package for Social Sciences (SPSS) software version 16. Analysis of the findings based on both regression and Pearson correlation coefficient showed that, generally, the respondents agreed that funding had an impact on quality with an average mean value of 3.73 and a correlation coefficient of 0.520 indicating a strong positive relationship between funding factors and the quality of Government Funded Construction Projects (GFCPs) in Buvuma District Local Government (BDLG). The regression analysis indicated that the adjusted R-Square value of 0.30 was obtained implying that 30% of the variance in the quality of GFCPs is influenced by funding factors. The respondents were generally not sure whether personnel factors affected quality GFCPs with an average mean value of 2.887 and a correlation coefficient of 0.483 indicating a moderate positive relationship between personnel factors and quality of GFCPs in BDLG. However, the regression analysis indicated that the adjusted R-Square value of 0.93 was obtained implying that 93% of the variance in the quality of GFCPs is influenced by personnel factors. Procurement factors affecting quality of GFCPs had an average mean = 2.60 indicating that the respondents were generally not sure whether procurement factors affected quality of GFCPs with a correlation coefficient of 0.462 indicating a moderate relationship between procurement factors and quality of GFCPs. The regression analysis indicated that the adjusted R-Square value of 0.866 was obtained implying that 86.6% of the variance in the quality of GFCPs is influenced by the procurement factors. In conclusion, the impact of funding, personnel factors and procurement factors have a significant impact on quality of GFCPs in LGs. Therefore, the study recommended that BDLG and DLGs should address the issues on Funding, personnel and improving the procurement systems for better quality of GFCPs in LGs.

Key words:

Quality, Construction, Local Governments, Assessment, Works.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The construction industry world over is among the indicators of development. This is highlighted by the various Technologies applied on various undertakings in the industry and the amount of funding invested by the different governments in the world. Countries of Dubai, China, United States of America and United Kingdom among others are considered first world countries due to a highly developed infrastructure as a result of the construction industry.

The construction industry plays a key role in the economic development of a country and also provides employment to various citizens in the country at professional and non-professional levels (Oluka and Basheka, 2014). The building cost index describes development in the prices for factors of production, materials, wages, salaries and other inputs of building trade (Kikwasi and Escalante, 2018) which indicates the impact of construction industry on the economy of our country. The current situation in Uganda's local governments Buvuma district inclusive has attracted my attention to assess the quality of Government funded construction projects in lower Local Governments by using BDLG in Central Uganda as a case study.

Several countries in Africa such as Egypt, Nigeria, south Africa, and Kenya are undertaking various projects on infrastructure and energy development. However, in the east Africa region, Uganda is gradually entering the race for mega construction projects. These includes, roads, airports, hospital, health facilities, express ways, hotels, railways dams to mention.

During the past few years, construction works in Uganda have contributed immensely to increased productivity by facilitating efficient connectivity and easing the movement of goods and the provision of services (Mwelu et al., 2021). However, since the 2018's, the quality of government funded construction works in Local Governments in Uganda has been questionable (Bizimungu et al., 2018). According to Kiwanuka, M. (2022) the Uganda construction industry is still undergoing development and the decentralization system of governance transfers responsibilities of government to different levels of government from central government to lower local governments represented by districts and Sub counties has been a matter of concern especially with many reports of bad quality work, this is also affirmed (Mwelu et al., 2021).

Most of the current proposals on construction works and quality assurance in Buvuma district have had no significant success, which has hindered the quality of construction works in the district. Thus, there has been gross misuse of government funds, delayed completion, and delivery of incomplete and shoddy work in Buvuma district.

1.2 Statement of the problem

The Local Government Act, Cap 243 section 36 and 78 brings into existence the Local Government Development Plan for compliancy to quality for construction works. However, the Consolidated Auditor General Report (AG, 2021) found that 80% of works in LGs in Uganda under UgIFT Infrastructure Projects Buvuma District LG inclusive had defects such as honeycombing in concrete, not completed in time as scheduled, underwater penetrated in the wall (weakened wall), poor mixes and poor construction (Refer to Appendix II).

The Economic Monitoring Committee Report of 2021 indicates several quality problems in local government works projects, for instance, government in 2021 lost Ugx 1.2 Billion in Kikuube DLG due to shoddy works construction of an administration block, Ugx 600 million was lost in rehabilitation of Bumanya-Bulumba-Namukooge Road in Kaliro DLG plus other poor quality in GFCPs that include the collapsed bridges in Bududa district before commissioning, poorly done roads in Kakumiro, health centers in Kamuli that collapsed before use and other defective seed schools construction across the country. Maternity word at Lwajje health III under UGIFT which was meant for financial year 2020-2021 never completed to date.

Culverts installed by Buvuma town council under road fund in 2019 were washed away by stormy water along Kirongo –galamo road due to poor installation. The Auditor General report (AG, 2021), observed that these challenges are a result of gaps and weaknesses in the planning and costing of works, enforcement of internal controls for certification, supervision and monitoring, and general contract management. The need to find answers to these construction quality questions by LGs in Uganda prompted the researcher to carry out empirical research on the quality of government funded construction works in local governments (Refer to Appendix II).

1.3 Objectives of the study

1.3.1 Main objective of the study

The purpose of the study was to assess the quality of Government Funded Construction Projects (GFCPs) in Uganda using BDLG as a case study.

1.3.2 Specific objectives of the study

The specific objects of the study were:

i. To assess the impact of procurement on the quality of Government Funded Construction Projects in BDLG.
ii. To assess the impact of personnel on the quality of government funded construction Projects in BDLG.
iii. To determine the impact of funding on the quality of Government Funded Construction Projects in BDLG.
iv. To develop an appropriate quality management system that will be used in quality management of government funded construction projects in BDLG in Uganda.

1.4 Research questions

i. What impact does procurement have on the quality of Government Funded Construction Projects in BDLG?
ii. What impact do personnel have on the quality of Government Funded Construction Projects in BDLG?
iii. What impacts does funding have on the quality of Government Funded Construction Projects in BDLG?
iv. What appropriate system that can be used in managing the quality of Government Funded Construction Projects in BDLG in Uganda?

1.5 Study justification

Local governments in Uganda are mandated to implement Government programs and government funded construction projects. Buvuma being a newly created district has

several construction projects being undertaken. The Auditor General Report' (AG, 2021) found that 80% of works in LGs under UgIFT Infrastructure Projects had defects such as honeycombing in concrete which were weak points within the structure that could lead to early failure of the structure, projects not completed in time as scheduled which affected service delivery to the public, poor mixes leading weak structures and poor construction of structures leading to low quality infrastructure in the district.

Furthermore, the Ministry of local government in fulfilling the vision 2040 infrastructure progress, it carried out an audit within districts. So, this provided a firm basis from which the researcher would carry out research on the impact of quality assurance on several governments funded construction thus enabling the researcher to attain substantial findings on the impact of quality on GFCPs in Buvuma district. The study provided an adequate preliminary survey on the topic which matched the research topic I had embarked to carry out.

1.6 Significance of the study

The results of this study are significant to BDLG especially in identifying the factors that may positively or otherwise affect quality of GFCPs and in Uganda, hence be in position to adjust those factors to improve on the quality.

The findings of the study are significant in providing useful information to the policy makers particularly the top administrators of BDLG in designing suitable guidelines that will help improve on the quality of GFCPs in LGs.

Accordingly, the findings are to help future academicians in delving deeply on the concepts of construction work quality management, accountability and value for money.

The study findings are aimed at helping policy makers in construction works to develop mechanisms and strategies suitable for improving quality of construction projects, value for money and ensure that proper accountability is attained.

The study findings are meant to help the LG administration to ascertain and implement governing regulations needed to ensure quality works. This would ensure quality and timely project delivery to all stakeholders in the district.

1.7 Scope of the study

1.7.1 Geographical scope

Geographically, Buvuma District is a district in the Central Region of Uganda. The district is comprised of Buvuma Islands in Lake Victoria and does not have territory on mainland of Uganda. Buvuma District is bordered by Jinja District to the north, Mayuge District to the east, Tanzania to the south, and Buikwe District to the west and northwest. Kitamilo, the district headquarters, is approximately 30 kilometres (19 mi) south of the city of Jinja, the nearest large metropolitan area.

1.7.2 Content scope

The study focused on the assessment of quality of government funded construction works in local governments in Uganda with reference to Buvuma District Local Government. The researcher concentrated on assessing the quality of GFCPs in local governments. The study covered data from a period of the previous four government financial years that is from FY 2017/2018 to FY 2021/2022. The rationale being that enough data would be got to enable

the researcher reach reasonable conclusions but also it was during these last financial years that reports of shoddy works became more frequent in most if not all the local governments in Uganda presented in Table 1.1.

Table 1.1: Defect Scenarios on Various Projects in BDLG

	Project	**Year**	**Quality issues**
1)	Maternity ward at Lwajje Health III under UGIFT which was meant for one financial year. Refer to Figure 1 in Appendix II.	2020-2021	Not completed in time as scheduled.
2)	Maternity ward at Lwajje Health III exhibited poor compaction; refer to Figure 2 in Appendix II.	2021-2022	Honeycombing
3)	Busamuzi health centre III with poor dump proofing, refer to Figure 2 in Appendix II.	2020	Underwater penetrated in the wall (weakened wall)
4)	Buwoya Health III with cracks on the splash apron. Refer to figure 4 in Appendix II.	2019	Underwater penetrated in the wall (weakened wall and splash apron)
5)	Staff house at Bukaali primary school with cracks on the splash apron, refer to figure 5 in Appendix II.	2019	Poor mixes and poor construction
6)	Staff house of Bukaali primary school of with poor construction on the eaves; refer to figure 6 in Appendix II.	2018	Poor mixes and poor construction
	Project	**Year**	**Quality Issues**

	Collapsed toilet wall of 2017 at Buwanzi primary school, refer to figure 7 in Appendix II.	2017	Poor mixes and poor construction
7)	Leakages on the roof of the resident District Commissioner office refer to figure 8 in Appendix II.	2017	Poor roof construction
8)	Peeling off concrete floor tiles on the veranda of RDC office, refer to figure 9 in Appendix II.	2017	Poor construction
9)	Culverts installed by Buvuma town council under road fund were washed away by stormy water along Kirongo–Galamo road; refer to figure 10 in Appendix II.	2019	Poor Calvert installation.
10)	Water percolation into walls at Buvuma town council offices of 2018; refer to figure 11 in Appendix II.	2018	Poor construction

1.7.3 Time scope

The study was conducted in a period of one year beginning March 2022 up to the end March 2023. This time was proposed because it gave the researcher enough time to collect the data, analyze and present it in form of a report.

1.8 Conceptual frame work

In research, conceptual framework is a collection of interrelated concepts that guides research activities (Imenda, 2014). Consequently, the interconnectedness of the study variables towards quality of government construction works the variables relate to funding of the local government construction projects and the influence of the technical capacity of the personnel on the project on the overall quality of GFCPs shown in Figure 1.1.

Independent Variables (IVs)

Procurement factors for Quality

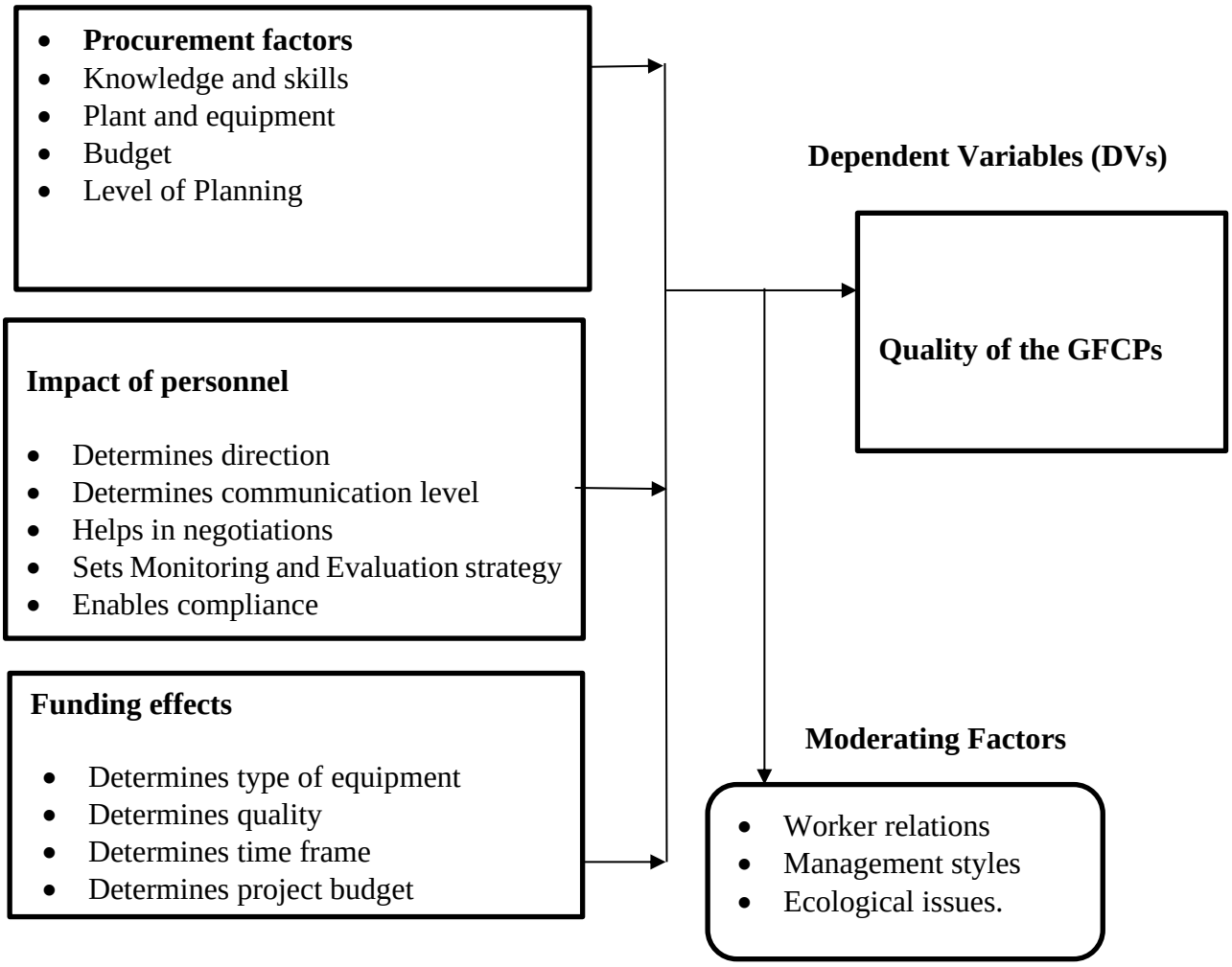

Figure 1. 1: Conceptual framework

1.9 Chapter summary

This chapter contains the detail overview of the quality of GFCP in BDLG in Uganda. It covers the background, statement of the problem, general objective, specific objectives, significance of the study, scope of the study and conceptual framework to the study. The next chapter contains literature review.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The review of the existing literature covers studies relevant to the research topic. Areas of review are in relation to the quality of government funded construction works in local governments. The literature review looks at the study variable in relation to solicitation of construction firms, technical personnel and funding has impact on construction project works.

