



**Strathmore**  
UNIVERSITY

Strathmore University  
**SU+ @ Strathmore**  
University Library

---

**Electronic Theses and Dissertations**

---

2019

# The Effect of local content policies on sustainable local development by upstream oil and gas companies in Kenya

---

Julius W. Mulati  
*Strathmore Business School (SBS)*  
*Strathmore University*

Follow this and additional works at <https://su-plus.strathmore.edu/handle/11071/6601>

## Recommended Citation

Mulati, J. W. (2019). *The Effect of local content policies on sustainable local development by upstream oil and gas companies in Kenya* (Thesis, Strathmore University). Retrieved from <http://su-plus.strathmore.edu/handle/11071/6601>

This Thesis - Open Access is brought to you for free and open access by DSpace @Strathmore University. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of DSpace @Strathmore University. For more information, please contact [librarian@strathmore.edu](mailto:librarian@strathmore.edu)

**THE EFFECT OF LOCAL CONTENT POLICIES ON SUSTAINABLE LOCAL  
DEVELOPMENT BY UPSTREAM OIL AND GAS COMPANIES IN KENYA**

**BY**

**MULATI WACHIYA JULIUS**

**ADM 12733**

**A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF MASTER OF COMMERCE AT  
STRATHMORE UNIVERSITY**

**STRATHMORE BUSINESS SCHOOL.**

**STRATHMORE UNIVERSITY**

**NAIROBI, KENYA**

**JUNE, 2019**

## DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

© No part of this thesis may be reproduced without the permission of the author and Strathmore University.

**STUDENT NAME:** MULATI WACHIYA JULIUS

**REG NO:** 12733

Sign: \_\_\_\_\_

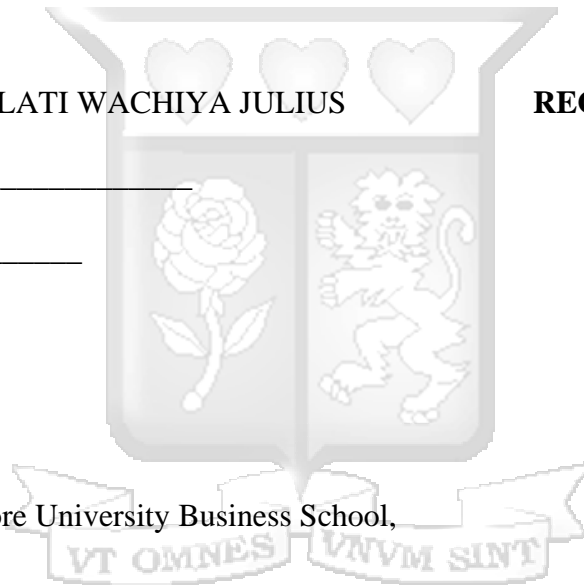
Date: \_\_\_\_\_

## APPROVAL

Dr. Stella Nyongesa,  
Senior Lecturer, Strathmore University Business School,  
Strathmore University.

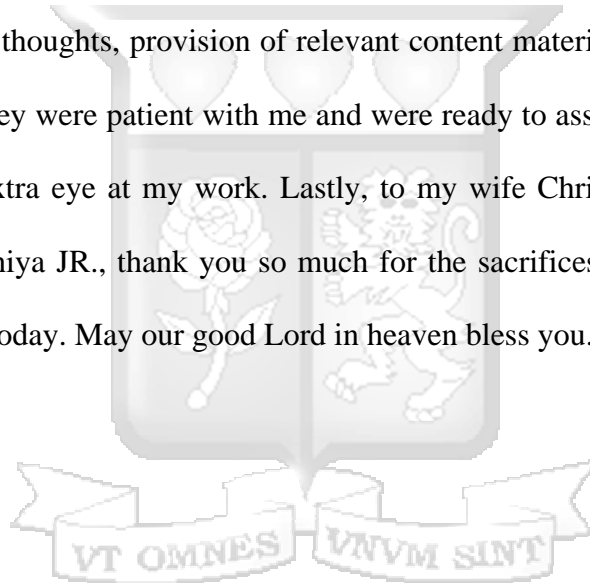
Dr. George Njenga,  
Dean, Strathmore University Business School,  
Strathmore University.

Professor Ruth Kiraka,  
Dean, School of Graduate Studies,  
Strathmore University



## ACKNOWLEDGEMENT

First to God in heaven the giver of life and His sufficient grace that enabled me walk this journey. To my supervisor Dr. Stella Nyongesa, she blessed me and made my work easier for her wise counsel and guidance throughout the research process. I would also like to extend my gratitude to my church leadership of Mr. & Mrs. Echakara who encouraged me to seek admission and pursue a Master's degree. I cannot forget to thank the management of Africa Oil Kenya for the financial support, my colleagues Beatrice S. Porrer, Linda Were and my good friend Mr. Richard Oduku for their encouragement, thoughts, provision of relevant content materials and their endless help in review of my work, they were patient with me and were ready to assist whenever I would call upon them to have an extra eye at my work. Lastly, to my wife Christine and children Tayla, Nethan, Purity and Wachiya JR., thank you so much for the sacrifices and support system you accorded me to get here today. May our good Lord in heaven bless you.



