LOCAL CONTENT PRACTICES AND LOCAL FIRM PARTICIPATION IN THE ROAD CONSTRUCTION SECTOR OF UGANDA; CASE OF LOCAL FIRMS

BY

WILLY HORX ATUPPA

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DECLARATION

I, **Willy Horx Atuppa** hereby declare that this dissertation is my original work and that it does not incorporate without acknowledgement any material previously submitted for a Master's degree or any other academic award in any University; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text to that effect.

Sign: ……. Date: …….

WILLY HORX ATUPPA

18/U/GMSC/1941/PD

APPROVAL

This work has been done under our supervision and has met the research report requirements of Kyambogo University and is now ready for submission.

Signature:……. …… Date:……..….

DR. CHARLES NDANDIKO

PRINCIPAL SUPERVISOR

Signature:……. …… Date:……..….

DR. PETER OBANDA

SECOND SUPERVISOR

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To my young family; my wife and all my children who endured my long absence from home during the struggle to complete my studies, I say thank you and I will always treasure you.

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LIST OF ABBREVIATIONS

ANOVA	:	Analysis of Variance
BUBU	:	Buy Uganda Build Uganda
CC	:	Contracts Committee
CVI	:	Content Validity Index
HDIs	:	Historically Disadvantaged Individuals
IPIECA	:	International Petroleum Industry Environmental Conservation Association
ITC	:	International Trade Centre
LCP	:	Local Content Practices
LCR	:	Local Content Requirement
PDU	:	Procuring and Disposing Unit
PPDA	:	Public Procurement and Disposal of Public Assets Authority
PPPFA	:	Preferential Procurement Policy Framework Act
SME	:	Small and Medium Enterprises
SPSS	:	Statistical Package for Social Sciences
TMT	:	Top Management Team
UNCTAD	:	United Nations Conference on Trade and Development
UNRA	:	Uganda National Roads Authority

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ABSTRACT

The study sought to examine the local content practices that can be implemented to promote local firm participation in road construction sector of Uganda. Emphasis was on assessing how local procurement, technology and supplier development programs affects local firm participation in road construction sector of Uganda. The study was motivated by the observed huge budget allocations being channeled to road construction sector in Uganda and yet the percent of local firms winning the procurement contracts still remains low. The study used a cross sectional survey design where both quantitative and qualitative data was collected from a sample of 198 contractors and suppliers of road construction materials using cluster sampling and simple random sampling methods. Prerequisite tests were carried out where data was tested for normality and multicollinearity. 157 questionnaires were filled and submitted online through the use of Kobo Toolbox. A multiple regression model was performed to establish the percent of variation in local firm participation caused as a result of local content practices of local procurement, technology and supplier development programs. Findings revealed that only 53.8% of the variations in local firm participation is explained by the three constructs that measured local content practices, where local procurement was the most predictor of the variance in local firm participation and also significant ($\beta1= 0.223$, $t= 4.077$, sig = 0.000) followed by supplier development programs with ($\beta1= 0.579$, $t= 6.889$, sig = 0.000). However, technology was insignificant with ($\beta1= 0.151$, $t= 1.797$, sig = 0.074). The study recommends that; specialized institutions be developed to meet the demand for skilled labour force, government of Uganda should put in place limitation on the number of expatriates employed with the view of creating jobs for the nationals, continue to re-enforce reservation schemes and preference margins in the road construction sector to encourage the use of locally available goods and services, establishment of government funded research and development centers to transfer technology to local firms at a lower price, signing of technology transfer agreements between foreign companies and the government of Uganda to allow local firms in the road construction sector to benefit from usage of such technology and finally local firms should be mandated by laws in place to train nationals with the view of gaining skills and experience.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Local content initiatives have been applied in the mining industry mainly in the oil and gas sectors in most of the developed and developing countries according to the available literature (Esteves et al., 2013; Gwayaka, 2014; Hansen et al., 2016; Ovadia, 2016). Little initiatives have been done in other sectors like construction and in Uganda in particular, most of the road construction projects are being undertaken by foreign firms mainly from China. The reasons for reliance on Chinese firms is because China relies on its commercial enterprises, many of which have close ties to the state, to win contracts and they sometimes bid low in order to break into the market and don't always seem to be concerned about turning a profit (Shinn, 2005).

China also offer soft loans (Allawi & Changfeng, 2018; Shinn, 2005) which makes it very attractive especially in infrastructure developments. Allawi & Changfeng, (2018) further stated that China is heavily investing in infrastructure sector because the traditional development partners (Western Aid) had not given much attention despite being crucial for economic growth. The use of firms mainly from China is also perhaps because of China's relations with Africa (Uganda inclusive) as a result of the "Beijing Consensus", with their approach which is relaxed and pragmatic, guided by the policy of non-interference in the internal affairs of African countries (Nassanga & Makara, 2016). According to (Adams, 2010), foreign construction firms dominates major projects in most developing countries due to deficiencies in indigenous construction capacities.

This research study set out to examine local content practices and local firm participation in road construction industry of Uganda. Chapter one entailed background of the study, problem

statement, objectives of the study and research questions, scope of the study, justification of the study, significance and conceptual framework.

1.1 Background of the study

1.1.1 Historical Perspective

In the United States of America, Local content was introduced in the form of "Buy America" statutes and regulations that apply when federal funds are used to support projects involving transport infrastructure, including Amtrak. (Platzer & Mallett, 2015). More evidence on the use of Local content is seen in the UK and Norway where they have been successful in the development of their local content (Kazzazi & Nouri, 2012).

In India local small and public sector enterprises has been promoted over many years (ITC, 2000) resulting in a high local content in the procurement of infrastructure where an estimate of 100% of inputs to water and rural road projects and 75% of inputs to power projects are local.

The South African Government amended regulations to the Preferential Procurement Policy Framework Act (PPPFA), Act 5 of 2000 in 2011, which empowered the Ministry of Trade and Industry to utilize government procurement to ensure achievement of key industrial policy objectives namely, increased local production within the economy. The implication of the new regulations for businesses, local and foreign is that all suppliers in designated sectors have to meet the set minimum local content requirements if they are bidding within the Public Sector. Suppliers are required to submit both a declaration of local content and proof of verification. (Ministry of Trade and Industry Website; South Africa). The government also developed tender advice centers; broadened participation base for small contracts (less than R7 500) and waived the security/sureties on construction contracts with a value less than R100 000. In addition, the government encouraged unbundling or unpacking of large projects into smaller projects,

promoted early payment cycles by government and developed a preference system for SMEs owned by historically disadvantaged individuals (HDIs).

Most African countries and other developed World have enacted laws, policies and guidelines for managing local content. The World Bank and other financial institutions have also adopted Local Content guidelines in their operations (Gwayaka, 2014) by supporting local content through their procurement principles of encouraging the development of suppliers from borrowing countries (Wells & Hawkins, 2010) .

It is therefore no doubt that Local content is being practiced world over by different countries though in different forms in order to promote economic benefits like employment of nationals, development of companies'/entities resident in the host countries, development of technology and infrastructure and the improvements of skills and capacity of local businesses and the domestic workforce. Whereas local content is ideal for ensuring economic development across various sectors, in Uganda mystery exists as interventions put in place to boost capacity of local firms to supply local content are not yielding hence local content hasn't yielded results (Nduhura. A., Alinda .F, 2018)

1.1.2 Theoretical Perspective

The study was guided by the theory of continent protection as put forward by Grossman in 1981. Grossman asserts that a content protection scheme requires that a given percentage of domestic value added or domestic components be embodied in a specified final product (Grossman, 1981). This theory has been used by many researchers to explain why regulation is necessary (Heim, 2019). Initially during the industrialization process, many countries witnessed an increase in imports of parts and subassemblies that led to a consequent decline in the share of domestic value added in goods that were produced in multi-stage processes. Local content schemes thus became a widely used form of intermediate goods protection, most

notably in the automobile industries of Australia, Latin America and Canada (Vousden, 1987). Therefore, increasing demand (derived) for the domestic inputs through content protection requirement will benefit suppliers of these inputs through increased production. National self-sufficiency and independence will also be achieved through increase in proportion of consumption supplied from domestic production leading to an increase in production in the supported industries and employment creation in this sector. The theory helped in explaining the need to protect the indigenous industries in the road construction sector in Uganda considering the fact that most road construction projects are carried out by multinational companies.

1.1.3 Conceptual Perspective

The study had two main variables namely local content practices and local firm participation as explained below;

Local content practices

Local Content and Local Firm Participation are used interchangeably and seem confusing therefore; a proper isolation of the two terms helps to properly appreciate their scope and tailor policy strategies towards optimum inclusion. Local content is just one of the forms of citizen participation. Citizen participation involves processes that provide for individuals in a community an opportunity to influence public decisions which affect them (The Uganda National Oil & Gas Policy, 2008). Local content has two schools of thoughts one defining it to include utilization of local inputs and another to include local firms in production, construction and any extraction activities. For purposes of this study, Local content was looked at in terms of use of local inputs (materials and labor) in the road construction sector.

National Content refers to the value added or created in the Ugandan economy by employment of Ugandan workers and the use of goods produced or available in Uganda and services provided by Ugandan citizens and enterprise (National Content Policy for the Petroleum Subsector in Uganda, 2017). Standard Gauge Railway Project (2016) defines Local content as the added value brought to Uganda through the competitive and gainful participation of citizens and the Ugandan private sector in its initial planning, development and maintenance leading to; value addition, skills and knowledge development and retention, Enhancement of economic multipliers, thus economic growth and improvement of citizen's welfare.

Esteves, Coyne & Moreno (2013) defines local content as the quantum/percentage of locally produced materials, personnel, goods and services rendered to the oil, gas and mining industries According to the Mineral and Coal Mining Law (Law No. 4/2009) of Indonesia, Local content initiatives require companies to process and refine mining products and they must give priority to the utilization of local employees and domestic goods and services according to the existing laws and regulations.

The IPIECA (2011) meanwhile defines local content as the added value brought to a host nation (and regional and local areas in that country) through the activities of the oil and gas industry. The IPIECA (2011), stipulates the measurement of LC as by project, affiliate, and/or country aggregate undertaken through: workforce development, that is, the employment and training of the local workforce; investments in supplier development which is the development of suppliers and services locally, and locally procuring supplies and services.

Basing on the above literature local content practices under this study was operationalized as local procurement, technology and supplier development programs.

Local firm participation.

Esteves, Coyne and Moreno (2013) defines Local participation as the level of equity ownership local citizens hold. Adewuyi & Ademola Oyejide, (2012) assert that indigenous oil firm participation is measured by five indicators which include business opportunities, environment conduciveness, technical skill, financial funds accessibility and non-financial incentives.