2.1 Theoretical review

2.1.1 Total quality management model

Construction quality according to Low Sui Pheng and Lau Shing Hou (2019) is the degree to which a construction process produces a product that meets the expectations of its users. Construction quality can be evaluated by several methods, including cost, time, Health, Safety, and social safeguards

Total Quality Management (TQM) is a management approach that seeks to provide long-term success by providing unparalleled customer satisfaction through the constant delivery of quality services (Ramanathan et al., 2012). This implies that (TQM) is the continual process of detecting and reducing or eliminating errors in manufacturing, streamlining supply chain management, improving the customer experience, and ensuring that employees are up to speed with training (Gwaya et al., 2014). Total quality management aims to hold all parties involved in the production process accountable for the overall quality of the final product or service.

According to Ntuli and Allopi, (2014) it was noted that the project success in the 1960s was basically measured on technical terms by showing if the product worked or not. In the 1980s' the project success became meeting the three objectives of timely completion, at targeted budget, and at a designed level of quality (Chrischore and Khare, 2014). The Total Quality Management (TQM) however assesses that the project is considered to be success not only by focusing on the measured time, cost and targeted technical specifications but also by customer acceptance. The three traditional project success performance measures of time, cost and quality are not independent. Other scholars (Otim *et al.,* 2013) have noted that the three traditional project performance measures depend on several procurement factors such as the nature of the project, location, size, technology, contract type, risks involved, project team, client, contract etc.

Despite the large variability in the project success factors, efforts had been made to develop predictive models (Khosravi & Afshari, 2011; Gwaya *et al*., 2014), that if only critical factors are considered there could be a specific model that can be used to predict if the project will be or had been successful. Application of such models however has not been widely accepted as the so-called critical success factors -do keep on changing for different projects. Therefore, in view of the above this study was put forward to have an opportunity of determining specific and critical success procurement factors affecting quality performance of construction projects being executed in Uganda.

2.1.2 Importance of construction projects management

Construction projects management is designed to control the main important elements that provide practical information for achieving construction projects objectives in an efficient way. Walker defined construction projects management as "The use of resources in the company on a certain activity within time, cost and performance. A fourth key factor is good customer relations (Ntuli and Allopi, 2014)." Walker added customer relations as a fourth important factor with time cost and performance.

But still we need to know the main drivers for construction projects success, which are the most important elements for companies to make a difference in this highly competitive environment. This brings about development of software models which can be used to track and monitor quality construction works (Ramulu, and Murhtyr, 2018).

Over the years and despite the setbacks and difficulties, the Palestinian economy was able to stand up and struggle for survival. The construction sector is a critical sector in the Palestinian economy, providing one of the most important sources of income for Palestinian families (Chinchore and Khare, 2014).

2.2 Conceptual review

Internationally, construction of structures involves various technologies and engineering principles which are applied. Various stages are involved before the object/structure is put up. These include Geotechnical site investigations, structural Analysis and designing, construction/building, operation and maintenance of the structure (Gholizadeh *et al*., 2018).

According to Mohammadi *et. al*., (2018), quality in construction industry can be defined as the attainment of acceptable levels of performance from construction activities. Quality according to Ramulu, and Murhtyr, (2018) is defined as the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs. Iyer, (2018) defines quality as that part which makes something what it is; characteristics elements; basic nature, kind; the degree of excellence of a thing and its superiority. Mella (2019) also defines quality in terms of cost and prices. Thus according to the researcher, quality product is one that provides performance at an acceptable price within a specified timeframe.

2.2.1 Construction works project procurement factor

There are a number of previous studies that had tried to assess the list of project procurement factor that can be applicable to all projects, however researchers (Hussain *et al*., 2018; 2009; Otim and Alinaitwe, 2013), have come to the conclusion that each project has specific needs and hence specific quality performance factors.

For quality performance of projects, there is a need of having a well-recognized procurement system. Policy makers, financiers, planners and designers should be aware of the procurement system to be used in acquiring an entity that was responsible for execution of the project well from instigation of the project (Choong and Islam, 2020). OECD (2018) is in agreement with finding of Choong and Islam, (2014) that procurement category offers a lot of influence on successful project outcome. The procurement category can be traditional that involve design; bid and build (DBB) while the non-tradition ones are the build operate own (BOO) and build operate and transfer (BOT).

Muhwezi, *et. al*., (2020) have concluded that quality failures in local government construction projects are increasingly being noted, partly due to the prevailing environments in which contractors are selected on lowest bid prices, but also because the initiatives of certifying quality-compliant companies are mainly used for the enhancement of a company's public image for marketing purposes. This problem is further compounded because these projects are prone to graft and other undesirable individualistic characteristics that exist within a construction project organizational setting. Like Muhwezi *et. al*., (2020), Byaruhanga and Basheka, (2017) conclude that inadequate communication, graft and dishonesty are some of the major threats to quality in local government construction works.

Most of government financed construction projects being executed in Uganda are o roads. No one envisages quality road works in the absence of specific plant and equipment. Availability of plant and equipment plays a major role in ensuring that projects are executed on schedule, at targeted budget and within an acceptable quality (Byaruhanga and Basheka, 2017). Chinchore and Khare (2014) have observed that contractors need training on factors that affect selection of appropriate plant and equipment for works. Selection should depend on the utility of particular plant and equipment, the contractor has to economically justify whether to purchase the equipment or to hire it (Sambasivan and Soon, 2007).

Very important from the quality management perspective is the information derived from the concept meetings that start the whole project planning phase. Providing the base for the scope of the project, the information establishes the operational requirements of the customer/client (Etongo *et. al*., 2018). This base sets the tone of what is required to cost-effectively provide the customer/client with the necessities for an efficient and economical

operation or production facility. It is in this phase of planning that both the local government and the Project Supervisor must resist the temptation to build the proverbial "Solid Gold Cadillac." Too much quality, or "overkill" on the quality required for an efficient operation, can eradicate the construction project cost effectiveness just as quickly as too little quality (Ramulu, and Murhtyr, (2018).

Given that the concept planning is solidified and exact project parameters are established, quality management then comes to the fore. The Local Government must devise, tailor and implement his quality program/systems for the specific project (Byaruhanga and Basheka, (2016). Planning Quality and Cost Effectiveness into construction works must take place at the concept stage, well before the project is turned over to engineering and construction. In the two latter stages, quality must not only be managed, but also monitored into the project (Mwanga *et. al*., 2020). Colonnelli, and Ntungire, (2018), stipulate that planning should be initiated by every user department; this should involve all solicitation needs within a given quarter and be forwarded to procurement and disposal unit (PDU) for timely procurement to be able to deliver quality and ensure on time services to the public.

2.2.2 Construction project technical personnel specifics

Technical Personnel means each person employed by or working for or with the project or any of its sub- contractors or suppliers at any tier, who would be expected to make, or who actually makes, subject innovations (Boje, *et al*., 2020). It is observed in Karimi *et al*., (2020) that the process of construction is dynamic with varied multi-disciplinary activities being carried out at the same time. The construction project manager being the focal point of all the activities, this necessitates him/her to be competent and able to execute their available resources in an efficient way.

Furthermore, Vela, (2022) like Boje *et. al*., (2020) support these findings and comment that the success of construction projects depended on the experience of the contractor and capability of the contractor's project manager. The project manager manages and directs the project, based on a full understanding of the requirements and the vision.

Communication skill and the ability to communicate with the resources within the outside of the project environment effectively are perceived as the most important skill for construction project. Experts also perceived that the decision-making skills of the team should be sought as a most important tool in local government construction works, the ability to take decision in the times of crisis is of utmost importance (Twinomuhwezi, 2018).

Twinomuhwezi (2018) agreed that these are the most important skill for a project Personnel to provide and efficient and successful project delivery in terms of budget, time and quality. Chung *et. al.,* (2020) observes that the listening, delegation and negotiations were least important skill and attribute for a project manager. This does not mean that these skills are not necessary for the completion of construction works, but it concludes that these skills do not directly affect the achievement of successful project outcomes.

Technical persons or in other words, we called it construction engineers are basically the job site assistant who manages the site operations. They are responsible for quality assurance of a construction project. The contractors should hire the persons who possess domain expertise in construction projects (Mwelu *et. al*., 2021). The basic responsibilities of construction engineer is to develop and report project schedules and forecasts, regular project status, budget monitoring and trend tracking, bill of materials.

According to Naluwemba *et. al*., (2022), inadequate experience and skills for contractors lead to; lack of understanding tendering process and procurement policies, lack of knowledge to develop business plans, inability for regular securing of work, lack of operational and managerial skills amongst contractors, underpricing and lack of understanding of the general conditions of contracts.

2.2.3 The funding aspect of local government construction projects

In developing countries Uganda inclusive have usually finance local government works through the local revenue, donor fund and money from central government (Mwanga *et al*., 2020). Therefore, to ensure positive development outcomes, governments and construction companies ensure compliance with international standards, especially relating to: quality, environmental and social impact assessment.

Project financing processes involve generating finance on a limited recourse for the purposes of developing a large capital-intensive project. Project financing processes is important in all stages of projects from initiation, planning, execution and commissioning (Newman *et al*., 2018). Furthermore, supports the finding and shows that lack of sustained financing processes led to project unit cost variations, time variation, project net present values variability, changes in project functionality and stakeholders' dissatisfaction (Rubarema, 2021). Definitely this is failure to achieve the quality initially planned.

Financing decisions are very important for all government projects. Regardless of the sector to which the construction project belongs. The decision and nature of the funding is an important part of the ministry or local council responsibility (Otim and Alinaitwe, 2013). Local governments assess and adopt the projects that may require advanced equipment and technology, it is necessary to identify sources of financing that could be

instrumental in obtaining such equipment (Gholizadeh *et al*., 2018). The decision makers of these local governments should consider the sources of available financing and their relative costs as well as the financial risks that may result.

The problem of financing is one of the main obstacles to the implementation of plane construction works in Local governments and other infrastructure developments. The local governments prefer reliance on their own funds as an internal financing source, but internal revenues are often insufficient to cover its various needs through its stages of activities (Mwanga *et al*., 2020).

In construction works projects, funding policy needs to be strict on budget execution as focusing on mistakes in project costs estimation affects the project budget and disturbs the project implementation because it takes a lot of energy to convince the ministry of finance and economic planning to prioritize such specific public construction projects (Mbabazi *et al*., 2018). In Uganda perspective, construction project execution time is not often respected (Mbabazi *et al*., 2018). Different issues are behind such delays especially for local government construction projects and the main cause of these delays is the project financing constraints and funding policy in Uganda (Musango *et al.*, 2021).

The weakness of financing reflected negatively on the performance of construction companies in general and self-financing companies in particular (Ogwang and Vanclay, 2021). Progress work may not be achieved or actually stop in conditions of economic and financial crises, and its poor impact on the performance of workers in these companies were due to lack or failure of financial funding (Musango *et al*., 2021). Financial financing also affects the number of modern or useful equipment in the production process, based on their quality and origin.

2.3 Summary of the literature review

A construction projects is temporary and that means it has a definite beginning and a definite end. In other words, the time is limited but does not necessarily mean a short time; the duration of a construction projects depends on construction projects type. Unique means that each construction projects is different, and each has some distinguishing features. Even if the GFCPs have repetitive elements it's still unique because it has a different owner, design location and facilities. A construction projects must be progressively developed, which means continuous and steady work and growth.

The project managers need to better understand the environment they are working in, and also no project two project environments are the same. The dynamics of each and every project changes with time and space. In financing construction, the formation of joint-venture between local and foreign contractors has been recommended by the several of the studies above. Increasingly common methods for financing public infrastructure in developing economies are local revenue, donation and leasing, debt. Although there are advantages to the borrowing country from these project financing arrangements, there are also various issues and governance challenges.