## DEDICATION

This work is dedicated to everyone who has supported me throughout this endeavor. I dedicate this work to my family for their hope and resilience, and to friends and colleagues with whom I have always shared my dreams. I would have not gone this far without much sacrifices and support from you all, May our good Lord in heaven bless you abundantly.



## ABSTRACT

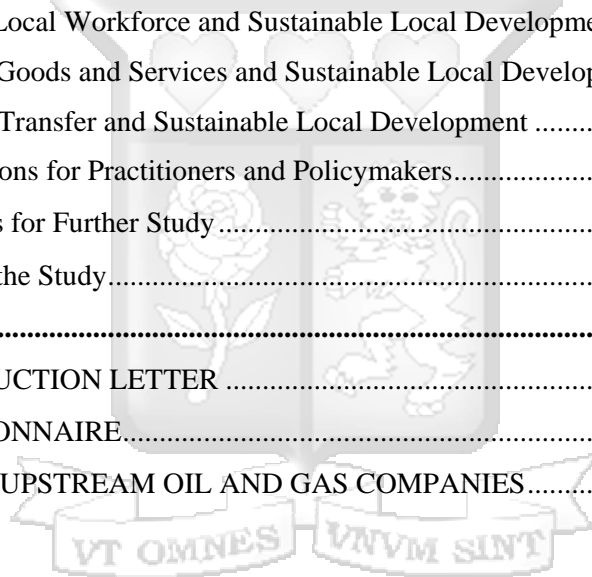
Despite the massive surge of multinational companies into the African extractive sector, regions where extractive activities are occurring have remained steeped in poverty and underdevelopment. In response, developing countries have come up with local content requirements, legislations, or regulations to promote equitable distribution of natural resource wealth, there has been a movement towards introducing policies to leverage the resource, promote industrialization, and sustain economic growth. On the contrary, the effectiveness of local content in driving sustainable local development remains unclear. The general objective was to investigate the effect of local content policies on sustainable local development in the upstream oil and gas industry in Kenya. The study sought to determine the effects of employment and training of local workforce, domestic sourcing of goods and services and the effect of technology transfers to local economy on sustainable local development by the upstream oil and gas companies in Kenya. The study was grounded on the stakeholder theory and adopted a descriptive research design. The sample consisted of permanent employees from upstream oil and gas companies in Kenya. Purposive sampling was used to generate a sample size of 77 employees to whom a standardized closed-ended 5-likert scale questionnaire was administered. The data was analyzed using SPSS for both descriptive analysis and inferential computations. Descriptive statistics included frequencies, percentages, means and standard deviations, while the inferential statistical measures were Pearson correlations and linear regressions. The results were presented in tables, charts, and graphs. The results indicate that there is a positive and significant association between the independent and dependent variable. The study found out that local employment, training of local workforce, and domestic sourcing of goods have a positive effect on sustainable local development, but the effect was not statistically significant. Technology transfers had a positive and significant effect on sustainable local development. The study concludes that companies have moderately initiated, adopted, and implemented provisions of local content policies, and that these policies have the potential of improving sustainable local development. The study recommends the development of a clear policy framework on local employment as part of local content policies. Upstream oil and gas companies should expand the provision of internship opportunities as well as staff learning through cross-posting. There is need for upstream segment to increase opportunities for domestic firms. Finally, upstream companies to develop and adopt technology transfer agreements, form joint ventures, and set aside funding support for local research and development.

## TABLE OF CONTENTS

<b>DECLARATION.....</b>	<b>ii</b>
<b>ACKNOWLEDGEMENT.....</b>	<b>iii</b>
<b>ABSTRACT.....</b>	<b>v</b>
<b>LIST OF FIGURES .....</b>	<b>ix</b>
<b>LIST OF TABLES .....</b>	<b>x</b>
<b>LIST OF ABBREVIATIONS .....</b>	<b>xi</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.1.    Background of the Study.....	1
1.1.1.    Local Content Policies .....	2
1.1.2.    Sustainable Local Development.....	5
1.1.3.    Upstream Oil and Gas Sector in Kenya .....	7
1.2.    Statement of the Problem.....	8
1.3.    Research Objectives .....	9
1.3.1.    General Objective .....	9
1.3.2.    Specific Objectives .....	9
1.4.    Research Questions .....	10
1.5.    Significance of the Study .....	10
1.6.    Scope of the Study .....	11
<b>CHAPTER TWO .....</b>	<b>12</b>
<b>LITERATURE REVIEW .....</b>	<b>12</b>
2.1.    Introduction.....	12
2.2.    Theoretical Framework .....	12
2.2.1.    Stakeholder Theory .....	12
2.3.    Empirical Review.....	13
2.3.1.    Employment of Local Workforce and Sustainable Local Development.....	14
2.3.2.    Training Programs and Sustainable Local Development.....	18
2.3.3.    Domestic Sourcing and Sustainable Local Development .....	19
2.3.4.    Technology Transfer and Sustainable Local Development .....	21
2.4.    Research Gap .....	24
2.5.    Conceptual Framework .....	27
2.6.    Operationalization of Variables .....	27