However little about definition of local firm participation is available as explanations to how different countries have been able to encourage local firms to participation. For instance, the Petroleum (Exploration, Development and Production) Act 2013 for Uganda points out that the licensee, its contractors and subcontractors shall give preference to goods which are produced or available in Uganda and services rendered by Ugandan companies and citizens.

Local participation may thus increase the access of disadvantaged communities to project benefits, enhance motivation, increase ownership of projects, encourage self-reliance by transfer of skills, build local institutional capacities, and ensure greater proportion of projects benefits flow directly to targeted deserving beneficiaries" (Bhatnagar & Williams, 1992).

Aniekwu (2006) contends that the development of the human capacity to manage the development of a country's construction industry is a central issue. There is therefore a need for the government in developing countries to pursue a deliberate policy of inclusion of indigenous participation in most; if not all construction activities in the Country, until such a time that the Industry is seen to be growing, should be considered.

In this research local firm participation was measured by as percentage of total Spend on local inputs, percentage of locals employed, percentage spend on trainings and earning power of national's post training, amount of financial incentives awarded and number of contracts reserved for local firms.

Road Construction Sector

Adequate infrastructure facilities are very important for local development and is a necessary precondition to sustainable economic development (Ho & Salleh, 2008). Ho & Salleh, 2008 further agrees that road construction provides opportunity for the application of local content as it can assist in domestic job creation, improvement of capacities of local contractors and promotion of economic activities that can lead to the overall development of the country. According to Ugochukwu & Onyekwena, (2014), local contractors are generally seen as holding the greatest potential for increasing construction industry capacity It is therefore worth noting that increasing the input of local labor, goods and services in infrastructure construction could make a major contribution to local firm participation in road construction sector in Uganda.

1.1.4 Contextual Perspective

Local content initiatives in Uganda have mainly been practiced in the oil and gas sector and little has been done in other sectors specifically the construction sector (Ablo, 2015; Esteves et al., 2013; Gwayaka, 2014; Hansen et al., 2016; Nduhura, Alinda & Agaba, 2018). The discussion on local content in Uganda however focuses on local companies and the question of how "local" a local company should be and little has been done in other sectors specifically the construction sector.

In Uganda, just like most African countries, road transport is the dominant mode of transport (Ministry of Works, 2017) and plays a pivotal role in supporting the economic and social development of the country. The road infrastructure serves the primary mode on the key transit corridor linking Uganda and the neighboring land-locked countries, to the Indian Ocean port of Mombasa in Kenya. Because of this pivotal role played by the road sector, the government of Uganda over the years prioritized the road infrastructure development in a bid to eradicate

extreme poverty and achieve the sustainable development goals through huge budget allocations (Ministry of Finance, 2019).

This question of a local company can be best answered by the existing laws but unfortunately, the law seems to be providing more confusion than the answers (Gwayaka, 2014). Section 125 of Petroleum (Exploration, Development and Production) Act 2013 provides that:

(i) The licensee, its contractors and subcontractors shall give preference to local goods which are produced or available in Uganda and services which are rendered by Ugandan citizens and companies.

(ii) Where the local goods and services required by the contactor or licensee are not available in Uganda, they shall be provided by a company which has entered into a joint venture with a Ugandan company as long as the company has a share capital of at least 48% in the joint venture.

It should be noted that the Uganda's policies has no provisions for local content percentages but has requirements that may promote local content like license applicants must deliver plans for local employment and training as well as procurement of goods produced or available in Uganda and services rendered by Ugandan citizens and companies (Hansen et al., 2016).

Local content strategy in Uganda's infrastructures was first introduced in the construction of Standard Gauge Railway (SGR) with the ultimate objectives of value addition, skills and knowledge development and retention and enhancement of economic multipliers; thus, economic growth and improvements of citizens' welfare (Local Content Strategy, SGR, 2016) Recently countries in the African continent are making huge progress in allocating funds and building road infrastructure,(Tegebu & Seid, 2017). In Uganda, there is huge budget allocations currently being channeled to road construction in Uganda and yet the percent of local firms winning the procurement contracts is still low, (Ministry of Finance, 2019) and it is

anticipated that the use of local content in this area can be an avenue for promoting the country's local industries and building local capacity.

As stated by (Nduhura, Alinda & Agaba, 2018), the introduction of Local content in the road construction sector can over time develop the capacities of the domestic workforce and industries to supply the goods, services and human resources needed to drive the road construction value chain through the substitution of the domestic labor for the foreign based labor and substituting domestically produced goods for imported goods. There is therefore need to emphasize the desires to adopt practices that foster the development of a better-trained, qualified domestic workforce over the term of the road construction contracts as Local content development depends on capacity and competitive level of local companies compared to the foreign companies (Nduhura, Alinda & Agaba, 2018).

The goods used in the road construction includes: Cement, lime, bitumen, steel bars, fuel and lubricants and other auxiliary construction materials such as sand, aggregates, timber, gravel among others whereas services include consultancy (engineering and non-engineering), training, financial, insurance, legal, security, medical and health services among others.

1.2 Problem statement

Local content practices in Uganda have mainly been applied in the oil and gas industry and little has been done in other sectors specifically the road construction sector. In Uganda, just like most African countries, road transport is the dominant mode of transport and it plays a pivotal role in supporting the economic and social development of the country. The road infrastructure serves the primary mode on the key transit corridor linking Uganda and the neighboring land-locked countries, to the Indian Ocean port of Mombasa in Kenya. Because of this pivotal role played by the road sector, the government of Uganda over the years prioritized the road infrastructure development in a bid to eradicate extreme poverty and

achieve the sustainable development goals through huge budget allocations (Ministry of Finance, 2019).

While the increased budget allocations as evidenced by the allocation of 20.8% made in the FY 2019/20 (National Budget Framework Paper for FY 2019/20 – 20/21) led to some visible improvement in the road network, the implementation of such projects has not led to significant jobs created. This is mainly because major road construction works are dominated by foreign contractors with Ugandans offering unskilled low wage labor because the foreign companies utilizes their foreign labor, inputs and technology leaving little room for local firms' participation. According to the projects' status report (UNRA, 2019), out of 39 major road upgrading projects in the country, 36 projects representing 92% is being undertaken by foreign companies.

Despite the efforts aimed at building local contractors' capacity and implementation of local content practices in the road construction sector through reservation schemes and subcontracting, local firm participation remains low as evidenced by the 24% of contracts awarded to local firms (UNRA Annual performance report 2017/2018). This research therefore sought to establish the local content practices that could be implemented in order to encourage local firm participation in road construction sector clearly stating the challenges encountered.

1.3 General objective

To examine the local content practices that can be implemented to promote local firm participation in road construction sector of Uganda.

1.3.1 Specific objectives

1. To assess the extent to which local procurement affects local firm participation in road construction sector of Uganda.
2. To assess the extent to which technology affects local firm participation in road construction sector of Uganda
3. To assess the extent to which supplier development programs affects local firm participation in road construction sector of Uganda.

1.4 Research questions

1. To what extent does local procurement affect local firm participation in road construction sector of Uganda?
2. To what extent does technology affect local firm participation in the road construction sector of Uganda?
3. To what extent do supplier development programs affect local firm participation in the road construction sector of Uganda?

1.5 Scope of the study

1.5.1 Content scope

The study focused on the local content practices and local firm participation in the road construction sector of Uganda. Local content practices were the independent variable with dimensions of local procurement, technology and supplier development programs. Local firm participation was the dependent variable with dimensions of percentage of total spend on local inputs, percentage of locals employed, percentage spend on trainings and earning power of national's post training, amount of financial incentives awarded and number of contracts reserved for local firms.

1.5.2 Geographical scope

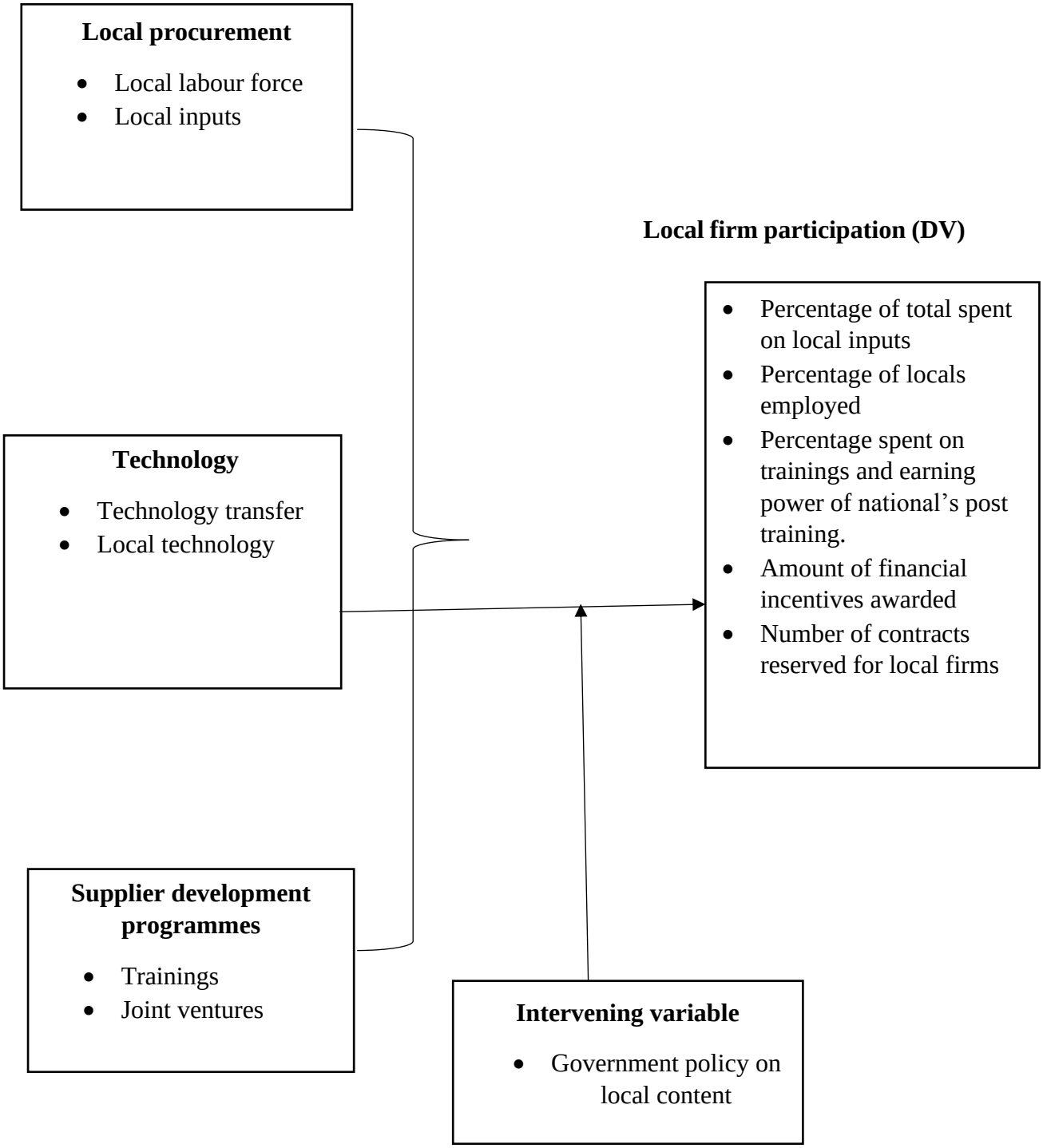
The study was conducted in five regions namely; Central, Northern, Southern, Eastern and Western regions of the country targeting all local contractors and suppliers of inputs, labor and technology used in road construction.