2.4 Research gap statement

Different studies in the field of local government construction and quality have been conducted globally but also in Uganda. However, no conclusions have been made on the causes of poor quality on GFCPs in local governments in Uganda. The procurement factors affecting quality of construction projects in government funded construction project in local government haven't been addressed as well as the impact of personnel on the quality of GFCPs in local government remains unclear. Beside the impact of funding on the

projects has not been looked into but also there are no suggestions currently on how to approach quality challenges of GFCPs in local governments in Uganda.

Consequently, this study addresses the issues of quality of GFCPs in local governments in Uganda, using BDLG as a case study. The review of literature set the study towards the documentation of the methodology as presented in the next chapter.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the research design, study population, sampling strategies, data collection methods, data collection instruments and data quality control, data collection procedure and data analysis techniques that were used in the study.

3.1 Research design and approach

3.1.1 Research design

There are various research designs that exist in research work such as historical research design involves investigating and studying past events, using a variety of sources and methods; descriptive survey design systematically observes and describes what a particular survey subject does without actually influencing them; analytical research design involves critical thinking skills and examinations of relevant facts and information for example; surveys, case control study. In such instances a hypothesis test is often carried out and predictions made; exploratory research design usually covers the researcher's ideas and thoughts on a subject to further know their theories in detail, cross sectional research design allows a designated sample area selected as the survey area and experimental research design used to examine how the independent variables interrelate with the dependent variable.

The historical design may not apply because this study was meant to use both secondary and primary data but not historical sources only, the descriptive survey covers mainly opinions, views and attitudes which our survey was not specifically covering, the analytical

research operates on relationships, however, this research covers quantifiable sources of data from the selected geographical scope, the exploratory is also basically qualitative however our research mostly dealt with quantitative data gathering. Likewise, the experimental research does not fall under the scope of this research therefore; the cross-sectional research design provided the best alternative design for the research. Thus, finally the researcher selected a cross-sectional research design because it would enable him take BDLG as a selected sample area to assess the quality of construction projects out of the whole district based on the various GFCPs programs currently being implemented in the district.

3.1.2 Research approach

The research approach in this study included the both quantitative and qualitative approach. The quantitative approach involved mainly the use of closed ended questionnaires, which were filled in by the respondents while the qualitative approach included interviews that were guided by an interview schedule to the departments of works, finance, administration, procurement, education, health, physical planning, production, water, human resource and councils. The use of triangulation is supported by Amin (2005), especially where the study involves investigating peoples' opinions in regards to the study.

3.2 Population and sample

3.2.1 Population

The target population of this study constituted of all employees and political leaders in BDLG. The 55 categories of respondents targeted in this study included; contractors, members of the procurement and disposal unit, members of the contracts committee, members of the evaluation committee and members of the technical planning committee.

The target population of this study was the technical staff of BDLG, active contracts managers and political leaders in Buvuma.

3.2.2 Sample and sampling strategy

Krejcie and Morgans' (1970's) suggests that for a finite target population, the formula can be applied to determine the sample size as shown in equation (3.1).

$$S = \frac{X^2 NP\,(1-P)}{d^2\,(N-1)+X^2 P\,(1-P)} \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(Equation 3.1)}$$

Where;

S = Required Sample size

X = Z value (e.g. 1.96 for 95% confidence level)

N = Population Size

P = Population proportion (expressed as decimal) (assumed to be 0.5 (50%).

d = Degree of accuracy (5%), expressed as a proportion (.05); It is margin of error.

Krejcie and Morgans' (1970's) table was used for determining sample size for a given population matched it with a minimum sample size of 48 respondents to be given questionnaires for filling in their views regarding the quality of Government Funded Construction Projects (GFCP) in Local Governments in Uganda using BDLG as a case study. Sampling therefore, satisfies the basic law of probability and assures the researcher of an utmost representation of the total population within an accepted margin of error. In this study, stratified sampling technique was employed to determine the category of the employees that were selected in BDLG to allow the researcher choose only respondents who have the exposure that best fits the purpose of the study.

Table 3. 1: Population and sample size of the study

Category	Target population	Sample size	Sampling technique
District Technical Staff	18	18	purposive
Current Construction site engineers	15	11	Purposive
Projects Managers	22	19	Purposive
Total	**55**	**48**	

3.3 Description of study area

Buvuma District is a district in the Central Region of Uganda. The district is coterminous with the Buvuma Islands archipelago in Lake Victoria and does not have territory on mainland Uganda. The District is bordered by Jinja District to the north, Mayuge District to the east, Tanzania to the south, and Buikwe District to the west and northwest. Kitamilo, the district headquarters, is approximately 30 kilometres (19 mi) south of the city of Jinja, the nearest large metropolitan area (Nangoli and Fred, 2009). Buvuma District is made up of 52 scattered islands in the northern part of Lake Victoria. The largest island is called Buvuma, the name adopted by the new district, which was created by Act of Parliament on 1st July 2010. Before that, it was part of Mukono District. Administratively, the district is subdivided into nine administrative units of Bugaya Sub-county, Busamuzi Sub-county, Bweema Sub-county, Nairambi Sub-county, Buvuma Town Council, Buwooya Sub-County, Lwajje Sub-County, Lubya Sub-county and Lyabaana Sub-county. In 1991, the national population census estimated the population of the district at 18,500. During the 2002 national census, the population of Buvuma District was estimated at 42,500. In the 2014 National Population and Housing Census, the population stood at 89,890 (Musingo and Doren, 2011).

3.4 Data collection instruments

The data collection instruments included the self-administered questionnaires and an interview guide.

3.4.1 Self-administered questionnaire

The researcher used Self-Administered Questionnaires (SAQs) which consisted of four sections; where Section A covered bio data of the respondents, Section B covered objective 1, Section C covered objective 2, Section D covered objective 3 and objective 4. The questionnaires comprised both open-ended and closed-ended questions presented and designed to obtain data from the selected respondents. Independent variables covered procurement factors affecting the Quality of GFCPs and the dependent variable covered quality of GFCPs. In addition, questionnaires were used because they were suitable for the target respondents given that their education level suited the set format of questions presented in the survey.

3.4.2 Interview guide

The researcher also used an interview guide for interviewing the top administrators. Interviews were used because of their importance in yielding detailed information about the subject matter.

3.5 Source of data

3.5.1 Primary data

Primary data were collected by the use of questionnaires. A questionnaire is a written list of questions, the answers to which are recorded by the respondents. The questionnaire was

employed as a research instrument; specific research statements were formulated by the researcher and given to respondents to answer them. The questionnaires were closed ended and respondents' answers were limited to a fixed set of responses. The questions focused on assessing the quality of government funded construction works in local governments.

of Uganda and the closed ended questions were scaled using the Likert scale (Sileyew, 2019). The questionnaires were used since they were easy for respondents to answer according to how they perceive the questions.

3.5.2 Secondary data

Secondary data were collected by reading and reviewing journal article, books, literature from scholars, Auditor General's report 2021, among others were used to generate literature review.

3.6 Measurement of variables

The responses were measured on a five-point Likert type scale (1- Strongly Disagree, 2-Disagree, 3-Not Sure, 4-Agree and 5-Strongly Agree). The choice of this measurement is that each point on the scale carries a numerical score which is used to measure the respondents' attitude and it is the most frequently used summated scale in the study of social attitude. According to Bill *et al* (2011), the Likert scale is able to measure perception, attitudes, values and behaviors of individuals towards a given phenomenon. In this case, respondents were given readily formulated variable based statements from which they had to select. This selection involved ticking on both qualitative and quantitative objectives statements ranging from a Likert scale of strongly disagree to strongly agree.

3.7 Reliability and validity

Validity and reliability of the research instruments were ensured as follows:

3.7.1 Validity

In order to ensure validity of the instrument, the drafted questionnaires were given to the supervisors and later to colleagues for critical assessment of its survey content suitability. In addition, they were requested to state whether each item was Relevant (R) or Not Relevant (NR) in achieving the research objectives so that appropriate adjustment could be made. The instrument was revised until the content validity index was at least 0.80 which is way above the recommended Content Validity Index (CVI) in the research studies (Amin, 2005) as shown in equation (3.2).

$$\text{CVI} = \frac{\text{No. of items rated relevant}}{\text{Total No.of items}} \quad \text{..... (Equation 3.2)}$$

Table 3. 2: Content validity index

Respondent	No. of items relevant	Total number of items	Content Validity Index (CVI)
1.	29	34	0.852
2.	32	34	0.941
3.	27	34	0.794
4.	28	34	0.821
5.	26	34	0.764
6.	29	34	0.852
7.	28	34	0.821
8.	27	34	0.794
9.	26	34	0.764
10.	29	34	0.852
	Average CVI		**0.83**

$$\text{Average CVI} = \frac{8.255}{10}$$

$$\text{Average CVI} = 0.83$$

The content validity value of the questionnaire was 0.83 implying that the data collection instrument used effectively provided valid measures that could lead to reliable findings (Amin, 2005).

3.7.2 Reliability

To ensure reliability of data collection instrument, a pre-test was carried out involving 10 stratified samples of respondents. The pre-test aimed at testing whether the strata

understood the content of the questionnaires. The instrument was administered to at least 10 respondents in the pre-test. The reliability of the instrument was scrutinized using Cronbach's alpha coefficient and with the aid of a computer program called SPSS (Statistical package for Social Scientists). The assumption was that when the reliability alpha is greater than 0.5 (Alpha > 0.5) it implied a high level of reliability of the data collection instrument (Amin, 2005). The Cronbach's alpha was calculated using equation (3.3) by taking the score from each scale item and correlating them with the total score for each observation and then comparing them with the variance for all individual item scores.

$$\boldsymbol{\alpha = \frac{k}{k-1}\left(1 - \frac{\sum_{i=1}^{k}\sigma_y^2}{\sigma_x^2}\right)} \quad \text{..... (Equation 3.3)}$$

Where;

α	=	Reliability Alpha coefficient (Cronbach).
K	=	Number of items in the instrument.
$\sum\sigma_y^2$	=	Variance of individual items.
σ2x	=	Variance of the total instrument.
$\sum$	=	Summation.

Given that value;

K = 10

$$\alpha = \frac{10}{10-1}$$

$$\sum_{i=1}^{k}\sigma_y^2 = 2.05$$

$$\sigma^2{}_x = 5.57$$

Now that we know all of the values in the equation, we can calculate α;

$$\alpha = \left(\frac{10}{10-1}\right)\ \left(1 - \frac{2.05}{5.57}\right)$$

$$\alpha = 1.11 * 0.63$$

$$\alpha = 0.69993$$

$$\alpha = 0.70$$

Based on the above since $\alpha = 0.7 > 0.5$, therefore the research instrument was deemed to be reliable and the data collected using it could lead to reliable and dependable findings.

3.8 Data collection procedure

The researcher sought an introductory letter from the Directorate of Research and Graduate Training at Kyambogo University. Thereafter, the researcher contacted the administration in Buvuma Local government to seek permission to carry out the study. Once granted permission the researcher ensured that the respondents were informed that the research was purely for academic purpose. The head of engineering department helped the researcher in administering the questionnaires to their respective subordinates but where there was need for interviews in order to ensure the usefulness, accuracy and comparability of data, the researcher contacted the respondent himself. Time was given upon which each selected respondent was to fill in the questionnaires thereafter, unfilled and wrongly filled questionnaires were collected, processed, analyzed and then the researcher came up with a written report.

3.9 Data analysis

3.9.1 Quantitative data analysis

In conducting quantitative data analysis, questionnaires were administered and data were coded, sorted, categorized and fed into the computer. Using Statistical Package for Social Sciences (SPSS Version 16) data were analyzed using frequencies, bar graphs, pi-charts, means and standard deviation was used to interpretation of the finding for easy conclusion and recommendation. Descriptive statistics and factor analysis were used to examine the relationship between factors for quality and quality in construction projects, relationship between personnel factors and quality in construction projects and examine the relationship between funding factors and quality in construction projects. Ranking based on a Likert scale was used to show the level of strength of a given factor in relations to the factors influencing the quality of projects. After data analysis, quantitative data got from the questionnaires were computed into frequency tables, mean, standard deviation and percentages for easy data interpretation and analysis. Regression analysis was utilized to assess the strength of the relationship between variables and for modeling the future relationship between them.

3.9.2 Qualitative data analysis

In qualitative analysis, the researcher used content analysis technique to analyze data. This technique involved first conducting face to face interviews between key informants where all conversations were recorded in a book. Thereafter, all interview content was reviewed and only extracts with relevancy to the study were presented in a narrative statement or themes placed in quotes to supplement on the quantitative data obtained from the questionnaire, interview was arranged according to the objectives and the content scope.

3.10 Attainment of research objectives

3.10.1 Assessing the impact of Procurement on the quality of GFCPs

To assess the impact of Procurement on the quality of GFCPs, opinions were sought from Attorney General's Report (2021) validated by responses obtained from the key informant of the selected strata of engineering experts in the survey area. The procurement factors affecting the quality of GFCPs were assessed using the 5 point Likert scale and thereafter ranked. Pearson Correlation Coefficient for procurement factors affecting the quality of GFCPs was used for analysis. Mean values were obtained using SPSS software using categories of (1) Strongly Disagree, (2) Disagree, (3) Not Sure, (4) Agree and (5) strongly Agree). The results are presented in Chapter Four.

3.10.2 Determining the impact of personnel on the quality of GFCPs

The study was set to assess the impact of personnel on the quality of GFCPs which were obtained from (AG, 2021), and key standard engineering and construction guidelines for quality assurance of GFCPs (Anoop, *et al*., 2016). The obtained data were categorized using a 5 point Likert scale questions, where integers were arranged from (1) representing Strongly Disagree; (2) Disagree; (3) Not sure; (4) Agree and (5) representing Strongly Agree rating. Pearson Correlation Coefficient for personnel factors was used to test whether a relationship existed between personnel factors and the quality of GFCPs. Since this mode of categorization is a subjective variable, more consideration was given to qualitative responses from key informants (site engineers, technical staff and construction project managers). The impact was measured by using the correlation scale where a large value above 0.5 indicated strong relation while those below indicated a weak relationship. Regression was also applied to test the impact of personnel on the quality of GFCPs. Mean

values were obtained using SPSS software as an average of identical Likert scale case values (i.e. categories of Strongly Disagree, Disagree, Not Sure, Agree and Strongly Agree). The results were presented as in Chapter Four.

3.10.3 Determining the impact of funding on the quality of GFCPs

In determining the impact of funding on the quality of GFCPs, the researcher put more effort to the type of equipment used, quality expected, and time frame to complete the project in question, and the budget to cover the project demand. Pearson Correlation Coefficient was used to test whether there is relationship between funding factors and the quality of GFCPs. Qualitative responses from key informants (site engineers, technical staff and construction project managers) was also considered. Mean values were obtained using SPSS software as an average of identical Likert scale case values (i.e. categories of Strongly Disagree, Disagree, Not Sure, Agree and Strongly Agree). The mean values were used to determine the intensity of respondents and regression analysis to assess the impact of funding on project quality. The results are presented in Chapter Four.

3.10.4 Development of an appropriate quality management system for GFCPs in BDLG

To achieve the quality of GFCPs the researcher put forward recommendations to be applied in development of a more feasible quality system that would add to effectiveness of quality control on GFCPs projects in Uganda. An average Alpha coefficient obtained in correlation using SPSS was used where all factors were computed to determine the points at which quality system is considered to be significant or insignificant to improve on the quality of GFCPs. Mean values were obtained using SPSS computer software as an average of identical Likert scale case values (i.e. categories of Strongly Disagree, Disagree, Not Sure,

Agree and Strongly Agree) and the recommendations given from interview guide shall improve on quality control system of GFCPs. The results are presented in Chapter Four.

3.11 Ethical considerations

Ethical consideration refers to the morality, uprightness and justification of the researcher's conduct in carrying out research (Amin, 2005).

Credibility: Before conducting the study, the researcher submitted the proposal topic to the Kyambogo University department of Civil and environmental Engineering for approval after which a supervisor was allocated to oversee the research. After compiling the research proposal and its subsequent approval, I had to deliver a letter from the university to introduce the researcher to the study using an approved data collection instruments like questionnaire and interview guide. All the participants got an explanation about the study purposes and how the researcher would protect their personal information, such as using coding instead of using names. The participants were informed that they were free to withdraw from the study any time they wished during data collection.

There was need to ensure confidence building because their existed differences between the researcher and participants. The researcher tried as much as possible to put the participants at ease and reassure them that there were no rights or wrong answers. Therefore, the participants were not affected by the status of the researcher, be it education level, cultural differences, age or anything during data collection. The final proposal and dissertation presented were passed through anti plagiarism test by library authorities before it was finally handed in to Kyambogo Academic authorities for awarding.

Selection of Participants: Permission was sought from the chief administrative officer. The researcher then met the participants on one to one basis at their work places because

of the various leadership roles played making it difficult to invite them in one place. Gathering them would have compromised the work load, and to avoid them discussing the questionnaire.

The researcher likewise explained that the study would improve their skills and knowledge on assessing the quality of GFCPs in local governments in Uganda. The researcher told them that the benefit of the study was is to improve the skills in assessing the quality of GFCPs and to meet the demand of local governments in Uganda to increase on the funding up to 35% of government budget. The researcher requested them to ask any questions in regard to the study for clarity.

Protection of human subject: The consent section was provided which included explanation on rights to participate or not to participate. The participants were allowed to sign the consent forms before they were allowed to participate in the study.

Conflict of interest: The research was purely for academic purposes and assurance was given to the staff and management of Buvuma District so that detailed information was provided at free will to the researcher.

3.12 Chapter summary

This chapter described the research design, population, source of data, data collection instruments, reliability and validity, the formula of Cronbach alpha coefficient (α) use; data collection procedure, and data analysis were also described in detailed. The next chapter represents the results of the study.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSIONS

4.0 Introduction

The aim of the study was to assess the quality of GFCPs in local governments in Uganda using Buvuma District Local Government (BDLG) as a case study. The presentation of the results was done in line with the study objectives of which were; to assess the procurement factors affecting quality of GFCPs, assess the impact of personnel on the quality of GFCPs, determine the impact of funding on the quality of GFCPs and develop a system that will be used in improving the quality of GFCPs in BDLG. The information in this chapter is presented in frequency table forms, percentages, means, and standard deviations. Further, in drawing inferential statistics with more empirical findings, the results of the bi-variate correlations were also presented in tables in a accordance to specific objectives of the research.

4.1 Response rate

Response rates show percentage of participants that were involved in the study and how they responded. These included contractors who were particularly given questionnaires and the members of the different committees in the department of works who were interviewed as in Table 4.1.

Table 4. 1: Questionnaire response rate

Description	**Number**	**Percentage**
Number of questionnaires sent	48	100
Number of questionnaires returned	45	93.8
Number of questionnaires not returned	3	6.2
Total realized sample	45	93.8
Response rate	**45 out of 48**	**93.8**

In this study, respondents who participated in the study included; contractors, members of theprocurement and disposal units, members of the contracts committee, members of the technical planning committee and members of the evaluation committee. This helped to determine the sample size of each category of respondents. In this regard 94% of the respondents participated in the study. This implies that majority of the respondents positively complied with the terms and conditions of data collection process allied by the researcher. For those who thought that their information would not be treated with utmost confidentiality hence shying away did not participate in the study.

4.2 Demographic characteristics of respondents

Section A of the questionnaire sought for data on the respondents' background. This was intended to gauge whether data collected were authentic. Data collected included the quantifieddemographic characteristics of respondents such as; gender, their role, level of education and experience in working with BDLG.

4.2.1 Respondents according to gender of respondents

Respondents were asked to indicate their gender. This was intended to ensure proportionate representation of both male and the female contractors in Buvuma Local government. Datacollected were thus presented and summarized in Figure 4.1.

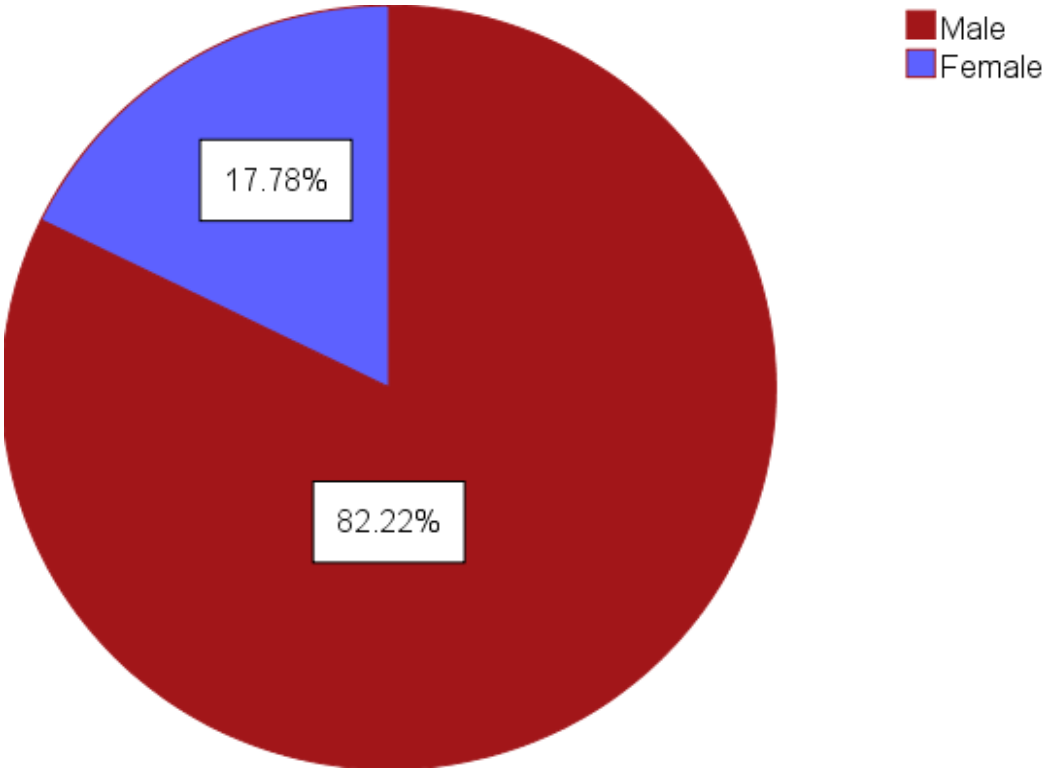

Figure 4. 1: Respondents according to the distribution of gender

The result in Figure 4.1 indicates that male respondents formed the majority 37(82.2%) of the respondents while the females were only 8(17.8%). The fact that the majority 82.2% of the respondents were males is in consonance with the record that most of the respondents in BDLG are males". This implies that the construction industry BDLG is dominated by male than female thus quality of GCFPs is assured in terms of timely completion.

4.2.2 Respondents according to academic qualifications

Respondents were asked to indicate their highest level of academic qualifications. The academic qualifications of contractors were deemed important in the study. Respondents were therefore asked to indicate their education levels in the questionnaire given to them during the field work and results were summarized in Table 4.2.

Table 4. 2: Respondents according to academic qualifications

Qualification	**Frequency**	**Percentage**
Masters	14	31.1
First Degree	25	55.6
Diploma	5	11.1
Professional Certificate	1	2.2
Total	**45**	**100.0**

The result in Table 4.2 revealed that the majority of the respondents who participated in the study, 55.6% of the respondents with 25 frequencies were first degree holders; followed by 14 (31.1%) of the respondents were master's holders; only 2.2% had Professional Certificate. This implies that most of the respondents in BDLG are educated. Most of the respondents were educated thus they understood clearly the content of the research instruments.

4.2.3 Respondents according to working experience

The respondents were requested to indicate their years of working experience. This was aimed at helping the researcher to describe the experience they have been working in Buvuma Local government. It was coded I for less than 5 years, 2 for 6-10 years, 3 for 11 – 15 years and 4 for more than 16 years. The findings are presented in Figure 4.2.

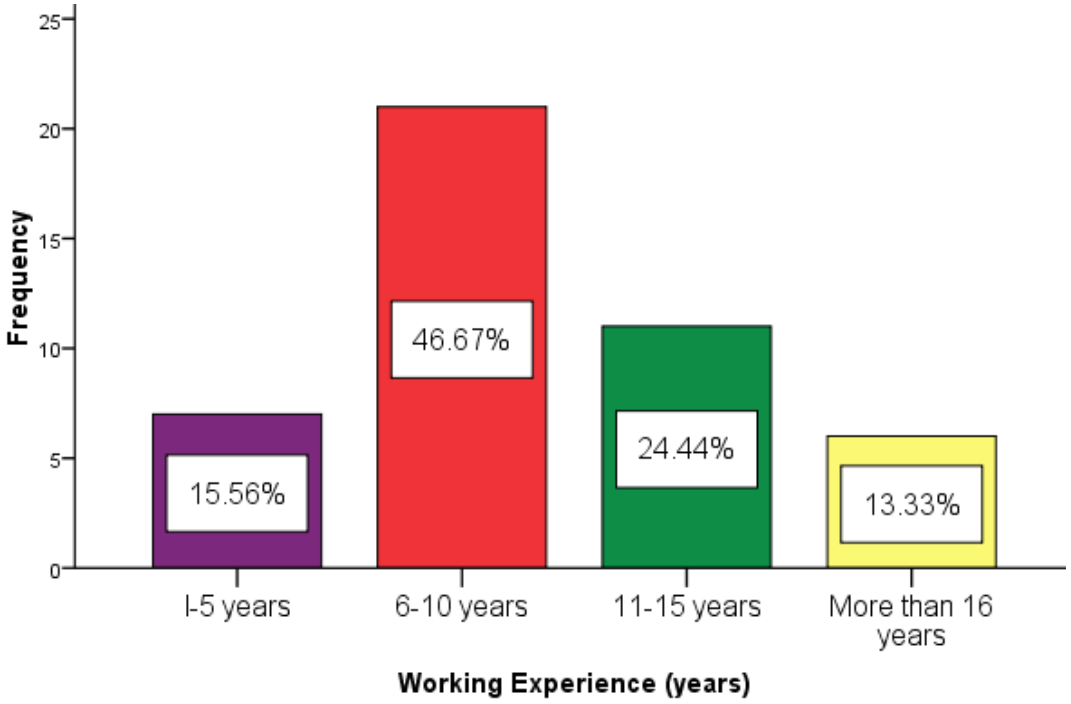

Figure 4. 2: Respondents according to working experience

The study findings in Figure 4.2 indicate that the respondents in the category of 6-10 years of working experience were 20 (46.6%) who were the majority of the total respondents. The respondents in the category of 11-15 years were 12 (24.4%) and the least category of 16 years plus were only 6 (13.3%). This implies that the majority of the respondents were between the categories of 6-10 years. According to the data obtained, the majority of the respondents had been working in Buvuma Local government for over six years. However, the study perceives that respondents with highest working experience expect to perform

quality work. This was also evidenced by Gwaya, *et al* (2014) who states there is need for adequate experience from respondents (workers) so as to enable them to continually detect, reduce and eliminate errors in the data.