1.5.3 Time scope

The study expounded on literature dated late 1990s to date reason being local content is not a new concept as it has been implemented over years in different countries with the aim of increasing conceptualization and the study was intended to be undertaken for a period of six months as a requirement for the degree.

1.6 Conceptual Framework

Local content practices (IV)



Source: Adopted from Oliver (2013); World Bank (2013) and UNCTAD (2014) and modified by the researcher.

Figure 1: Conceptual Framework

The conceptual model above indicated the effect of local content practices measured by local procurement, technology and supplier development programs on local firm participation conceptualized as percentage of total spend on local inputs, percentage of locals employed, percentage spend on trainings and earning power of nationals post training, amount of financial incentives awarded and number of contracts reserved for local firms. Government policy on local content was chosen as an intervening variable and for purposes of this study, the variable was controlled. The conceptual framework has been drawn from earlier works of Oliver (2013), World Bank (2013) and UNCTAD (2014).

1.7 Significance of Study

This research was significant in the following ways:

Existing literature had mostly focused on the local content practices in oil and gas industry. Very few literatures have assessed local content practices and firm participation in the road construction sector. This presents a gap this study will fill and contribute to existing literature.

This research also served as a reference point for other developing countries on how local content practices can be extended to other sectors like road and infrastructure development since these governments are of recent investing millions of money to improve road infrastructure. It will also provide vital information to policymakers and lawmakers in Uganda.

The study sought to add to the academic literature on the nexus between local content practices and local firm participation which is not common in the existing works.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter gives the reader an insight on examining local content practices and local firm participation in road construction sector in Uganda. The chapter laid down contextual knowledge to assist in a better understanding of what was going to be examined and reported in the study. In accordance with the aims and objectives of the study, the chapter provided a theoretical review, empirical review and literature gap.

2.1 Theoretical Review

The study was guided by the theory of Content protection as put forward by Grossman in 1981. According to (Grossman, 1981), a content protection scheme requires that a given percentage of domestic value added or domestic components be embodied in a specified final product. This theory has been used by many researchers to explain why regulation is necessary (Heim, 2019). Initially during the industrialization process, many countries witnessed an increase in imports of parts and subassemblies that led to a consequent decline in the share of domestic value added in goods that were produced in multi-stage processes. Local content schemes thus became a widely used form of intermediate goods protection, most notably in the automobile industries of Australia, Latin America and Canada (Vousden, 1987). Therefore, increasing demand (derived) for the domestic inputs through content protection requirement will benefit suppliers of roads inputs through increased production. National self-sufficiency and independence will also be achieved through increase in proportion of consumption supplied from domestic production leading to an increase in production in the supported industries and employment creation in this sector. The theory will thus help in explaining the need to protect the indigenous industries in the road construction sector in Uganda considering the fact that most road construction projects are carried out by multinational companies.

2.2 Conceptual Review

2.2.1 Local content practices

According to (Pereira et al., 2019), Local Content Practices include policies to encourage training and employment of host country nationals within the industry as well as investing in the development and procurement of local goods and services. It further comprises technology transfer through assistance, investment, licensing, trade and/or training. According to Nwokeji (2007), the term 'local content' can be used to refer to the degree of existing linkages between the oil and gas industry and other sectors of the economy. Local content from this perspective includes: promotion of local factor input; increment in the percentage of locally available administrative and technical capacity; utilisation of local raw material and components; and the promotion of cross-sectoral linkages between the oil and gas sector and other sectors of the economy (Nwokeji, 2007).

Ministry of Commerce, Trade and Industry of Zambia define local Content as the extent of utilization of local inputs and/or products in the production and provision of goods and services throughout the economy. To this effect, Government policy requires a minimum of 35% utilization of local inputs and/or products in the production and provision of goods and services throughout the economy.

According to Hansen et al., (2016), Local content is the extent to which Multi-National Companies procure inputs in the form of goods and services from the local economy. In the case of road construction, this can be in the form of materials, equipment, suppliers, contractors and subcontractors and consultants. It may also refer to the value addition in a local country (by local staff, local materials, local services and facilities) rather than in terms of ownership of the company performing the value added activities.(Kazzazi & Nouri, 2012).

Warner, (2011) asserts that Local Content is more than just the proportion of contract value going on goods and services of domestic origin (or some other measure of 'local'). He further asserts that local content is the composite value contributed to the national economy from the purchase of bought-in goods and services, and includes wages and benefits, materials, equipment and plant, subcontracts and taxes. He added that Local Content includes first-order, direct economic impacts on the national employees of contractors and suppliers, second-order, indirect impacts on their suppliers and subcontractors and sub-sub- contractors, and lastly third-order, which is the induced impacts that arise from the income earned by nationals and resident workers spending in the wider domestic economy. Local content is the proportion of inputs to a product or service (e.g. materials, parts, services) that have been made in that country rather than imported. A foreign company might be required to use a certain amount of local content to gain the right to produce or manufacture in a particular place.

Local content therefore in this case refers to efforts aimed at building the local (national) capacities to engage in the road construction sector of a country. Such efforts are therefore aimed at developing skills, training, transferring of technology and employment of citizens in the sector.

2.2.2 Local firm Participation

The use of incentives and performance standards by developed countries to influence economic growth and nurture various local industries has long been a trend ((Ado, 2013; Tordo et al, 2013; Warner, 2011; Veloso, 2006). Using these practices in this way may require companies to give consideration to suppliers who source materials and labor from the local community and may also require that a percentage of locals are given employment (Tordo et al., 2013; Warner, 2011). Pereira et al., (2019) identifies Metrics to measure local content as the number of local employees hired, trained, or promoted; monetary value of goods and services

purchased locally by the international company; participation of local companies in the relevant activities; involvement of local institutions in R&D activities.

A study by Ugochukwu & Onyekwena, (2014) revealed low participation of indigenous contractors in major public construction works in Nigeria at 24.3% against foreign contractors at about 76%. According to Adams, (2010), the Nigerian government put measures to access work and provision of financial support in order to promote indigenous contractors and increase their participation in the construction industry.

Wells and Hawkins (2008) on the other hand assert that increasing local participation would result into increasing employment, opportunities throughout the construction supply chain creating opportunities for, local consultants increasing work for local, contractors creating market openings and for locally produced materials and components.

Aniekwu (2010) further asserts that it is absolutely important that contractors ensure the efficient delivery of products. However, the size and risks involved in projects can be reduced or divided up to allow for effective participation of the indigenous contractors through the prequalification system. Highly specialized jobs, which cannot be split up, can be awarded to foreign and large contractors who are the only contractors likely to prequalify for participation in its execution. However, the benefits of making it mandatory for at least 50% of the sub contracts on such specialized jobs to be awarded to indigenous contractors should be considered. Participation in such projects will help to impart more experience and learn from the operations of the foreign and large companies. It is necessary that foreign companies be restricted from participating in straight-forward types of projects. The government should make adequate arrangements with statutory backings so as to make it mandatory for every company to accept students on industrial training from various schools under stipulated conditions.

Middle East and North Africa countries, like many other oil and gas producing countries, have increasingly introduced local content requirements (LCRs) - laws and policies that require foreign companies to prioritise local companies, nationals and local materials when procuring goods and services for petroleum operations. LC policies are thus designed to spur the level of local benefits from the extractive sector through the promotion of local employment, skills development, and national industry participation (OECD, 2017). According to the World Bank study, LCPs on domestic sourcing of goods and services have been generally effective in raising local participation in Angola (World Bank, 2013).

2.3 Empirical review based on the study objectives

2.3.1 Local procurement and local firm participation.

Use of locally produced goods and services refers to procurement and utilization of locally produced input materials, development of these materials, often recognized as an important linkage which reduces the capital cost that may have been incurred by the former and overextension of the firm and tends to include affirmative action on simplification of procurement procedures, emphasis on local operational base, standardization of local products through quality assurance and exclusive local tendering (Tordo et al., 2013; Teka, 2012). The Angolan government introduced the Angolanization of the workforce and domestic sourcing of goods and services to achieve its local content objectives where Angolanization of the workforce mandated that the national oil company must employ locals and provide them with the necessary technical-professional training, allowing it to hire foreign workers only in case of a shortage of qualified Angolan workers (Tordo & Anouti, 2015).

LCPs may also be seen as a way to broaden the host nation's economic base: requiring international companies to purchase goods and services from local businesses gives those businesses revenues with which to expand, modernize, and diversify (Pereira et al, 2019).

Wells and Hawkins (2008), researched on increasing local content in infrastructure procurement where they pointed out that use of local resources in civil engineering projects like gravel roads, concrete pavers and rubble masonry concrete are mainly labor based approaches that are most likely to use locally made materials. Deloitte (2015) explains that local content practices are perceived to be a way of promoting investment in, and the economic growth of, the host nation. They are meant to create jobs for local nationals as well as to build technological capabilities for the host nation.

Increase in the use of local goods, services and labour can make a great contribution to the economic growth and the achievement of the millennium development goals(Wells & Hawkins, 2010) through creating a level playing field for citizens, residents and home-based companies/entities to participate in the road construction activities. Without creating a level playing field for new or emerging local companies/contractors and workforce to participate in road construction projects, and compete with international contractors for road contracts and supplies of goods and services, the cycle of excessive dependence on foreign contractors for road works and supplies of goods and services may never be broken.

Foreign companies normally brings Managers, Supervisors and skilled labor with them or source these workers internationally (Wells & Hawkins, 2010) thus economic benefits to citizens through job and employment opportunities is not maximized. By mandating the employment of nationals, the aim is to create opportunities for domestic employment, thereby contributing to growth in income, capacity development of nationals and overall increased economic growth and lastly there is need to improve national technological capacity in the country. Meanwhile China's procurement regulations require government to buy nationally unless the required goods, construction or services are not available or cannot be acquired on reasonable commercial terms and conditions (Wang, 2004).

The UNICITRAL model law (2011) recognizes that enacting states may wish to protect certain vital economic sectors of their national industrial capacity against deleterious effects of foreign competition by applying marginal preferences for domestically produced goods. This therefore justifies the need for local content in road infrastructure since most of the funding invested in infrastructure in most developing countries (Uganda inclusive) do not benefit local contractors and suppliers (Wells & Hawkins, 2010).

2.3.2 Technology and local firm participation.

Drawing from literature related to local content in oil and gas, Deloitte (2015) emphasized transfer of knowledge methodologies and technologies to local industry through specialized training to enable employment. Therefore, technology development in backward linkages provides a base from which sustained diversity may occur through the development of related industries to ensure empowerment of local suppliers and transferal of control and major ownership to nationals of the host countries.

Grossman (1981), in his study established that due to the lack of technological capability, the cost of goods and services produced by a local company will be greater than the international price, unless the local company was sourcing its materials from abroad. Introducing LCP to correct this anomaly results in increase in domestic welfare due to increased domestic output.

Wells and Hawkins (2008) in their study concluded by noting that detailed designs should, where appropriate, specify technologies that are within the capability of local contractors. Designing for labor-based approaches can create additional employment and specifying local materials can generate employment and business opportunities in the supply industries.

Oliver (2013) explains that countries looking to use LCRs to develop local manufacturing industries must consider their design very carefully in order to have maximum impact. This is because some technologies can be with the potential of being locally manufactured than others.

For instance, focusing on technologies and components whose technical expertise is available and entry barriers in the global market are manageable may be worth. LCR must be set at an appropriate level irrespective of the technologies and components included because setting it too high may render it unachievable and too low makes it trivial.

2.3.3 Supplier development programs and local firm participation.

Developing an industry is a learning process that involves solving challenging tasks so as to expand capacity and capabilities in collaboration with internationally leading competence (Heum et al., 2011). Nordas (2003) asserts that local policies need to acknowledge and encourage foreign firms to collaborate with local companies as this is expected in turn to give impulses and create dynamics that positively influences the development of indigenous firms. SME linkage programs is always successful in enabling SMEs to get access to financing and skills development programs especially those providing technical mentoring and supporting business development management skills (Deloitte, 2004; Jenkins et al, 2007; Nelson, 2007; Ruffing, 2006; UNCTAD, 2001). Support development of long-term capabilities requires focusing on all stages of the value chain and putting in place measures to support the wider services. LCRs on their own are unlikely to help local firms fully develop the technological capabilities needed to be globally competitive in the long term: additional mechanisms, such as training and promotion of business linkages, are necessary to support development of long-term capabilities (Oliver, 2013).

Brand (2017), scrutinizes a number of local content policies on capacity building and noted that in both developed and developing economies where training schemes were conducted, the results have been positive in developing local knowledge and exercise necessary for participation. Local policies were moreover found to have a causal effect on the capabilities of

local companies, on education, on skills and expertise development, research and development capabilities and on technology and know-how transfer capabilities (Aratuo, 2012).

Oyewole (2015) observes that short and long-term relationships within partnering arrangements have to be dealt with accordingly to avoid pitfalls and any untoward relationship that could be costly. In the same line, Changarawe (2014), reports that lack of business partnerships was the key limiting factor for local firms to supply goods and services in the oil and gas sector in Tanzania.

Local competencies include education, skills and expertise development, transfer of technology and know-how and an active research and development portfolio within manufacturing and services of local companies (Ministry of energy of Republic of Ghana, 2010). Auty (2006) studied the importance of learning in the industrial development and explained that presence of learning impacts benefits both the investing firm and the local economy. An effective educational system is crucial to improve the learning capacity (Nwokeji, 2007). An industrial infrastructure to build on is required in order to improve on the local skills and narrow the technology gap between domestic and foreign companies. (INTSOK, 2003).

Escribano, et al. (2009), suggested that the capacity for absorption is in fact a source of competitiveness. In other words, technology transfer process depends on the capacity of the local company.

Mwangoma (2019) point out key lessons learnt from implementation of local content in Nigeria as investment in capacity building that can be used in different sectors, an assessment of the local capabilities to supply goods and services and the demands of a sector to inform the local content obligations. This includes an evaluation of skills, capital, and infrastructure and governance requirements.

Kumar et al. (1999) however note that developing countries have to mature their technological capacity, but the abilities of these countries is limited by their reliance on low level of absorption of technology.

2.4 Literature summary and gap.

Quite a number of literatures from different authors has been looked at and the study has discovered that a lot has been written about local content polices, challenges encountered during the implementation and local content implementation in oil and gas. Literature on local content practices is available however being limited mainly to oil, mining and gas. Therefore, this study has concluded that local content implementation in other sectors like road construction is necessary as cited by Alinda et al. (2018). There is limited research conducted in the area of road construction creating a contextual gap that this study intends to fill and add on the body of already existing knowledge.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the methodology that the study undertook focusing on the research design, target population, sample size and selection, sampling techniques, data collection methods and instruments, validity and reliability, procedure of data collection, data analysis, measurement of research variables and ethical considerations.

3.2 Research Design

Saunders, Lewis, & Thornhill, (2009) assert that a research design ought to elaborate the research strategy chosen, choices of data collection techniques, analysis procedure and the time horizon over which a research project would be under taken. Therefore, this study adopted a cross-sectional survey design (Creswell, 2014). A survey strategy was used in order to allow the collection of a large amount of data from selected local suppliers and contractors of UNRA and is a highly economical way.

The data collection techniques used were mixed method approach where both quantitative and qualitative data was collected using a survey questionnaire and structured interviews in order to allow triangulation by making the limitations of one type of data to be balanced by the strengths of another. The time horizon over which the project was undertaken was cross sectional aimed at collection of data at a particular point in time (Saunders et al., 2009).

3.3 Study Population

The study population focused on all UNRA's prequalified contractors for various road works totaling 63 firms. These didn't include prequalified suppliers for goods and services not directly used in road construction. These firms were chosen because they are, they are the ones directly involved in the road construction sector in Uganda after being prequalified by UNRA for all

its major road works. In order not to leave out other local firms involved in the road construction sector; the researcher included 20% of the registered road contractors of Uganda according to the PPDA register. The researcher believed that considering prequalified firms by UNRA and additional 20% of the local firms from PPDA register would provide a fair representation for all the firms involved in the road construction in Uganda. There are 63 firms prequalified by UNRA for various road works and according to the PPDA register https://www.ppdaproviders.ug/providers?sl=2 (accessed on 06/7/2020); 1,125 firms are registered for construction of roads and bridges in Uganda. These were therefore chosen to examine their involvement in winning contracts in the road sector and the extent of their participation as a result to local content implementation in the road construction sector.

3.4 Sample Size and Procedure

3.4.1 Sample size determination for quantitative method

The researcher adopted the Yamane formula to calculate the sample sizes for the study. This was calculated as below;

For UNRA's prequalified suppliers,

$$n = \frac{N}{1+N\ (0.05)\ \text{^}2}$$

Where;

n = sample size,

N = population size

e = error term (0.05)

From the target population of 63 prequalified construction firms by UNRA and e = 0.05 considering the 95% level of confidence,

Sample size was,

$$n = \frac{N}{1+N\ (0.05)\ ^2}$$

$$n = \frac{63}{1+63\ (0.05)\ ^2}$$

n = 54 respondents

In getting the sample size for other firms according to the PPDA register, the researcher used 20% of the firms basing on his own judgement believing that it would be adequate representative for the population. This is in agreement with Saunders et al., (2009) who asserts that final sample size is almost always a matter of judgement as well as of calculation. The researcher therefore got 20% of 1,125 road construction firms registered by the PPDA as on 06/07/2020. The sample size was then calculated basing on the Yamane formula for sample size determination as illustrated below.

20% of 1,125 firms = 225 firms.

Using the formula

$$n = \frac{N}{1+N\ (0.05)\ ^2}$$

Where;

n = sample size,

N = population size

e = error term (0.05)

Sample size became,

$$n = \frac{225}{1+225\ (0.05)\ ^2}$$

n = 144 respondents

3.4.2 Sample size determination for qualitative approach

After selecting primary respondents from the firms, the researcher decided to purposively selected 08 key informants. These included three (03) members of the PDU and CC each and two (02) members of the TMT at UNRA were chosen by the researcher for the study. These were chosen basing on their vast wealth of knowledge and experience in local content practices and local firm participation in the road sector. These were chosen because they were assumed to play a role in the procurement process of awarding these contracts to the local firms.

Table 3. 1: Population Category and Sample Size

Category	**Sample Population**	**Sample size**	**Sampling technique**
UNRA's Prequalified Contractors	63	54	Simple random sampling
PPDA Registered Contractors	225	144	Cluster sampling
Total	**288**	**198**	

Source: PPDA Register 2020 and UNRA's Prequalification list for Road works 2019.

3.5 Sampling technique for quantitative approach

A simple random sampling and clustered sampling techniques were both used. A simple random sampling was used to obtain samples from UNRA's prequalified list (population) in such a way that all samples had equal chances of being selected (Cresswell & Plano-Clark,

2011). The samples were assigned numbers that was randomly selected from the population in such a way that all firms had equal chances of being selected (Amin, 2005).

A cluster sampling technique was used to obtain samples from firms registered by the PPDA according to the PPDA register. These firms were grouped into regional clusters of Central, Northern, Southern, Eastern and Western to form the sampling frame. A simple random sampling was then used to select the cluster for the study. After the selection of the cluster, all the firms in the selected cluster became the sample frame out of which a simple random sampling technique was used to get the samples. This technique was used because it provided for a sample that represents the total population and maximized the amount of data collected within the resources available.

3.6 Data Collection methods

Both questionnaire survey and interview methods of data collection were used. Questionnaires were given to local firms (contractors) whereas; interview guides were given to the key informant of the study who are the members of the PDU and contracts committee of UNRA.