4.3 Empirical findings

4.3.1 The procurement factors affecting the quality of GFCPs in BDLG

In objective one, the study assessed the procurement factors affecting quality of government funded construction projects GFCPs in BDLG. To achieve this objective, the researcher therefore presented empirical evidence using descriptive analysis and percentage distribution, bi-variant correlations on the objectives. These give the evidence and the nature of impact between variables and the extent to which each item affects or contributes to the other. The research statements about the procurement factors affecting the quality of government funded construction projects are shown in Tables 4.3.

Table 4. 3: Distributive statistics on procurement factors affecting the quality of GFCPs

Item (N=45) Procurement factors affecting the quality of GFCPs	Response	Free	Mean	Std. Dev.	Ranking
Prequalification approach was used as an evaluation of the contractor's capacity to deliver quality construction works for Local Government.	SA	17	3.86	1.19	1
The Local Government district officers provide a clear scope and specification of construction projects to the contractors.	A	19	3.64	1.31	2
Local Government ensures that materials' testing is always done on site and afterwards taken to the laboratory.	D	22	2.57	1.38	3
We have a well-organized procurement system put in place by policy makers to have quality construction projects in Local Governments.	D	26	2.40	1.25	4
The procurement system we use on our projects offer a lot of influence on successful project outcome in Local Governments.	D	23	2.35	1.33	5
There is professionalism, transparency and ethical practices within the project implementation team in Local Governments.	D	25	2.20	1.28	6

There is always a resident engineer (Clerk of works) to oversee daily activities on construction projects in Local Governments.	D	32	2.20	1.09	7
Local Government contractors are honest and transparent.	D	33	2.17	0.93	8
There are effective cost and quality control measures in place.	D	36	2.04	0.79	9
Mean of Means (MoM)			**2.60**		

The results regarding the procurement factors affecting the quality of government funded construction projects in Buvuma District Local Government (BDLG) and in addressing this section various (9) statements were asked that the responses were given in relations to the five scales Likert ranking from 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Not Sure (N), 4 = Agree (A) and 5= Strongly Agree (SA).

Majority of the respondents strongly agreed that prequalification approach has been used to evaluate the overall suitability of contractor's ability to deliver quality construction works for LG

with a (mean = 3.86) and was ranked in 1st position. Respondents also agreed that Local Government district officers provide a clear scope and specification of construction projects to the contractors with a mean = 3.64 and was ranked in 2nd position. Respondents disagreed to the fact that local government ensures that materials' testing is always done on site and afterwards taken to the laboratory or not with a (mean = 2.57) and was ranked 3rd position. The result indicate that the respondents disagreed that BDLG have a well-

organized procurement system put in place by policy makers to have quality construction projects with a (mean = 2.40) and was ranked 4th position.

The results also indicate that the respondents disagreed that, the procurement system BDLG use on their projects offer a lot of influence on successful project outcome with a (mean= 2.35) and was ranked 5th position. The result indicates that, respondents disagreed that, there is professionalism, transparency and ethical practices within the project implementation team in LGs with a (mean = 2.2) and was ranked 6th position. The results also indicate that majority of the respondents disagreed that there is always a resident engineer (Clerk of works) to oversee daily activities on construction projects in Local Governments with a (mean = 2.2) and was ranked 7th position. Furthermore, the respondents disagreed that, LGs contractors are honest and transparent with a (mean = 2.17) and was ranked 8th position. Finally, respondents disagreed that there are effective cost quality controls measures in place with a (mean = 2.0) and was ranked 9th position.

From the study findings, the Mean of Means of 2.60 which implies that out of the nine items only three of them are significant and the five are insignificant. The finding indicates that BDLG does not ensure that materials' testing is always done on site and afterwards taken to the laboratory but the district officers provide a clear scope and specification of construction projects to the contractors. This finding is similar with the study by Muhwezi, *et. al*., (2020) have concluded that quality failures in local government construction projects are increasingly being noted, partly due to the prevailing environments in which contractors are selected on lowest bid prices, but also because the initiatives of certifying quality-compliant companies are mainly used for the enhancement of a company's public image for marketing purposes.

In addition, Gwaya *et al*., (2014) also states that if only procurement factors are considered there could be a specific model that can be used to predict if the project will be or had been successful. Application of such models, however, has not been widely accepted as the so-called critical success factors do keep on changing for different projects.

The findings also indicate that BDLG do not have a well-organized procurement system put in place by policy makers to have quality construction projects in Local Governments and there is need for always to have a resident engineer (Clerk of works) to oversee daily activities on construction projects in Local Governments. The finding is in line with the study by Chinchore and Khare (2014) who observed that contractors need to be supervised by resident engineers to ensure that specifications are followed by the contractors.

It can be concluded that GFCPs need to be supervised by resident engineers to ensure that good quality construction is attained. Therefore, BDLG should ensure that materials' testing is always done on site and afterwards taken to the laboratory and the district officers provide a clear scope and specification of construction projects to the contractors.

4.3.2 Correlation analysis on procurement factors affecting the quality of GFCPs

From the first research question, the relationship between procurement factors affecting the quality of government funded construction projects and quality of GFCPs in BDLG was analyzed. The study identified various procurement factors affecting the quality of Government Funded Construction Projects (GFCP) in BDLG. To test the extent of relationship, the Pearson's Correlation coefficient was used to assess the relationship between the two variables (procurement factors affecting and the quality of the GFCPs and quality of GFCPs) as indicated in Table 4.4.

Table 4. 4: Correlation co-efficient for procurement factors affecting the quality of GFCPs

		Procurement Factors	**Quality of GFCPs**
Procurement factors affecting Quality of GFCPs	Pearson Correlation	1	0.462**
	Sig. (2-tailed)		0.001
	N	45	45
Quality of GFCPs	Pearson Correlation	0.462**	1
	Sig. (2-tailed)	0.001	
	N	45	45

****. Correlation is significant at the 0.01 level (2-tailed).**

Table 4.4 shows the Pearson Correlation Coefficient(r) for procurement factors affecting the quality of GFCPs was r = 0.462** at 0.001 significance level for 45 respondents. This indicates a medium positive relationship between the variables; procurement factors affecting quality of GFCPs and quality of GFCPs. Since the significance level at 0.001 is less than 0.05, then the correlation is statistically significant. Thus, indicating that the factors other than the ones tested have a significant impact on quality of GFCPs in BDLG. The researcher concluded that the administration of BDLG needs to ensure that material testing is always done on site and afterwards taken to the laboratory. Also there is need to deploy a regular resident engineer (Clerk of works) to oversee daily activities on construction projects in Local Governments to ensure that specifications are followed during of GFCPs since the study revealed existential setbacks in GFCPs resulting from contractors that are not honest and transparent, a well-organized procurement system, and effective control measures should be put in place.

4.3.3 Regression model for procurement factors affecting the quality of GFCPs

A regression analysis was conducted to measure the contribution of the procurement factors affecting the quality of GFCPs using the adjusted R2 values, standardized beta values, t-values and significance measures at 0.05 level. The results of tabulation are presented in Table 4.5.

Table 4. 5: Regression analysis between procurement factors and quality of GFCPs

Predictor	**Adjusted R Square**	**Df**	**Mean square**	**F**	**Sig**
	Adjusted Rsquare	Standard error	Standardized co-efficient Beta (ß)	T	Sig
Constant	1.714	0.352		4.567	0.000
Procurement factors affecting quality of GFCPs.	0. 866	0.099	0.131	0.86	0.391

a. Dependent Variable: Quality of funded government project

The regression model in Table 4.5 above suggests that procurement factors affect the quality of government funded construction projects. With an adjusted R square value of 0.86 and sig = 0.000 < 0.05, implying that 86.6% of the variance in quality of GFCPs are affected by different factors tested in the study (Table 4.5) and the remaining 13.4% was due to moderating factors (worker relations, management styles, ecological issues) not explained by the study. The significance level Sig = 0.000 is less than 0.05 implying that the impact is statistically significant.

4.3.4 Results from the interview of procurement factors impacting the quality of GFCPs

When the researcher asked the interviewee about the procurement factors affecting the Quality of GFCPs,

> *"In Uganda most people are doing different jobs to earn a living, most of the evaluating committee in government funded construction project involve in different tasks away from the assigned duties therefore materials' testing at the site is never done neither taken to the laboratory." (District Engineers BD)*

The local council chairperson 3 of Busamuzi sub county lamented that;

> *"Uganda today is full of tolerance on corruption issues where almost every government organization is filled by workers who take professionalism, transparency and ethical practices within the project implementation team in Local Governments as nothing, therefore, this implied that the project had to come to a standstill up to when the claim was approved without minding about the value for money."*

On a similar note, the researcher asked the District Chairperson was asked whether there are procurement factors affecting quality of government funded construction projects. He stressed that;

> "*The BDLG lack a well-organized procurement system to have quality construction projects in Local Governments. Most of the officials are not mindful on effective cost and quality control measures in place thus affecting the quality of government funded construction projects."*
>
> *"There are very few competent staff in BDLG due to the fact that there is few staff. They don't want to move on water, give a case at hand where most of the projects like seed school and the road construction in in another island which require moving on water using speed boat. Therefore, in such situation*

ensuring that materials' testing is done on site and afterwards taken to the laboratory becomes difficult."

4.4 Impact of personnel factors on the quality of GFCPs in BDLG

This objective was set to find out whether personnel factors impact on the quality of GFCPs in BDLG as indicated in conceptual framework of the study. All these responses were aggregated into one index called Personnel Factors (PF). The findings are presented in the Table 4.6.

Table 4. 6: Impact of personnel factors on the quality of GFCPs in BDLG

Item (N=45) Personnel Procurement factors affecting the quality of GFCPs	**Response**	**Freq**	**Mean**	**Std. Dev**	**Ranking**
Experience of the contractor and capability of the contractor's project manager are always put in consideration by the district LG.	SA	25	4.35	0.95	0.95
The district requires the contractors to hire personnel who exercise domain expertise in the particular construction project before awarding.	A	33	4.20	0.54	2
Contract management capability has been used as one of the major criteria for evaluating construction contractors during prequalification and tender evaluation at Buvuma District Local Government.	A	22	4.17	0.83	3

Local Governments recruit experienced employees in the department of Engineering which is responsible for quality control in construction projects.	A	23	3.57	1.32	4
Competent and qualified people are used to supervise construction works in Local Governments.	D	27	2.44	1.25	5
Communication skill and the ability to communicate the resources within and outside of the project environment effectively are perceived as the most important skill in our construction projects.	SD	19	2.24	1.40	8
The district requires classes of registration of contractors as well as level of technical staff qualification before awarding contracts.	A	33	2.08	1.18	9
Contractors have qualified technical staff to undertake construction works in Local Government.	D	25	2.08	1.12	10
The District Local Government evaluates Technical ability of contractors before awarding contractors.	D	27	2.04	0.92	11
Mean of Means (MoM)			**2.887**		

The results concerning the impact of personnel on the quality of GFCPs in BDLG; In achieving objective two eleven (11) statements were set and the responses were given in relations to the five Likert scale ranging from 1 Strongly Disagree (SD), to 5 Strongly Disagree (SA).

The findings revealed that the respondents agreed that, Experience of contractor and capability of contractor project manager are always put in consideration by the District LG. (mean = 4.35) and was ranked 1st position. The results indicate that majority of the respondents agreed that the BDLG requires the contractors to hire personnel who exercise domain expertise in the particular construction project before awarding with a grand (mean = 4.20) and was ranked 2nd position. Majority of the respondent agreed that contract management capability has been used as one of the major criteria for evaluating construction contractors during prequalification and tender evaluation at BDLG with a (mean = 4.17) and was ranked 3rd position.

The study found out that respondents agreed that; LGs recruit experienced employees in the department of Engineering responsible for quality control in construction projects with a (mean = 3.57) and was ranked 4th position. The study indicates that the respondents disagreed that: competent and qualified people are used to supervise construction works in BDLG with a (mean = 2.44) and was ranked 5th position. The result indicates that majority of the respondents disagreed that the district engineering department is fully constituted with local government qualified staff with a (mean = 2.33) and was ranked 6th position. The results indicate that majority of the respondents disagreed that BOQ, Technical drawings are prepared by competent personnel in LG with a (mean = 2.26) and was ranked 7th position.

The results continue to show that majority strongly disagreed that communication skill and the ability to communicate the resources within and outside the project environment effectively are perceived as the most important skill in our construction projects with a (mean = 2.24) and was ranked 8th position.

Findings also show that majority of the respondents agreed that the district requires classes of registration of contractors as well as level of technical staff qualification before awarding contacts in local government with a (mean = 2.08) and was ranked 9th position. The results showed that majority disagreed that contractors have qualified technical staff to undertake construction works in Local Government with a (mean = 2.08) and was ranked 10th position. In testing whether the district Local Government evaluates technical ability of contractors before awarding contracts majority disagreed with the statement with a (mean = 2.04) and was ranked 11th position. The result above has also been presented in Tables 14 - 23 in Appendix 1 of the study results.

In general, there was an average of means = 2.887 which indicates that out of eleven items used to testing whether personnel factors affect the quality of GFCPs only four were significant. The findings indicate that BDLG requires the contractors to hire staff with vast experience in the particular construction project before awarding. This finding is in line with the study by Boje, *et al*., (2020) who states that technical Personnel means each person employed by or working for or with the project or any of its sub- contractors or suppliers at any tier, who would be expected to make, or who actually makes, subject innovations. The construction project manager being the focal point of all the activities necessitates him/her to be competent and able to execute their available resources in an efficient way.

The study also revealed that Contract management capability has been used as one of the major criteria for evaluating construction contractors during prequalification and tender evaluation at Buvuma District Local Government. This is similar with the study by Karimi *et al*., (2020) who states that the Construction projects management is more important than ever, as the key indicator of how construction projects are conceived, designed and built.

Further still the study revealed that most of the items were insignificant especially that BDLG employs competent and qualified people to supervise construction works in Local Governments of which majority of the respondents disagreed. These findings are similar with the study by Colonnelli, and Ntungire, (2018), who states that quality factors such as; availability of competent staff and quality of equipment and raw materials are important in the success of any construction works.

In conclusion the construction project manager being the overall supervisor should possess necessary competence and qualification.

4.4.1 Correlation Analysis about the personnel factors impact on the quality of GFCPs in BDLG

In achieving the research question number two of what impact do personnel have on the quality of government funded construction projects in BDLG. To test the impact, the Pearson Correlation coefficient between personnel factors and the quality of GFCPs as presented in the Table 4.7.

Table 4. 7: Correlation coefficient about personnel factors impact on the quality of GFCPs in BDLG

		Personal Factors.	**Quality of GFCP**
Personnel Procurement factors affecting the Quality of GFCPs.	Pearson Correlation	1	0.483**
	Sig. (2-tailed)		.001
	N	45	45
Quality of GFCPs	Pearson Correlation	0.483**	1
	Sig. (2-tailed)	0.001	
	N	45	45

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.7 indicates that personnel factors affect the quality of GFCPs with the Pearson Correlation 0.483** at significance level of 0.001 and 45 respondents. This indicates a medium positive relationship between personnel factors and GFCPs in BDLG. The significance level=0.001 which is less than 0.05 shows the relationship is statistically significant. Therefore, it can be concluded that personnel factors have impact on the quality of GFCPs in BDLG.

4.4.2 Regression analysis of personnel factors and quality of GFCPs in BDLG

A regression analysis was conducted to measure the extent to which personnel factors relate to the quality of GFCPs using the adjusted R^2 values, standardized beta values, t-values and significance measures at 0.05 level. The results of tabulation are presented in Table 4.8.

Table 4. 8: Regression result between Personnel factors and quality of GFCPs in BDLG

Predictor	Adjusted R Square	Df	Mean square	F	Sig
		standard error	standardizedco-efficient Beta (ß)	T	Sig
Constant	2.315	0.371		6.245	0.000
Personnel Factors	0.93	0.103	0.136	0.93	0.373

a. Dependent Variable: Quality of GFCPs

The findings of the regression model in Table 4.8 gives an Adjusted R square of= 0.93 implying that 93% of the variance in the quality of GFCPs are affected by personnel factors. The remaining 7% variance is as a result of procurement factors such as worker relations, management styles and ecological issues which are not explained in this study. It is caused by procurement factors not included in this study. The level of significance of = 0.000 which less than 0.05 indicates that personnel factors are statistically significant. Therefore, it is concluded that personnel factors have a significant impact on the quality of GFCPs in BDLG and in all LGs**.**

4.4.3 Results from the interviews on impact of personnel factors on the QGFCPs in BDLG

When the researcher asked the interviewee to comment on the impact of personnel factors on the quality of government funded construction projects in BDLG one memberof the contract committee said;

> "*What hinders our Local government to progress is that the district engineering department is not fully constituted with qualified staff." "The quality of government funded construction projects in BDLG would be*

completed in time and value for money would be realized only if the contractors would have maintained qualified Technical staff to undertake construction works in Local Government as put in paper work during bidding process."

When interviewed to tell whether local government employs contractors with enough equipment in construction projects one in technical committee lamented that;

"*Most contractors do present all the required tools and equipment during the bidding but in reality most of them are hired, borrowed which do not appear at the site when such contractors are given chance to do the work."*

In this regard the technical team should improve on coordination and monitoring roles within the project for customer satisfaction. In addition, BDLG should ensure that all contractors have qualified technical staff to undertake construction works in the district. Therefore, the interview results were consistent with the study findings as they both suggested a positive impact between personnel factors and the quality of government funded construction projects in BDLG.

4.5 The impact of funding on the quality of GFCPs in BDLG

The third objective was set to determine the impact of funding on the quality of GFCPs in BDLG. The Likert scale rating was used ranging from 1 representing strongly disagreed and 5 representing Strongly Agree. All these responses were summarized into one index called Funding Factors (FF). The findings are presented in the Table 4.9.

Table 4. 9: The impact of funding factors on the quality of GFCPs

Item (N=45) Funding procurement factors affecting the quality of GFCPs	**Response**	**Freq**	**Mean**	**Std. Dev**	**Ranking**
Government construction works deliver low quality work due to the challenge of financing.	SA	23	4.46	0.62	1
The decision and source of funding affect quality of construction works in Local Governments.	A	22	4.33	0.73	2
Award of contracts in government construction projects depends on the least quotation.	SA	23	4.28	0.92	3
The delay and failure to provide funding of changes in specification and designs leads to poor quality construction in Local Government.	SA	23	4.24	1.02	4
Project financing affects quality of construction works In LGs.	A	26	4.11	0.83	5
Inadequate funding and inconsistent release of funds is Local Governments is the biggest cause of poor quality works.	D	29	2.35	1.09	6

Funds on projects are provided according to the estimates by the Engineer in Local Governments.	D	26	2.31	1.18	7
Mean of Means (MoM)			**3.73**		

The result from table 4.9 consisted of seven (7) statements which were aimed at determining the impact of funding on the quality of GFCPs in BDLG. Majority of the respondents strongly agreed that government construction works deliver low quality work due to the challenge of financing with a (mean = 4.46) and was ranked in 1st position. From the study Table 4.12, indicates that majority of the respondents agreed that the decision and source of funding affect quality of construction works in BDLG with a (mean = 4.33) and was ranked in 2nd position. Besides, majority of the respondents strongly agreed that award of contracts in government construction projects depends on the least quotation with a (mean = 4.28) and was ranked in 3rd position.

Majority of the respondents also strongly agreed that the delay and failure to provide funding of changes in specification and designs leads to poor quality construction in LG with a (mean = 4.24) and was ranked in 4th position. From the findings, majority of the respondents agreed that the project financing affects quality of construction works in LGs with a (mean = 4.11) and was ranked in 5th position. In testing whether inadequate funding and inconsistent release of funds in Local Governments is the biggest cause of poor quality works the respondents disagreed with a (mean = 2.35) and was ranked in 6th position. Contrary to the above, the results on whether fund projects are provided according to the estimates by the engineer in Local Governments, majority of the respondents disagreed with a (mean = 2.31) and was ranked in 7th position.

The average means was 3.73 which implies that out of the seven items used to test the impact of funding factors and quality of GFCPs only two items were insignificant and rest five were significant as indicated in Table 4.12. The finding revealed that funds on projects are not provided according to the estimates by the Engineer in Local Governments and inadequate funding and inconsistent release of funds in Local Governments is not the biggest cause of poor quality works. These findings conquer with the study findings of Newman *et al*., 2018) who states that project financing processes involve generating finance on a limited recourse for the purposes of developing a large capital-intensive project. Rubarema, (2021) also states that lack of sustained financing processes cannot lead to project unit cost variations, time variation, and project net present values variability, changes in project functionality and stakeholders' dissatisfaction.

The findings of this study assessed that GFCPs deliver low quality work due to the challenge of financing. This is similar findings with that of Otim and Alinaitwe, (2013) who states that financing decisions are very important for all GFCPs. Regardless of the sector to which the construction project belongs to, the decision and nature of the funding is an important part of the ministry or local council responsibility.

The study further revealed that extreme delay and failure to provide funding of changes in specification and designs leads to poor quality construction in Local Government. This is alike with the study by Mwanga, *et al*., (2020). Who states that the problem of financing, is one of the obstacles to the implementation of plane construction works in Local governments and other infrastructure developments. The local governments prefer reliance on their own funds as an internal financing source, but internal revenues are often insufficient to cover its various needs through its stages of activities.

It can be concluded that, lack of sustained financing processes affects project unit cost variations, time variation, and project' net present values variability, changes in project functionality and stakeholder's dissatisfaction.

4.5.1 Correlation analysis between funding factors and quality of GFCPs

The study tested the relationship that exists between funding factors and the quality of GFCPs in BDLG. The results were summarized in Table 4.10.

Table 4. 10: Correlation co-efficient between funding factors and the quality of GFCPs

		Funding Factors	Quality of GFCPs
Funding factors affecting the quality of GFCPs	Procurement Pearson Correlation	1	0.520**
	Sig. (2-tailed)		0.000
	N	45	45
Quality of GFCPs	Pearson Correlation	0.520**	1
	Sig. (2-tailed)	0.000	
	N	45	45

**. Correlation is significant at the 0.01 level (2-tailed).

Result in Table 4.10 shows the Pearson's Correlation Coefficient of 0.520** whose Sig. = 0.000 and 45 respondents, N= 45. The correlation coefficient of 0.52 indicates that there is a strong positive relationship between funding factors and the quality of GFCPs in BDLG. The 0.000 significance level which is less than 0.05 shows that the correlation is statistically significant.

4.5.2 Regression result between funding factors and quality of GFCPs in BDLG

A regression analysis was conducted to measure the extent to which funding factors relate to the quality of GFCPs using the adjusted R^2 values, standardized *beta* ß values, t-values and significance measures at 0.05 level. The results of tabulation are presented in Table 4.11.

Table 4. 11: Regression result between funding factors and quality of GFCPs in BDLG

Predictor	**Adjusted Rsquared**	**Df**	**Mean square**	**F**	**Sig**
	Adjusted	Standard error	Standardized co- efficient *Beta* (ß)	T	Sig
Constant	1.400	0.184		7.598	0.000
Funding factors	0.300	0.075	0.520	3.988	0.000

a. Dependent Variable: Quality of funded government project

The regression model in Table 4.11 suggests an Adjusted R square = 0.30 with significance level of 0. 000. This shows that only 30% of the variance in the quality of GFCPs in BDLG is attributed to funding factors, the remaining 70% variance is attributed to procurement factors such as worker relations, management styles and ecological issues. The significance level = 0.000 which is less than 0.05 indicates that the relationship of the variables funding factors and quality of GFCPs is statistically significant. It can therefore be concluded that funding has minimal impact on the quality of GFCPs in BDLG and LGs in Uganda.

4.5.3 Results from interviews on impact of funding on the quality of GFCPs in BDLG

When different administrators in BDLG were asked to comment about the quality of their work in the Local government one administrator said;

> *"I don't know other districts but in Buvuma district government should expect delay in completing the project based on the level of releasing funds and the hardship in transporting materials to the site. Materials go through stages on transporting for example when sand is needed at the site today it can reach the site after four to five days depending on the nature of the lake sometime the lake is very bad to move on even the transporters fear to move on it thus delaying the completion of the project which affect the quality of the project itself."* (Local Council 5 BD)

On the same note, in an interview with the District engineer he pointed out that;

> *"In the BLG some of the machines need to repair because they are down and for those still working such as tractors and other service Lorries their maintenance is very expensive and they work for few hours. This therefore, affect the period in which the project was scheduled and hence the value for money in this case is not realized."*

One of the interviewed technical committee said that;

> *"For proper timely completion of the projects in the district, LG administration should ensure that that decision and source of funds allocated to the project is released in time and without political attached strings in so doing then the value for money6 in government funded construction project will be satisfactory."*

During the interview with district engineer he said that*;*

> *"The decision and source of funding in BDLG affect the quality of construction works in Local Governments. In most cases the funds take*

long time to be release for the project this in terns affect the stipulated time set for completion of the project." 4.6 Results from interviews on the need for developing an appropriate system for quality management GFCPs

When different administrators in BDLG were asked to comment about the need for a high-quality management system in Local government projects, one administrator said;

During the interview with district engineer he stated that the following should be considered;

During planning stage of construction work, the district engineers should be involved in the initial stages of development. Proper feasibility study conducted to assess the suitability for that given project. The engineering department should be well facilitated in terms of transport facilities and funding. Testing of materials used on construction sites have to be made for ensuring better quality GFCPs.

During the interview with district engineer on what can be done to improve the quality of construction projects in Uganda's Local governments this is what he said;

"Government projects are implemented without doing feasibility studies in the district and no soil investigations are done. The designs are given to the local government by line ministries that is, ministry of health, education and local government to be implemented by the local government for instance under UGIFT programmes the bills of qualities and project costs are provided by ministry of health, and ministry of education for the construction of seed schools".

''He further added that; "some of the designs provided do not suit the nature of soils in Buvuma district and also the costs which are given by line ministries do not cater for transportation of material on water which makes the project

very difficult and costly during the implementation process, leading to late completion of certain projects"

Results from the interviews and findings that were above average mean values of the studied factors were used to develop an appropriate quality management system that will help to improve on the quality of GFCPs in BDLG and LGs. Therefore, I propose a Total Quality Management System by Hoyle, (2015) with some modification to suite the study findings as indicted in Figure 4.3.