3.6.1 Questionnaire Survey method

The survey questionnaire method was adopted when collecting quantitative data since it helped in obtaining information from large samples in the shortest time possible (Saunders et al., 2009). The questionnaire comprised of close ended questions which facilitated coding and statistical analysis of the research findings. The information on the questionnaire was uploaded on kobo toolbox that facilitated the collection of data using mobile phones which was less expensive (Sekaran & Bougie, 2010), environmentally friendly and collects large amounts of data in short time. More so closed ended questions set a standard and provide generalised meaning.

3.6.2 Interview method

The research study used the interview method when obtaining qualitative data. An interview guide was prepared consisting of open-ended questions which was used when interviewing the key informants in relation to the objectives of the study. Open ended questions provided in depth information and offer opportunities for probing further to understand the existing phenomenon (Hyman & Sierra, 2010). When interviewing the key informants, the confidentiality of each agent was maintained.

3.7 Data Collection Instruments

3.7.1 Self-administered Questionnaire

The study used an internet mediated close-ended self-administered questionnaire divided into sections of background information, local content practices and local firm participation. The questionnaire sought respondents' perception on local content practices and local firm participation scored on a five-point Likert scale of 5- Strongly Agree; 4- Agree; 3- Not Sure; 2- Disagree; and 1- Strongly Disagree. This was chosen because it allows collection of large data from geographically dispersed areas, takes shorter time for data collection and provides confidence that the right person has responded (Saunders et al., 2009).

3.7.2 Interview Guide

In order to collect qualitative data, an interview guide was used. The researcher designed a structured interview guide which was used during the interview of the key informants. This was chosen in order to allow the interviewer to explore a number of different issues around the subject under study (Ryan et al., 2009) . Questions posed were intended to lead the respondents towards giving data to meet the study objectives and probe the respondents in order to seek clarification about responses that were provided in the quantitative data.

3.8 Measurement of the variables

Local content practices dimensions of local procurement, technology and supplier development programs, were measured based on Oliver (2013) and World bank (2013) while Local firm participation was measured based on UNCTAD (2014), all channeled into observable and measurable elements so as to enable the development of an index of the concept. A five-point Likert scale namely: 5-Strongly agree; 4- Agree; 3- Not sure; 2- Disagree; and 1- Strongly disagree was used to measure both the independent and dependent variables.

3.9 Procedure for data collection

An introductory letter was obtained from the graduate school of Kyambogo university which was used when seeking permission to collect data from the respondents and personnel from UNRA.

3.9.1 Pilot test study

A pilot test study was conducted on 15 respondents who were randomly selected outside the actual sample for the study and a questionnaire was administered to the respondents. This was done in order to refine the questionnaire so that respondents had no problems in answering the questions recording the data (Saunders et al., 2009). The test was further meant to obtain some assessment of the questions' validity and the likely reliability of the data that would be collected (Saunders et al., 2009). Responses collected from the pilot study were analyzed and the results were used to revise and modify the instrument before the actual collection of data.

3.9.2 Actual data collection

Online data collection method was used in the study. Questionnaires were sent to the respondents using Kobo Toolbox, an online data collection software in order to obtain quantitative data. After, face to face interviews was conducted with key informants of the study with the help of an interview guide in order to obtain qualitative data.

3.10 Validity and reliability of instruments

The survey questionnaire was pretested for its reliability on a sample of targeted respondents to examine individual questions as well as the whole questionnaire very carefully (Nunnally & Bernstein, 1994). Reliability measured the consistence of the instrument in measuring what it is supposed to measure (Nunnally & Bernstein, 1994). The study used the Cronbach's alpha coefficient test to show how reliable the data is by using the Statistical Packages for Social Sciences (SPSS) version 23 taking variables scoring in a range of 0.5 and above as suggested by Nunnally and Bernstein (1994).

Table 3. 2: Validity and Reliability Results

Variable	CVI	Cronbach's Alpha	No. of Items
Local Procurement	0.75	.703	6
Technology	0.85	.583	6
Supplier development programs	0.85	.715	6
Local firm Participation	0.71	.766	5

Source: SPSS primary data 2020

3.11 Data Analysis

3.11.1 Quantitative Analysis

Collected data was downloaded from Kobo Toolbox to excel where it was cleansed and coded. Cleansing involved checking for accuracy and completeness to establish whether all questions in the questionnaire were answered. The researcher employed descriptive statistics of frequencies, percentages, mean and standard deviation for each of the variables used in the study to show the distribution of responses on local content practices and local firm participation. Pearson's correlation statistics was used to test the relationships at 99 and 95 confidence limits. A positive correlation indicated a direct positive relationship between the

variables while a negative correlation indicated an inverse, negative relationship between the two variables. A multiple regression analysis using ANOVA statistics of adjusted R^2 values, beta, t-values and significance values was used as suggested by Amin (2005).

3.11.2 Qualitative Analysis

The study used the content analysis technique to analyze qualitative data where themes identified in the respondent's narratives about the study objectives were analyzed for their implications, inferences and conclusions. Further qualitative analysis involved comparing the qualitative data with the quantitative data findings.

3.12 Ethical Considerations

As part of the ethical considerations, the researcher used an introductory letter from Kyambogo University to seek permission to conduct the study. The respondents were asked for their consent and not to indicate their names on the questionnaire. The final report was defended at Viva before a panel constituted by Kyambogo University Graduate School. All the sources of literature were acknowledged throughout the whole study through proper citations and referencing. The research procedures were explained to all the respondents before they take part in the research and their informed consent was obtained.

3.13 Challenges encountered during the study

The study was inhibited by time factors since the researcher had to balance work and school, this was solved through organizing convenient time with the supervisors so that supervision could take place. Delay in receiving responses from the field was a challenge where some respondents were not used to the online data collection as some of them suspected it to be a scam. The researcher solved this by sending e-mail reminders and follow-up phone calls to build confidence to the respondents and also to avoid the problem of low response rate. The study depended on primary data without use of secondary data which had an impact on the

quality of data collected and also some respondents found it hard to release information regarding the appraisal criteria used. This was solved through assuring respondents that their names will be kept confidential and that the research was for only study purposes.

CHAPTER FOUR

PRESENTATION, ANALYSIS, AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter presents background information of the respondents included in the study, descriptive statistics of the research variables, and inferential findings based on the specific objectives of the study. The first section presents the background information of the respondents included in the study, this is followed by the descriptive analysis for local content practices and local firm participation and finally the multiple regression analysis.

4.2 Response rate

Table 4. 1: Respondents' response rate

Category	**Instruments disbursed**	**Instruments collected**	**Percentage of response (%)**
Questionnaire	198	157	79.3%
Total	**198**	**157**	**79.3%**

The researcher disbursed 198 structured questionnaires to suppliers of construction materials and construction firms online with the help of Kobo toolbox server and 157 questionnaires were fully filled and returned. This gave a response rate of 79.3% and thus the responses were a good representation of the population according to Dilliman (2000).

4.3 Demographics of the participants

This section analyzes, presents, and interprets findings on the demographic features as gender, age, level of education, position, type of the company, form of procurement of the study respondents.

Table 4. 2: Table showing demographics of the participants of the study.

	Category	**Frequency**	**Percentage %**
Gender of respondents	Female	17	10.8
	Male	140	89.2
Age group of respondents	20- 25	1	6
	26-30	7	4.5
	31-35	33	21.0
	36-40	50	31.8
	41 and above	66	42.0
Level of education	Certificate	2	1.3
	Degree	97	61.8
	Diploma	20	12.7
	Postgraduate	36	22.9
	Secondary	2	1.3
Position of respondents	Director Employee Proprietor	94 45 18	59.9 28.7 11.5
Type of the company	Sole proprietorship	4	2.5
	Join venture	3	1.9
	Private limited company	140	89.2
	Public limited company	9	5.7
	Sacco	1	0.6
Period of supply	1-5 years	33	21
	5- 10 years	57	36.3
	10 years and above	67	42.7
Form of procurement	Goods	2	1.3
	services	1	0. 6
	works	154	98.1

N=157

Source: Primary data 2020.

The study sought to analyze the distribution of gender in the study. The majority of the respondents in the study were males (89.2%) and minority were females. This implies that the fact that these firms dealing in road construction require the use of adequate energy that's why they employ more of males than females but the fact that females are part of this study it's a good representation of responses from both males and females. The findings are presented in table 4.2 above.

The findings revealed that the majority of the study respondents (42%) were aged 41 years and above, followed by 31.8% who were aged between 36 and 40 years, and a smaller proportion of respondents (0.6%) was aged between 20 and 25 years. This indicated that the firms and suppliers in the road construction sector don't use minors, they employ staff of age who are able to execute the assigned tasks.

The study found out that a bigger proportion of the respondents (61.8%) had a university degree, followed by 22.9% with a postgraduate, and the least proportion (1.3%) had certificate and secondary education. This showed that the respondents were skilled and knowledgeable in the study area meaning they would answer or respond to questions accordingly.

The findings presented in table 4.2 revealed that majority of the respondents (59.9%) were directors, followed by 28.7% who were employees while the minority were proprietors (11.5%). This implied that since the majority of the respondents were directors, they had credible information about local content practices and local firm participation than any other person.

The findings revealed that most of the respondents were working in private limited company (89.2%), followed by 5.7% in public limited company, and a smaller proportion (0.6%) was working in a SACCO. This implied that the respondents to this study were private limited companies that are mostly targeted for these local content practices and how to increase their

participation in the road construction sector, therefore involving them in this study provided credible and required information for policy formulation and implementation.

The study sought to establish the period which the company of the respondent had supplied the road construction. The majority of the respondents (42.7%) were in agreement that most of the companies had supplied the road construction sector for a period of 10 years and above, followed by 36.3% of the respondents who alluded that the companies had supplied the road construction Sector between 5 and 10 years, and the least percentage of the respondents (21%) argued that their companies had supplied the road construction for a period between 1 and 5 years. Therefore, the respondents had adequate information with how the government through different policies was either supporting them in winning contracts or not.

The findings revealed that most of the companies (98.1%) were providing works, followed by 1.3% which were providing goods while the smallest proportion (0.6%) were providing services. This implied that the target of the respondents was achieved since the aim was to examine the number of local firms that benefit from local content implementation.

4.4 Local procurement and local firm participation in road construction sector of Uganda

The study first sought to examine the effect of local procurement on local firm participation in road construction sector of Uganda. In table 5 below, the researcher assesses the level of agreement or disagreement in regards to local procurement in Uganda as perceived by respondents. The respondents were asked about use of Local labour force and local inputs in Uganda. The statements were measured using a five-point Likert scale ranging from 5= Strongly Agree, 4= Agree, 3= Not Sure, 2= Disagree, and 1= Strongly Disagree.