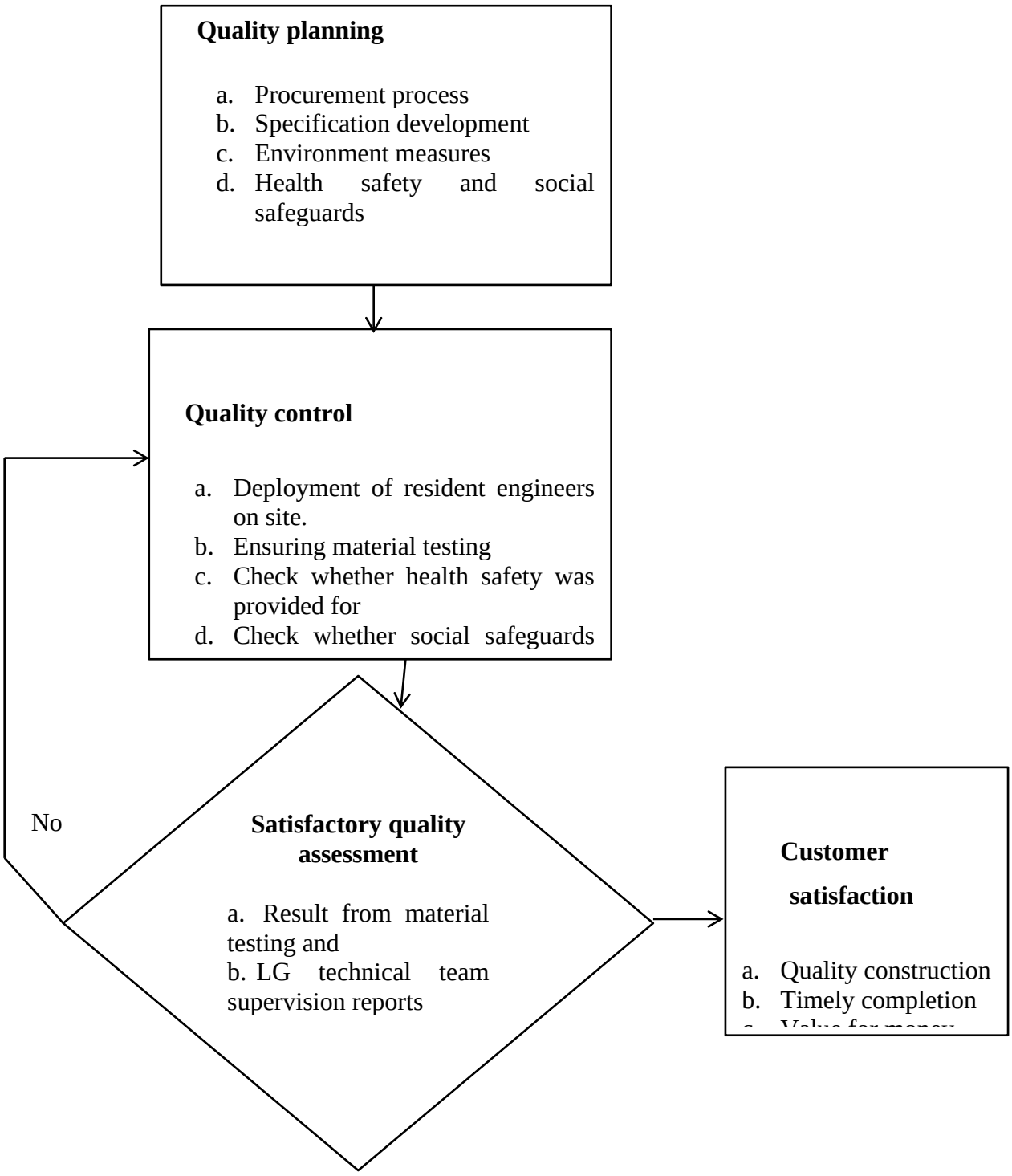

Figure 4. 3: Proposed Total Quality Management System for GFCPs

Implementation of the proposed Quality management system

According to Hoyle, (2015) Quality Management System (QMS) is a formalized system that documents processes, procedures, and responsibilities for achieving quality policies and objectives. In many organizations including the local government QMS helps coordinate and direct an organization's activities to meet customer and regulatory requirements and improve its effectiveness and efficiency on a continuous basis. Any Quality management system is built on four major pillars that is; quality control planning, quality control, quality assurance and quality improvement.

Quality control planning

From the interview with the district engineer and the study findings it was revealed BDLG lack quality control planning as one of the requirements of effective QMS. Therefore, the following are addressed in the proposed QMS.

Preparation of designs for the projects, prescription of material mixes to be used during construction, identification of materials to be used during construction on the project, development of the project specification, recommends the type of procurements to be used, identifying project resources and project duration, scheduling the project activities and developing the ghant chart for tracking work progress and incorporation of health safety measures environment protection and social safeguards with grievance committees. This will cost eight million shillings only.

Quality control

The study revealed that lack of resident engineer on construction sites and failure to test material on sites as the major cause of poor quality of GFCPs in BDLG and LGs.

Therefore, in the proposed QMS, deployment of resident engineers on construction sites is given top priority to ensure that the following are done:

Materials testing are done on the sites and at the laboratory, ensuring proper mixes of materials are done according to specifications during construction, checks sites grids and others setting out works for accuracy, health and safety safeguards, environmental protection measures and social safety prepare progress reports during construction work and reporting on any discrepancy in the drawing to the LG technical team. This stage will cost seventeen million shillings to execute.

Quality assessment

In the proposed QMS, the quality assessment is done by the district engineering department in LGs. Resident engineers report to the district engineer on the progress of work on the site. If the reports require remedial action, then the necessary interventions are done before works continues. And will cost four million shillings If there is no remedial intervention is required, then the construction continues.

Customer satisfaction

If the proposed QMS is adopted it is expected to achieve customer satisfaction in terms of good quality construction, timely completion and cost effectiveness in GFCPs in BDLG and LGs.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

5.1.1 Procurement factors affecting the quality of GFCPs

The result indicates that though majority of the respondents disagreed that there is professionalism, transparency and ethical practices within the project implementation team in Local Governments, Local Government district officers continue to provide a clear scope and specification of construction projects to the contractors.

Despite the fact that prequalification approach has been used to evaluate the overall suitability of contractor's ability to deliver quality construction works for Local Government, there is no resident engineer (Clerk of works) to oversee daily activities on construction projects in Local Governments. In addition, BDLG lacks a well-organized procurement system put in place by policy makers to have quality construction projects in Local Governments.

The study revealed material testing is always not done, lack of a well-organized procurement system, lack of professionalism and ethical practices within the project implementation team, lack of an effective cost and quality measures in place, the absence of resident engineers on construction sites, coupled with the supervision team inability to access distant sites are among the procurement factors affecting Quality construction in BDLG and in LGs in Uganda. The correlation coefficient indicated a moderate positive relationship between procurement factors affecting quality and quality of GFCPs in BDLG. The regression analysis showed that 86.6% of GFCPs are

affected by the procurement factors affecting Quality.

5.1.2 Personnel factors affecting the quality of GFCPs

From the findings, though the local governments recruit experienced employees in the department of engineering which is responsible for quality control in construction projects, the contractors do not hire personnel who exercise domain expertise in the particular construction project. Despite the fact that the district engineering department is constituted with local government qualified staff but the contract management capability has not been used as one of the major criteria for evaluating construction contractors during prequalification and tender evaluation at BDLG thus affecting the quality of GFCPs. It was revealed personnel factors have a significant impact on the quality of GFCPs was supported as evidenced from the study findings. Therefore, the results indicated a medium positive correlation between personnel factors and the quality of government funded construction projects.

5.1.3 Funding factors affecting the quality of GFCPs

The results indicate that award of contracts in BDLG depends on the least quotation, and funds on projects are not provided according to the estimates by the engineer in local governments. The result also indicates that there is inadequate funding and inconsistent release of funds in Local Governments which affect the quality works. The findings also indicate that project financing affect the quality of GFCPs in LGs. It was revealed that funding factors have an significant impact on the quality of GFCPs has been supported by evidence from the findings. Therefore, the results indicated that there is a strong positive correlation between funding factors and the quality of GFCPs.

5.1.4 Developing and appropriate quality system for GFCPs

From the study an appropriate QMS was proposed. The study suggests to carry out modifications in the existing Total quality management system to ensure quality of the GFCPs.

5.2 Conclusions

The study concluded that, lack of a well-organized procurement system affects the timely completion of projects and the lack of competent and experienced staff by contractors affects the quality of GFCPs by not meeting customer satisfaction. Although it was revealed that inadequate funding and inconsistent release of funds in Local Governments is not the biggest cause of poor quality works, this may affect timely completion and value for money on projects. It was also revealed that funds on projects are not provided according to the estimates by the engineer in Local Governments hence affecting the value for money on GFCPs

5.3 Recommendations

The researcher recommended that;

The management in BDLG and DLGs in general should make sure that there is consistent and availability of funding before any construction project takes palace.

A well-organised procurement system should be institudted in Buvuma district all LGs in uganda emphasisng the superrvision and monitering component.

Contrators in Buvuma district ans all LGs in uganda should provides competent and qualified personel on all projects undertakings.

Local governrnent technical teams should monitor and ensure that contrators personell are available on the site.

Buvuma district local governrnent need to adopt the recommedded management system to ensure quality on the contructionm nprojects.

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APPENDICES

Appendix I: Study Results

SECTION A: BIO DATA OF THE RESPONDENTS

Table 1: What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	37	82.2	82.2	82.2
	Female	8	17.8	17.8	100.0
	Total	45	100.0	100.0	

Table 2: Respondent Role

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	District Technical Staff	25	55.6	55.6	55.6
	Contractor Engineer	13	28.9	28.9	84.4
	Project Consultant	4	8.9	8.9	93.3
	Project Manager	3	6.7	6.7	100.0
	Total	45	100.0	100.0	

Table 3: Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Masters	14	31.1	31.1	31.1
	Degree	25	55.6	55.6	86.7
	Diploma	5	11.1	11.1	97.8
	Professional Certificate	1	2.2	2.2	100.0
	Total	45	100.0	100.0	

Table 4: Experience in Local Government Construction works

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I-5 years	7	15.6	15.6	15.6
	6-10 years	21	46.7	46.7	62.2
	11-15 years	11	24.4	24.4	86.7
	More than 16 years	6	13.3	13.3	100.0
	Total	45	100.0	100.0	

SECTION B: FACTORS AFFECT QUALITY OF GFCPs

Table 5: We have a well-organized procurement system put in place by policy makers to have quality GFCPs in Local Governments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	17.8	17.8	17.8
	Disagree	26	57.8	57.8	75.6
	Not Sure	2	4.4	4.4	80.0
	Agree	3	6.7	6.7	86.7
	Strongly Agree	6	13.3	13.3	100.0
	Total	45	100.0	100.0	

Table 6: The procurement system we use on our projects offer a lot of influence on successful project outcome in Local Governments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	24.4	24.4	24.4
	Disagree	23	51.1	51.1	75.6
	Not Sure	2	4.4	4.4	80.0
	Agree	2	4.4	4.4	84.4
	Strongly Agree	7	15.6	15.6	100.0
	Total	45	100.0	100.0	

Table 7: Local Government contractors are honest and transparent.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	13.3	13.3	13.3
	Disagree	33	73.3	73.3	86.7
	Agree	4	8.9	8.9	95.6
	Strongly Agree	2	4.4	4.4	100.0
	Total	45	100.0	100.0	

Table 8: There are professionalism, transparency and ethical practices within the project implementation team in Local Governments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	26.7	26.7	26.7
	Disagree	25	55.6	55.6	82.2
	Not Sure	1	2.2	2.2	84.4
	Agree	1	2.2	2.2	86.7
	Strongly Agree	6	13.3	13.3	100.0
	Total	45	100.0	100.0	

Table 9: There is always a resident engineer (Clerk of works) to oversee daily activities on construction project in Local Government

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	15.6	15.6	15.6
	Disagree	32	71.1	71.1	86.7
	Agree	2	4.4	4.4	91.1
	Strongly Agree	4	8.9	8.9	100.0
	Total	45	100.0	100.0	

Table 10: Local Government ensures that materials' testing is always done on site and afterwards taken to the laboratory

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	20.0	20.0	20.0
	Disagree	22	48.9	48.9	68.9
	Agree	7	15.6	15.6	84.4
	Strongly Agree	7	15.6	15.6	100.0
	Total	45	100.0	100.0	

Table 11: Prequalification approach has been used to evaluate the overall suitability of contractor's ability to deliver quality construction works for Local Government.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	2.2	2.2	2.2
	Disagree	9	20.0	20.0	22.2
	Not Sure	2	4.4	4.4	26.7
	Agree	16	35.6	35.6	62.2
	Strongly Agree	17	37.8	37.8	100.0
	Total	45	100.0	100.0	

Table 12: The Local Government district officers provide a clear scope and specification of construction projects to the contractors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	8.9	8.9	8.9
	Disagree	8	17.8	17.8	26.7
	Not Sure	1	2.2	2.2	28.9
	Agree	19	42.2	42.2	71.1
	Strongly Agree	13	28.9	28.9	100.0
	Total	45	100.0	100.0	

Table 13: There are effective cost quality control measures in place.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	13.3	13.3	13.3
	Disagree	36	80.0	80.0	93.3
	Agree	1	2.2	2.2	95.6
	Strongly Agree	2	4.4	4.4	100.0
	Total	45	100.0	100.0	

SECTION C: IMPACT OF PERSONNEL FACTORS ON THE QUALITY OF GFCPS

Table 14: Competent and qualified people are used to supervise construction works in Local Governments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	15.6	15.6	15.6
	Disagree	27	60.0	60.0	75.6
	Not Sure	1	2.2	2.2	77.8
	Agree	4	8.9	8.9	86.7
	Strongly Agree	6	13.3	13.3	100.0
	Total	45	100.0	100.0	

Table 15: Local Governments recruit experienced employers in the department of engineering which is responsible for quality control in construction projects.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	13.3	13.3	13.3
	Disagree	5	11.1	11.1	24.4
	Not Sure	1	2.2	2.2	26.7
	Agree	23	51.1	51.1	77.8
	Strongly Agree	10	22.2	22.2	100.0
	Total	45	100.0	100.0	

Table 16: Contractors have qualified Technical staff to undertake construction works in Local Government.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	28.9	28.9	28.9
	Disagree	25	55.6	55.6	84.4
	Agree	4	8.9	8.9	93.3
	Strongly Agree	3	6.7	6.7	100.0
	Total	45	100.0	100.0	

Table 17: Bills of Quantities, Technical drawings are prepared by competent personnel in Local Government.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	13.3	13.3	13.3
	Disagree	31	68.9	68.9	82.2
	Not Sure	1	2.2	2.2	84.4
	Agree	4	8.9	8.9	93.3
	Strongly Agree	3	6.7	6.7	100.0
	Total	45	100.0	100.0	

Table 18: The district requires classes of registration of contractors as well as level of technical staff qualification before awarding contracts.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	16	35.6	35.6	35.6
	Disagree	20	44.4	44.4	80.0
	Agree	7	15.6	15.6	95.6
	Strongly Agree	2	4.4	4.4	100.0
	Total	45	100.0	100.0	

Table 19: The District Local Government evaluates technical ability of contractors before awarding contractors.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	24.4	24.4	24.4
	Disagree	27	60.0	60.0	84.4
	Not Sure	2	4.4	4.4	88.9
	Agree	4	8.9	8.9	97.8
	Strongly Agree	1	2.2	2.2	100.0
	Total	45	100.0	100.0	

Table 20: Communication skill and the ability to communicate the resources within and outside of the project environment effectively are perceived as the most important skill in our construction projects.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	19	42.2	42.2	42.2
	Disagree	12	26.7	26.7	68.9
	Not Sure	2	4.4	4.4	73.3
	Agree	8	17.8	17.8	91.1
	Strongly Agree	4	8.9	8.9	100.0
	Total	45	100.0	100.0	

Table 21: Experience of the contractor and capability of the contractor's project manager are always put in consideration by the district Local Government.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	2.2	2.2	2.2
	Disagree	3	6.7	6.7	8.9
	Agree	16	35.6	35.6	44.4
	Strongly Agree	25	55.6	55.6	100.0
	Total	45	100.0	100.0	

Table 22: The district requires the contractors to hire personnel who posse domain expertise in the particular construction project before awarding.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	2.2	2.2	2.2
	Agree	33	73.3	73.3	75.6
	Strongly Agree	11	24.4	24.4	100.0
	Total	45	100.0	100.0	

Table 23: The District Engineering department is fully constituted with Local Government qualified staff.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	20.0	20.0	20.0
	Disagree	26	57.8	57.8	77.8
	Agree	6	13.3	13.3	91.1
	Strongly Agree	4	8.9	8.9	100.0
	Total	45	100.0	100.0	

Table 24: Contract management capability has been used as one of the major criteria for evaluating construction contractors during prequalification and tender evaluation at Buvuma District Local Government.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	6.7	6.7	6.7
	Not Sure	3	6.7	6.7	13.3
	Agree	22	48.9	48.9	62.2
	Strongly Agree	17	37.8	37.8	100.0
	Total	45	100.0	100.0	

SECTION D: IMPACT OF FUNDING ON THE QUALITY OF GFCPS IN BUVUMA DISTRICT LOCAL GOVERNMENT

Table 25: Project financing affects quality of construction works In LGs.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	8.9	8.9	8.9
	Not Sure	1	2.2	2.2	11.1
	Agree	26	57.8	57.8	68.9
	Strongly Agree	14	31.1	31.1	100.0
	Total	45	100.0	100.0	

Table 26: Funds on projects are provided according to the estimates by the Engineer in Local Governments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	20.0	20.0	20.0
	Disagree	26	57.8	57.8	77.8
	Not Sure	1	2.2	2.2	80.0
	Agree	5	11.1	11.1	91.1
	Strongly Agree	4	8.9	8.9	100.0
	Total	45	100.0	100.0	

Table 27: Award of contracts in GFCPs depends on the least quotation.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	8.9	8.9	8.9
	Not Sure	2	4.4	4.4	13.3
	Agree	16	35.6	35.6	48.9
	Strongly Agree	23	51.1	51.1	100.0
	Total	45	100.0	100.0	

Table 28: Inadequate funding and inconsistent release of funds is Local Governments is the biggest cause of poor quality works.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	13.3	13.3	13.3
	Disagree	29	64.4	64.4	77.8
	Not Sure	1	2.2	2.2	80.0
	Agree	6	13.3	13.3	93.3
	Strongly Agree	3	6.7	6.7	100.0
	Total	45	100.0	100.0	

Table 29: The decision and source of funding affect quality of construction works in Local Governments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	4.4	4.4	4.4
	Not Sure	1	2.2	2.2	6.7
	Agree	22	48.9	48.9	55.6
	Strongly Agree	20	44.4	44.4	100.0
	Total	45	100.0	100.0	

Table 30: The delay and failure to provide funding of changes in specification and designs leads to poor quality construction in Local Government.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	2.2	2.2	2.2
	Disagree	4	8.9	8.9	11.1
	Not Sure	1	2.2	2.2	13.3
	Agree	16	35.6	35.6	48.9
	Strongly Agree	23	51.1	51.1	100.0
	Total	45	100.0	100.0	

Table 31: Government construction works deliver low quality work due to the challenge of financing.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	2.2	2.2	2.2
	Agree	21	46.7	46.7	48.9
	Strongly Agree	23	51.1	51.1	100.0
	Total	45	100.0	100.0	

Appendix II: GFCPs in BDLG

Figure 1: Maternity word at Lwajje health III under UGIFT which was meant for financial year 2020-2021 never completed to date.

Figure 2: Maternity word at Lwajje health III honeycombing due to poor compaction

Figure 3: Busamuzi health centre III of 2020 and now the underwater penetrated in the wall due poor dump proofing

Figure 4: Buwoya Health III of 2019 had underwater penetrated in the wall and cracks on the splash apron

Figure 5: Staff house of Bukaali primary school had cracks on the splash apron due to poor mixes and construction

Figure 6: Staff house of Bukaali primary school of 2018 with poor construction on the eaves

Figure 7: Collapsed toilet wall of 2017 at Buwanzi primary school due to poor construction and mixes

Figure 8: Linkages on the roof of the Resident district commissioner's office of 2017 due to poor roof construction

Figure 9: Peeling off concrete floor tiles on the veranda of RDC office 2017 due to poor construction

Figure 10: Culverts installed by Buvuma town council under road fund in 2019 were washed away by stormy water along Kirongo –galamo road due to poor installation.

Figure 11: Water percolation into walls at Buvuma town council offices of 2018 due to poor construction

Appendix III: Krejcie and Morgan sample size

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note- N is population size. S is sample size

Source: Krejcie & Morgan, 1970.

Appendix IV: Questionnaires

KYAMBOGO UNIVERSITY

Faculty of Engineering

Department of Civil and Environmental Engineering

ASSESSMENT OF QUALITY OF GFCPs IN LOCAL GOVERNMENTS IN UGANDA

(A CASE STUDY OF BDLG)

Dear Respondent,

I am **MAYEGA JASPER,** a student of Kyambogo University pursuing a Master's Degree in Construction Technology and management. I am conducting a research on the above mentioned topic and you have been identified as key respondent to this research, your response was of great importance for the progress of this research, and the information you provide was used for academic purposes only. The highest level of confidentiality and anonymity was used to protect the information you give.

Section A: Respondent Demographic Information

In this section tick in the box as appropriate

A1. What is your gender?

a) Male ☐
b) Female ☐

A2. Respondent Role

a) District Technical Staff ☐
b) Contractor Engineer ☐
c) Project Consultant ☐
d) Project Manager ☐

A3. Level of Education

a) Doctorate of Philosophy ☐
b) Masters ☐
c) Degree ☐
d) Diploma ☐
e) Professional Certificate ☐

A4. Experience in Local Government Construction works

☐
a) I-5 years
b) 6-10 years ☐
c) 11-15 years ☐
d) More than 16 years ☐

SECTION B:

B. Opinion on procurement factors affecting quality of GFCPs

In the Section below, please indicate the extent to which you agree or disagree to the following statements by ticking the appropriate space provided basing on the options provided below.

1) **Strongly Disagree [SD]**
2) **Disagree [D]**
3) **Not Sure [NS]**
4) **Agree [A]**
5) **Strongly Agree [SA]**

		SD	D	NS	A	SA
No.	**Statements**	1	2	3	4	5
B1	We have a well-organized procurement system put in place by policy makers to have quality construction projects in Local Governments.					
B2	The procurement system we use on our projects offer a lot of influence on successful project outcome in Local Governments.					
B3	Local Government contractors are honest and transparent.					
B4	There is professionalism, transparency and ethical practices within the project implementation team in Local Governments.					
B5	There is always a resident engineer (Clerk of works) to oversee daily activities on construction project in Local Government.					
B6	Local Government ensures that materials' testing is always done on site and afterwards taken to the laboratory.					
B7	Prequalification approach has been used to evaluate the overall suitability of contractor’s ability to deliver quality construction works for Local Government.					
B8	The Local Government district officers provide a clear scope and specification of construction projects to the contractors.					
B9	There are effective cost and quality control measures in place.					

SECTION C

C. Opinion on construction project technical personnel specifics

		SD	D	NS	A	SA
No.	**Statements**	1	2	3	4	5
C1	Competent and qualified people are used to supervise construction works in Local Governments.					
C2	Local Governments recruit experienced employers in the department of Engineering which is responsible for quality control in construction projects.					
C3	Contractors have qualified Technical staff to undertake construction works in Local Government.					
C4	Bills of Quantities, Technical drawings are prepared by competent personnel in Local Government.					
C5	The district requires classes of registration of contractors as well as level of technical staff qualification before awarding contracts.					
C6	Contract management capability has been used as one of the major criteria for evaluating construction contractors during prequalification and tender evaluation at Buvuma District Local Government.					
C7	Communication skill and the ability to communicate the resources within and outside of the project environment effectively are perceived as the most important skill in our construction projects.					
C8	Experience of the contractor and capability of the contractor's project manager are always put in consideration by the district Local Government.					
C9	The district requires the contractors to hire personnel who posse domain expertise in the particular construction project before awarding.					
C10	The District Engineering department is fully constituted with Local Government qualified staff.					

C11	The district Local Government evaluates Technical ability of contractors before awarding contractors.					

SECTION D

Opinion on the funding aspect of Local Government construction prefects

		SD	**D**	**NS**	**A**	**SA**
No.	**Statements**	**1**	**2**	**3**	**4**	**5**
Dl	Project financing affects quality of construction works In LGs.					
D2	Funds on projects are provided according to the estimates by the engineer in Local Governments.					
D3	Government construction works deliver low quality work due to the challenge of financing.					
D4	Inadequate funding and inconsistent release of funds is Local Governments is the biggest cause of poor quality works.					
D5	The decision and source of funding affect quality of construction works in Local Governments.					
D6	The delay and failure to provide funding of changes in specification and designs leads to poor quality construction in Local Government.					
D7	Award of contracts in government construction projects depends on the least quotation.					

Appendix V: Interview Guide

Qualitative Questionnaire of a Research Topic

Assessment on Quality of GFCPs in Local Governments of Uganda:

A Case Study of BDLG

Good morning/afternoon.

I am **MAYEGA JASPER,** a student of Kyambogo University pursuing a Master's Degree in Construction Technology and management. I am conducting a research on the above mentioned topic and you have been identified as key respondent to this research, your responses will be of great importance for the progress of this research, and the information you provide will be used for academic purposes only. The highest level of confidentiality and anonymity will be used to protect the information you give.

Questions:

1. Department/Organization

……

2. How long have you been in this organization?

……

3. Do you think there are procurement factors affecting quality of government funded construction projects?

……

If yes, mention them……

Do you think local government employs contractors with enough equipment's in construction projects?

……..

If no, how does it affect the quality of construction projects?

……

4. Do you think the current procurement system put in place by policy makers affects the quality of construction project?

If yes, please explain how? …… ……

5. Do you think their value of money in local government funded construction projects?……

……

6. Do you think government employ competent technical personnel on funded construction projects? ……

   ……..……

7. Does the source of funding on Local Government construction projects affect the quality of works?

If yes, please explain how. …….

8. Some people think that inadequate funding and inconsistent release of funds by Local Governments and poor financial management by contractor are the lead causes of poor quality works.

   Why do you think a new quality system needs to be developed for GFCPs in BDLG in Uganda?……..……..

9. What do you suggest can be done to improve the quality of construction projects in Uganda's Local governments? ……

   ……..……

Thank for p in this study

Appendix VI: Introductory Letter to Buvuma District