Table 4.3: Descriptive results on local procurement

	SD (%)	D (%)	NS (%)	A (%)	SA (%)	Mean	Std. deviation
Local labor force							
There are policies in place to increase local employment through hiring locals/nationals	1.3	24.2	5.7	48.4	20.4	3.62	1.100
The government has imposed quotas on foreign companies to employ skilled locals/nationals	8.3	59.2	11.5	17.2	3.8	2.49	0.998
The government has put in place limitation on the number of expatriates employed with the view of creating jobs for the nationals	7.6	65.6	10.2	13.4	3.2	2.39	0.924
Local input							
Foreign firms are required by law to procure a certain amount of local materials from local firms.	4.5	24.8	12.7	49.0	8.9	3.33	1.082
There is offering of tender preferences to local providers who supply local materials.	3.8	25.5	12.1	37.6	21.0	3.46	1.190
Locally available goods and services are completely provided by local firms	17.8	56.7	7.6	3.8	14.0	2.39	1.234

Source: Primary data (2020)

The results in table 4.3 above show that there are policies in place to increase local employment through hiring locals/nationals since majority of the respondents (mean=3.62) were in agreement. This may imply that there are policies in Uganda like BUBU and reservation schemes and marginal preference guidelines that require a percent of procurement to include nationals with the aim of building capacity. This was seconded by one of the key informants who emphasized that,

'These local firms get some government opportunities through working with foreign companies on road construction and sometimes get contracts for maintenance of roads. This has increased than those previous years where winning contracts mainly in construction was very difficult.'

Another respondent commented when asked about do you get procurement opportunities with government, he said that;

'*Reservations are made for some categories of jobs such as unskilled labor and non-technical staff exclusively for nationals but for more technical jobs and opportunities like getting a full contract to construct a road is hard because the assumption is, we local companies have no experience and capacity to deliver.'*

The study found out that most of the respondents were in disagreement (mean=2.49) that government has imposed quotas on foreign companies to employ skilled locals/nationals. This indicates that the government has not imposed quotas on foreign companies to employ skilled local people and this may leave out many skilled local people from being employed by foreign firms. This is also supported by the interviews held by some of the members of the PDU of UNRA as one asserted that;

'Government has not done much in the road construction since the foreign companies are not forced to employ these national and small firms building up capacity in road construction. Foreign companies usually come with their staff and minimal opportunities are available for them.'

The majority of the study respondents disagreed (mean=2.39) that the government has put in place limitation on the number of expatriates employed with the view of creating jobs for the

nationals. This may imply that no limitations have been put in place by government on the number of expatriates employed and this may leave out local people from being employed.

One respondent who is the member of the contracts committee said that,

'These foreign firms come into our country with all the experts they need and there is no law in Uganda currently that inhibits the number of staff that these foreign companies come with. This hinders capacity building and also failure to continue in business since they can't pay operational costs as they rarely get business.'

The study found out that respondents with a (mean=3.33) agreed that foreign firms are required by law to procure a certain amount of local materials from local firms. This may imply that local firms may get opportunities to supply foreign firms with local materials and this may enable them to greatly benefit due to existence of laws which support local procurement.

An interviewee pointed out that,

'Some construction materials are being provided by local firms in Uganda.'

The study found out that there is offering of tender preferences to local providers who supply local materials since majority of the respondents (mean=3.46) supported the argument. This indicates that local providers are offered with tender preferences especially those who supply local materials.

Respondents commented that,

'There are preferences in place that require usage of a percent of local materials in production and construction.'

The study revealed that a bigger proportion of respondents (mean=2.39) were in disagreement that locally available goods and services are completely provided by local firms. This may imply that available local goods and services are provided majorly by foreign firms other than local firms.

Majority of the respondents commented that,

'The capacity of these local firms to provide all the materials used in road construction is limited. All materials can't be entirely provided by these local firms since their production capacity is still low as they lack funds to produce hence some percentage of these materials and services are procured from foreign firms. However, if government can boost their production in terms of providing funds and modern technology then the production capacity would increase.'

In general, both data gathered from interviews and questionnaires reveal that even if there exist efforts towards encouraging the usage of local inputs and local labour force, there exists gaps in local procurement that need to be addressed in the road construction sector in Uganda.

4.4.1 Effect of local procurement on local firm participation in road construction sector of Uganda

The researcher conducted a simple linear regression analysis to establish whether local procurement had a significant effect on local firm participation in road construction sector of Uganda. The regression results are presented in table 6 below.

Table 4.4: Regression findings on the effect of local procurement on local firm participation in road construction sector

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.238[a]	.057	.051	.61162

a. Predictors: (Constant), Local procurement

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.503	.214		7.027	.000
	Local procurement	.216	.071	.238	3.057	.003

a. Dependent Variable: Local firm participation in road construction sector

Source: Primary data (2020)

The model summary results reveal that the Coefficient of determination (adjusted R-square) was 0.051, which indicates that local procurement explains 5.1% of the total variations in Local firm participation in road construction sector and the remaining 94.9% of the variations are explained by other factors.

The regression findings in table 4.4 above reveal a positive and significant effect of local procurement on local firm participation in road construction sector of Uganda (B=0.238, P-value<0.05). The regression findings indicate that a unit increase in local procurement results into an increase in Local firm participation in road construction sector by 0.238. The results may imply that as local procurement increases, it results into an increase in Local firm participation of Uganda since these local inputs are provided by local firms therefore the government of Uganda should encourage more use of local inputs in all sectors but specifically

in road construction when huge budget allocations are channelled to increase local firm participation.

4.5 Technology and local firm participation in road construction sector of Uganda

The second specific objective of the study was to establish the effect of Technology on local firm participation in road construction sector of Uganda. In table 4.5 below, the researcher assesses the level of agreement or disagreement in regards technology as perceived by respondents. The respondents were asked about technology transfer and local technology in Uganda. The statements were measured using a five-point Likert scale ranging from 5= Strongly Agree, 4= Agree, 3= Not Sure, 2= Disagree, and 1= Strongly Disagree.

Table 4.5: Descriptive results on Technology

	SD (%)	D (%)	NS (%)	A (%)	SA (%)	Mean	Std. deviation
Technology transfer							
There are requirements in Standard Bid Documents (SBDs) to spend a share of the foreign company's expenditure to finance research and development	3.8	69.4	21.7	1.3	3.8	2.32	0.743
There are technology transfer agreements between foreign companies and the government of Uganda	6.4	61.1	29.3	1.3	1.9	2.31	0.697
Local firms are subcontracted by foreign companies to transfer skills to nationals	0.6	19.7	3.2	53.5	22.9	3.78	1.034
Local technology							
There is use of local manufacturing skills which is instrumental in building technological capabilities necessary to adapt technology	2.5	63.7	10.2	7.0	16.6	2.71	1.182
There is incentivizing of foreign companies by government to use local technology through offering tax holidays.	1.9	45.2	31.2	10.8	10.8	2.83	1.024
Local contractors have adequate technology necessary to supply in the road construction sector	8.3	29.9	14.6	39.5	7.6	3.08	1.154

Source: Primary data (2020)

In terms of technology transfer, the findings in table 4.5 revealed that majority of the respondents (mean=2.32) disagreed that there are requirements in Standard Bid Documents

(SBDs) to spend a share of the foreign company's expenditure to finance research and development. The bigger proportion of the respondents (mean=2.31) in the survey did not support the argument that there are technology transfer agreements between foreign companies and the government of Uganda. This indicates that there are no technology transfer agreements between foreign companies and the government of Uganda. The study found out that most of the respondents supported (mean=3.78) that local firms are subcontracted by foreign companies to transfer skills to nationals. Thus, the findings are an indication that local firms are subcontracted by foreign companies to transfer skills to nationals.

From the interviews, the majority of the key informants informed the researcher that,

'In Uganda there are no government funded research and development centers to transfer technology to private local companies at a lower price and also the government has not yet strengthened collaboration between domestic companies and local technology institutes to develop local and affordable technologies which limits technology transfers yet local firms don't have the capacity to develop modern technologies needed in construction yet.'

In terms of local technology, the majority of the participants (mean=2.71) in the study revealed that there is no use of local manufacturing skills which is instrumental in building technological capabilities necessary to adapt technology. The study found out that there is no incentivizing of foreign companies by government to use local technology through offering tax holidays since most of the respondents (mean=2.83) were in disagreement with the argument. However, the study revealed that local contractors have adequate technology necessary to supply in the road construction sector as supported by most of the respondents (mean=3.08) in the study.

However, one interviewee asserted that,

'The *government has put in place grants for research and development activities with the motive to help local manufacturers adapt and improve technology.'*

In conclusion therefore both the quantitative and qualitative findings reveal that in terms of technology transfer and local technology availability, there is still a gap that the government of Uganda need to close through adopting different measures like signing of transfer agreements.

4.5.1 Effect of technology on local firm participation in road construction sector of Uganda

The study sought to find out if technology had a significant effect on local firm participation in road construction sector of Uganda. To establish so, the researcher used a simple linear regression model at 0.05 level of significance. The regression findings are presented below.

Table 4.6: Regression findings on the effect of technology on local firm participation in road construction sector of Uganda

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.030[a]	.001	.006	.62951

a. Predictors: (Constant), Technology

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.233	.259		8.631	.000
	Technology	-.033	.089	-.030	-.368	.714

a. Dependent Variable: local firm participation in road construction sector

Source: Primary data (2020)

The findings from adjusted R-square show that technology explain very small variations (0.6%) in local firm participation in road construction sector and the biggest proportion (99.4) of the variations are explained by other factors thus proving that technology has a low predictive ability on local firm participation in road construction sector.

The model findings in table 4.6 show a negative and insignificant effect of technology on local firm participation in road construction sector of Uganda (B=-0.030, P-value>0.05). The findings may imply that decline in local firm participation in road construction sector may not

be as a result of growth in technology. This also indicates that technology does not determine/affect the level of local firm participation in road construction sector of Uganda.

4.6 Supplier development programs and local firm participation in road construction sector of Uganda

The study sought to find out how supplier development programs promote local firm participation in road construction sector of Uganda. The study presents the descriptive statistics in the table below to ascertain the perceived level of supplier development programs. The respondents were asked about training and Joint venture in Uganda. The statements were measured using a five-point Likert scale ranging from 5= Strongly Agree, 4= Agree, 3= Not Sure, 2= Disagree, and 1= Strongly Disagree.

Table 4.7: Descriptive statistics on Supplier development programs

	SD (%)	D (%)	NS (%)	A (%)	SA (%)	Mean	Std. deviation
Trainings							
The government frequently hosts local content promotion efforts like conferences, seminars and training	1.3	40.1	5.7	28.0	24.8	3.35	1.270
Foreign companies are mandated by law to train nationals with the view of gaining skills and experience	14.6	69.4	10.8	3.8	1.3	2.08	0.721
Local Contractors provides scholarships to university students in Uganda to improve their understanding in technological advancements required in the road construction sector	35.7	55.4	6.4	0.6	1.9	1.78	0.756
Joint venture							
Joint ventures exist between foreign companies and local companies to scale up local participation	12.7	56.1	14.0	3.2	14.0	2.50	1.191
The government has provided investment incentives to local joint ventures to boost their capacity	1.9	41.4	15.9	22.9	17.8	3.13	1.193
SMEs are encouraged to form joint ventures with the view of winning large contracts	0.6	15.3	7.6	58.0	18.5	3.78	0.943

Source: Primary data (2020)

In regards to training, the bigger proportion of the respondents (mean=3.35) were in agreement that the government frequently hosts local content promotion efforts like conferences, seminars and training. The respondents had a low perceived level (mean=2.08) that foreign companies are mandated by law to train nationals with the view of gaining skills and experience. This may imply that foreign companies are not mandated by law to train nationals in order to boost skills. The majority of the respondents (mean=1.78) were in disagreement that local contractors provide scholarships to university students in Uganda to improve their understanding in technological advancements required in the road construction sector. This indicates that local contractors do not provide scholarships to university students in Uganda to boost skills and knowledge in technological advancements required in the road construction sector.

In light with joint venture, the study revealed that most of the respondents did not support the argument (mean=2.50) that Joint ventures exist between foreign companies and local companies to scale up local participation. Thus, the findings are an indication that Joint ventures do not exist between foreign companies and local companies to scale up local participation. The study found out that the government has provided investment incentives to local joint ventures to boost their capacity as strongly supported by most of the respondents (mean=3.13). In addition, the study found out that a bigger percentage of the respondents agreed (mean=3.78) that SMEs are encouraged to form joint ventures with the view of winning large contracts.

From the interviews held, key informants asserted that,

'There are scanty or no joint ventures between foreign companies and local firms in Uganda in the road construction sector however the government through different initiatives is encouraging local individuals working independently to form joint ventures so that they register as a requirement to winning contracts.'

In conclusion therefore, both the qualitative and quantitative analysis indicate that there still exist supplier development programs gaps in the road construction sector of Uganda.

4.6 Effect of Supplier development programs on local firm participation in road construction sector of Uganda

The researcher examined using a simple linear regression model to establish if supplier development programs had a significant effect on local firm participation in road construction sector of Uganda. The study findings are presented in table below.

Table 4. 8: Model findings on the effect of Supplier development programs on local firm participation in road construction sector of Uganda

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.035[a]	.001	.005	.62940

a. Predictors: (Constant), Supplier development programs

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.049	.216		9.494	.000
	Supplier development programs	.033	.076	.035	.434	.665

a. Dependent Variable: Local firm participation in road construction sector

Source: Primary data (2020)

The findings also reveal that supplier development programs predict very small variations (adjusted R-square=0.5%) in local firm participation in road construction sector of Uganda thus

showing a lower predictive ability of Supplier development programs on local firm participation in road construction sector of Uganda. The study found a positive but insignificant effect of Supplier development programs on local firm participation in road construction sector of Uganda (B=0.035, P-value>0.05). The findings may imply that participation in road construction sector of Uganda is not determined by Supplier development programs.

4.7 Multiple regression model on the effect of local content practices on local firm participation in road construction sector of Uganda

The researcher employed a multiple regression model to ascertain the effect of local procurement, technology, and supplier development programs on local firm participation in road construction sector of Uganda. The findings are presented in table 11 below.

Table 4. 9: Multiple regression model findings on the study variables

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.740[a]	.547	.538	.47104

a. Predictors: (Constant), Local procurement, Technology, Supplier development programs

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.033	3	13.678	61.645	.000[b]
	Residual	33.948	153	.222		
	Total	74.981	156			

a. Dependent Variable: Local firm participation in road construction sector of Uganda

b. Predictors: (Constant), Local procurement, Technology, Supplier development programs

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.224	.236		.950	.344
	Local procurement	.246	.060	.223	4.077	.000
	Technology	.186	.103	.151	1.797	.074
	Supplier development programs	.603	.088	.579	6.889	.000

a. Dependent Variable: Local firm participation in road construction sector of Uganda

Source: Primary data (2020)

The findings from the model summary show that the coefficient of determination (adjusted R-square) was 0.538 and this indicates that local procurement, technology and supplier development programs explain 53.8% of the total variations in local firm participation in road construction sector in Uganda and 46.2% of the variations are explained by other factors. Thus, implies that the model was a fair fit.

The results from the ANOVA table show that the model fits well the data on local procurement, technology, supplier development programs and local firm participation in road construction sector as indicated by a significant F-test (F=61.645, P-value=0.000).

The results from the multiple regression model show that local procurement had a positive and significant effect on local firm participation in road construction sector of Uganda (B=0.223, P-value<0.05). A unit increase in local procurement results into an increase in local firm participation in road construction sector of Uganda by 0.223. This may imply that an improvement in local procurement for instance providing of tender preferences to local providers who supply local materials significantly increases on local firm participation in road construction sector of Uganda.

The model results reveal that technology has no significant effect on local firm participation in road construction sector of Uganda (B=0.151, P-value>0.05). This may imply that any advancement in technology through technological transfer and growth in local technology may not affect local firm participation in road construction sector of Uganda.

The model findings show that Supplier development programs have a positive and significant effect on local firm participation in road construction sector of Uganda (B=0.579, P-value<0.05). The findings reveal that a unit growth in supplier development programs leads to an improvement in local firm participation in road construction sector of Uganda by 0.579.

This may imply that an increase in supplier training and joint venture results into an improvement in local firm participation in road construction sector.

CHAPTER FIVE

SUMMARY, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, discussions, conclusions and recommendations of the study on local content practices and local firm participation in the road construction sector based on the study findings. The first section presents the summary based on the study findings. Discussions, conclusions, recommendations, limitations, contributions, and areas for further study are equally presented in this chapter.

5.2 Summary of the Study Findings

5.2.1 Local procurement and local firm participation in the road construction sector in Uganda

The study found that there are some efforts like giving tender preferences to local suppliers by reducing the price of bids towards use of local inputs and local labour force in the road construction sector but there still exist gaps as some procurement still don't involve local labour force and use of local inputs. A multiple regression analysis was run to establish the percent of variation in local firm participation caused by local procurement and was the most predictor of the variance in local firm participation with ($\beta 1 = 0.223$, $t = 4.077$, Sig. = 0.000).

5.2.2 Technology and local firm participation in the road construction sector in Uganda

The study found that there are still evident gaps between technology and local firm participation in the road construction sector as the majority of the respondents disagreed with any efforts taken by the government of Uganda to develop both local technology and also to arrange for transfer agreements with foreign firms with the aim of boosting local manufacturing skills. The study also found out that currently the local firms in road construction sector in Uganda don't have capacity to develop their own technology needed in the sector therefore

require some boosting by the government in form of transfers and training. A multiple regression analysis was run to establish the percent of variation in local firm participation caused by technology and it was insignificant with (β1= 0.151, t= 1.797, Sig. = 0.74) implying that technology has no significant effect on the level of local firm participation.

5.2.3 Supplier development programs and local firm participation in the road construction sector in Uganda

The study found that there seems to be joint venture formulation among local independent individuals who supply materials and construction works in the road construction sector however this is still at a small scale as some individuals are still un aware of this development. However, the study also discovered that joint ventures and supplier development programs between local firms and foreign firms is nonexistence which put a knowledge and skill gap in the road construction sector. A multiple regression analysis was run to establish the percent of variation in local firm participation caused by supplier development programs it was found out that supplier development programs was the second most predictor of the variance in local firm participation with (β1= 0.579, t= 6.889, Sig. = 0.000).

5.3 Discussion of the Study Findings

5.3.2 Local procurement and Local Firm Participation in the road construction sector

Local procurement significantly affected local firm participation in the road construction sector and was the most significant predictor of the variance in local firm participation. The study concluded that local firm participation depends on the implementation of local content practice of local procurement in terms of use of local inputs and also employing local labour force and this results into having more of local firms involved in the road construction sector of Uganda. These study findings and observations are supported by previous studies of Tordo et al., 2013; Teka, (2012) who point out that use of locally produced goods and services refers to

procurement and utilization of locally produced input materials, development of these materials which reduces the capital cost that may have been incurred by the former and overextension of the firm and tends to include affirmative action on simplification of procurement procedures. Wells and Hawkins (2008), in their research on increasing local content in infrastructure procurement pointed out that use of local resources in civil engineering projects like gravel roads, concrete pavers and rubble masonry concrete are mainly labor based approaches that are most likely to use locally made materials. Regulating the production of these inputs through content protection requirement will therefore benefit the local firms who supplies these inputs through increased production. Wells & Hawkins (2010) also continue to assert that foreign companies normally brings Managers, Supervisors and skilled labor with them or source these workers internationally thus economic benefits to citizens through job and employment opportunities is not maximized and thus necessitating regulation (Heim, 2019). By mandating the employment of nationals, the aim is to create opportunities for domestic employment, thereby contributing to growth in income, capacity development of nationals and overall increased economic growth and lastly there is need to improve national technological capacity in the country.

5.3.2 Technology and Local Firm Participation in the road construction sector

According to the regression analysis, technology doesn't affect local firm participation in the road construction sector in Uganda as it was not a predictor. However, the interviews conducted differ from the quantitative analysis as respondents noted the absence of technology initiatives in the sectors but emphasized that if the government can boost local firms' technology capacity through technology trainings and transfer of technology with foreign firms, then there will be an increase in the number of firms that participate. This was in agreement with some of the research works, for example, drawing from literature related to local content in oil and gas, Deloitte (2015) emphasized transfer knowledge of methodologies and technologies to local

industry through specialized training to enable employment. Wells and Hawkins (2008) in their study concluded by noting that detailed designs should, where appropriate, specify technologies that are within the capability of local contractors. Designing for labor-based approaches can create additional employment and specifying local materials can generate employment and business opportunities in the supply industries.

5.3.3 Supplier development programs and Local Firm Participation in the road construction sector

Supplier development programs significantly affected local firm participation in the road construction sector and was the second most significant predictor of the variance in local firm participation. The study concluded that local firm participation depends on trainings and formation of joint venture formation among the local firms themselves and also with foreign firms or companies involved in the road construction sector of Uganda. These study findings and observations are supported by previous studies of Nordas (2003), who note that local policies have to appreciate and encourage foreign firms to collaborate with local companies. In turn, this should be expected to give impulses and create dynamics, which would have positive influence on the development of indigenous firms. Brand (2017), scrutinizes a number of local content policies on capacity building and noted that in both developed and developing economies where training schemes were conducted, the results have been positive in developing local knowledge and exercise necessary for participation. Local policies were moreover found to have a causal effect on the capabilities of local companies, on education, on skills and expertise development, research and development capabilities and on technology and know-how transfer capabilities (Aratuo, 2012).

5.4 Conclusion of the Study

5.4.1 Local procurement and Local Firm Participation in the road construction sector in Uganda

The study concludes that local firm participation depends on the extent to which the government encourages use of local inputs as either raw materials or semi-finished materials in the construction of roads and employment of both skilled and semi-skilled labour force in the road construction sector. There were still local procurement gaps of local firm capacity to produce the desired materials and inadequate skills and capacity of the current labour force that need to be addressed so as to ensure that local firms increasingly participate in the road construction in Uganda.

5.4.2 Technology and Local Firm Participation in road construction sector of Uganda

It was concluded that still local firm participation depends on the presence of local technology and the extent to which technology can be transferred from foreign companies that have developed modern technology needed in the road construction sector of Uganda. However, there still exist shortcomings as technology transfer is not yet mandatory by law and the local firms still lack capacity to develop their own technology which need to be addressed.

5.4.3 Supplier development programs and local firm participation in the road construction sector of Uganda.

It was concluded that supplier development programs have an effect on how local firms can participate in the procurement contracts in the road construction sector of Uganda through encouraging trainings of the local firms of what is desirable if they are to get business and encouraging them to form joint ventures so that they are able to have the capacity required in the execution of these projects. But currently there still exist gaps in these areas that require

immediate attention if these local firms involved in the supply of materials and construction are to win business in road construction sector of Uganda.

5.5 Recommendations of the study

5.5.1 Local procurement and local firm participation in the road construction sector in Uganda

To increase local firm participation in the road construction sector in Uganda, the study recommends that the government should impose quotas on foreign companies so that they employ skilled locals, specialized institutions should be developed to meet the demand for skilled labor force, limit the number of expatriates employed with the view of creating jobs for the nationals and finally preferential tariffs on imports should be put in place to limit or reduce on the importation of similar materials that can be produced in Uganda.

5.5.2 Technology and local firm participation in the road construction sector in Uganda

On technology and local firm participation, the study recommends that the government should prioritize financial incentives to local companies to encourage investment in cutting edge technology, ensure technology transfer agreements between foreign companies and the government of Uganda, the government should strengthen collaboration between domestic companies and local technology institutes to develop local and affordable technologies and finally the government should put in place grants for research and development activities with the motive to help local manufacturers adapt and improve technology

5.5.3 Supplier development programs and local firm participation in the road construction sector in Uganda

The study recommends that foreign companies should be mandated by law to train nationals with the view of gaining skills and experience**, t**here should be funding of human capital through organizing training sessions for local companies, professional development schemes

should be put in place for contracting companies**, t**here should be incentives to foster innovation through improved intellectual property rights to strengthen the innovation climate and lastly Joint ventures should exist between foreign companies and local companies to foster these companies to become competitive.

5.6 Contributions of the Study

This study contributes to local content implementation in the road construction sector in Uganda. Local content practices have been much mentioned in oil and gas and little has been done or researched on in the road construction yet currently most of the countries are going through infrastructure development specifically in roads. This study therefore provides insights on how the local firms in Uganda can benefit through local content practices so as to increase their participation.

5.7 Areas for Further Research

The study found that local procurement, technology and supplier development programs all predict 53.8% of the variance in local firm participation in road construction sector in Uganda meaning 46.2% of the variations are caused by other factors that needs to be looked at. Other studies also need to be carried out to examine local content practices and local firm participation in other sectors other than road construction and oil and gas to establish how local content can practically be implemented to increase national participation.

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APPENDIX I: STUDY QUESTIONNAIRE

Dear Sir/Madam,

My name is **Willy Horx Atuppa,** a student pursuing a Master Degree of Science in Procurement and Supply Chain Management at Kyambogo University. I am conducting a study on **Local content practices and Local firm participation in the road construction sector of Uganda, a case of local firms** as the partial requirement for the award of the Master's degree. Local content practices under this study means use of local inputs (materials and labour) in the road construction sector. Local firm participation means the level of involvement local firms hold in the road construction sector.

You have been selected as a respondent to provide me with your views on this study based on your experience on the subject matter. Your views will be kept and treated confidentially and at no moment will it be used against you.

Kindly spare 10-15 minutes to answer the questions following the directions in the questionnaire.

SECTION I: Background Information

No.	Personal information	Preferences	Kindly Tick
1.	Company Name (Optional)		
2.	Gender of respondents	Male Female	
3.	Age group	20-25 26-30 31-35 36-40 41 and Above	
4.	Highest level of education	Postgraduate	

		Degree Diploma Certificate Secondary Others specify	
5.	Position in the company	Proprietor Director Employee	
6.	Type of the company	Private Limited company Public Limited company Joint Venture SACCO Sole Proprietorship	
7.	For how long has this company been in the road construction Sector?	Below 1 year 1-5 years 5-10 years 10 years and above	
8.	Form of procurement	Goods Works Services	

Note: In the subsequent sections, please show your level of agreement or disagreement in regards to the following statements.

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

SECTION B: LOCAL PROCUREMENT.

Local labour force under this study means use of national work force (Ugandans) while local inputs mean procurement and utilization of locally produced input materials and development of these materials in Uganda. The following statements relate to Local Procurement on Local Firm Participation in the road construction sector of Uganda. Please indicate the extent to which you agree by ticking **(√)** the appropriate number.

Code	***Local labor force***	**5**	**4**	**3**	**2**	**1**
LLF1	There are policies in place to increase local employment through hiring locals/nationals					
LLF2	The government has imposed quotas on foreign companies to employ skilled locals/nationals					
LLF3	The government has put in place limitation on the number of expatriates employed with the view of creating jobs for the nationals					
	Local input					
LI1	Foreign firms are required by law to procure a certain amount of local materials from local firms.					
LI2	There is offering of tender preferences to local providers who supply local materials.					
LI3	Locally available goods and services are completely provided by local firms					

SECTION C: TECHNOLOGY

Technology transfer means having opportunity to use technologies owned by foreign firms while local technology means use of locally manufactured technologies for which local technical expertise is available here in Uganda. The following statements relate to observations on technology on local firm participation in the road construction of Uganda. Please indicate the extent of your agreement.

Code	***Technology transfer***	**5**	**4**	**3**	**2**	**1**
TF1	There are requirements in Standard Bid Documents (SBDs) to spend a share of the foreign company's expenditure to finance research and development					
TF2	There are technology transfer agreements between foreign companies and the government of Uganda					
TF3	Local firms are subcontracted by foreign companies to transfer skills to nationals					
	Local technology					
LP1	There is use of local manufacturing skills which is instrumental in building technological capabilities necessary to adapt technology					
LP2	There is incentivizing of foreign companies by government to use local technology through offering tax holidays.					
LP3	Local contractors have adequate technology necessary to supply in the road construction sector					

SECTION D: SUPPLIER DEVELOPMENT PROGRAMS

Trainings means providing technical mentoring and support for the development of business management skills while joint venture means making partnering arrangements among local firms. Please indicate the extent to which you agree with the following observations on supplier development programs on local firm participation in the road construction sector of Uganda.

Code	***Trainings***	**5**	**4**	**3**	**2**	**1**
T1	The government frequently hosts local content promotion efforts like conferences, seminars and training					
T2	Foreign companies are mandated by law to train nationals with the view of gaining skills and experience					
T3	Local Contractors provides scholarships to university students in Uganda to improve their understanding in technological advancements required in the road construction sector					
	Joint venture					
JV1	Joint ventures exist between foreign companies and local companies to scale up local participation					
JV2	The government has provided investment incentives to local joint ventures to boost their capacity					
JV3	SMEs are encouraged to form joint ventures with the view of winning large contracts					

SECTION E: GOVERNMENT POLICY

Government policy refers to rules, regulations and guidelines issued by the government to promote local content in the road construction sector.

Please indicate the extent to which you agree with the following observation on local content practices and local firm participation in the road construction sector of Uganda.

Code	***Government policy on Local Content***	**5**	**4**	**3**	**2**	**1**
GP1	There are policies in place to promote local content in the road construction sector.					

SECTION E: LOCAL FIRM PARTICPATION

Local firm participation means the level of local firm involvement in the road construction sector. Indicate the extent to which you agree with the following observations on local firm participation in the road construction sector of Uganda.

Code	**Statement**	**5**	**4**	**3**	**2**	**1**
LFP1	There is higher percentage of procurement spent on local inputs					
LFP2	There is a higher percentage of locals employed					
LFP3	Percentage spent on training is high and the earning power of nationals after training increases					
LFP4	High amount of financial incentives are awarded to local firms					
LFP5	Most contracts are reserved for local firms					

Thank you for participating and your support.

APPENDIX II: INTERVIEW GUIDE

LOCAL CONTENT PRACTICES AND LOCAL FIRM PARTICIPATION IN THE ROAD CONSTRUCTION SECTOR. A CASE OF LOCAL FIRMS.

Introduction

The purpose of the interview is to gather personnel views on local content practices that would increase local firm participation in the road construction sector of Uganda.

1. What are some of the local content practices that have been implemented to increase local firm participation in your sector?
2. Are local inputs (in terms of raw materials) used in the road construction sector?
3. Do nationals get an opportunity of being employed by the foreign firms in the road construction sector?
4. If yes, what type or nature of jobs do they do?
5. Is there a percentage set for the amount of local inputs to be used while constructing the roads?
6. How often is local technology being used?
7. Are there agreements in place between government and foreign construction firms to transfer technology to the infant and local firms in Uganda?
8. Are local firms trained on better and modern technology needed in road construction?
9. Are there joint ventures among local firms in road construction?
10. Are local firms trained often to meet the set standards in the road construction sector?
11. How has government increased local firm participation in the road construction sector of Uganda?
12. Are there financial incentives like loans in place to support local firms?
13. Are there contracts reserved for local firms with the aim of increasing their experience and capability?

14. Has government set a percent of the local workers to be employed for a given amount of contract
15. What should be done to increase local firm participation in the road construction sector of Uganda?
16. Propose some of the local content practices that you think would work well in the road construction sector of Uganda.