2.7.	Chapter Summary .....	28
<b>CHAPTER THREE .....</b>		<b>30</b>
<b>METHODOLOGY .....</b>		<b>30</b>
3.1.	Introduction .....	30
3.2.	Research Philosophy .....	30
3.3.	Research Design.....	31
3.4.	Target Population.....	31
3.5.	Sampling Techniques.....	32
3.5.1.	Sampling Design .....	32
3.5.2.	Sample Size.....	32
3.6.	Data Collection .....	33
3.7.	Research Quality .....	34
3.8.	Data Analysis .....	35
3.8.1.	Regression Model .....	36
3.9.	Ethical Considerations .....	37
<b>CHAPTER FOUR.....</b>		<b>38</b>
<b>PRESENTATION AND ANALYSIS OF RESEARCH FINDINGS .....</b>		<b>38</b>
4.1.	Introduction.....	38
4.2.	General Information.....	38
4.2.1.	Response Rate.....	38
4.2.2.	Gender.....	39
4.2.3.	Age.....	39
4.2.4.	Level of Education.....	40
4.2.5.	Duration in the Company .....	40
4.2.6.	Job Posting .....	41
4.2.7.	Position in the Company .....	41
4.2.8.	Area of Expertise .....	41
4.3.	Descriptive Statistical Findings .....	42
4.3.1.	Local Employment.....	42
4.3.2.	Training Local Workforce .....	43
4.3.3.	Sourcing Goods and Services from Local Businesses .....	45
4.3.4.	Technology Transfer.....	45
4.4.	Inferential Statistics.....	46
4.4.1.	Correlation Analysis .....	46

4.4.2. Regressions .....	47
<b>CHAPTER FIVE .....</b>	<b>50</b>
<b>DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>50</b>
5.1. Introduction.....	50
5.2. Discussions .....	50
5.2.1. Local Employment and Sustainable Local Development .....	50
5.2.2. Training of Local Workforce and Sustainable Local Development .....	52
5.2.3. Sourcing of Goods and Services and Sustainable Local Development.....	52
5.2.4. Technology Transfer and Sustainable Local Development .....	53
5.3. Conclusions.....	54
5.3.1. Local Employment and Sustainable Local Development .....	55
5.3.2. Training of Local Workforce and Sustainable Local Development .....	55
5.3.3. Sourcing of Goods and Services and Sustainable Local Development.....	55
5.3.4. Technology Transfer and Sustainable Local Development .....	56
5.4. Recommendations for Practitioners and Policymakers.....	56
5.5. Research Areas for Further Study .....	57
5.6. Limitations of the Study.....	57
<b>REFERENCES.....</b>	<b>58</b>
APPENDIX I: INTRODUCTION LETTER .....	68
APPENDIX 2: QUESTIONNAIRE.....	69
APPENDIX 3: LIST OF UPSTREAM OIL AND GAS COMPANIES.....	74



## LIST OF FIGURES

Figure 2.1: Conceptual framework..... 27



## LIST OF TABLES

Table 2.1: Summary of Literature and Research Gaps.....	25
Table 2.2: Operationalization of Variables.....	28
Table 3.1: Population of the Study.....	31
Table 3.2: Sample Size.....	33
Table 3.3: Reliability test.....	33
Table 4.1: Response Rate.....	38
Table 4.2: Gender distribution.....	39
Table 4.3: Age.....	39
Table 4.4: Level of education.....	40
Table 4.5: Duration in a company.....	40
Table 4.6: Job posting.....	41
Table 4.7: Position in the company.....	41
Table 4.8: Area of expertise.....	42
Table 4.9: Local Employment.....	43
Table 4.10: Training of Local Workforce.....	44
Table 4.11: Sourcing Goods and Services from Local Businesses.....	45
Table 4.12: Technology Transfer.....	46
Table 4.13: Correlation Analysis.....	47
Table 4.14: Model Summary.....	47
Table 4.15: ANOVA.....	48
Table 4.16: Regression Coefficients.....	49

## LIST OF ABBREVIATIONS

CSR	Corporate Social Responsibility
EOPS	Early Oil Pilot Scheme
FDI	Foreign Direct Investment
ICT	Information Communications Technologies
ILO	International Labour Organization
IOCs	International Oil Companies
IPIECA	International Petroleum Industry Environmental Conservation Association
IRR	Internal Rate of Return
IUCN	International Union for the Conservation of Nature and Natural Resources
KOGA	Kenya Oil & Gas Association
LC	Local Content
MNCs	Multinational Corporations
MOEP	Ministry of Energy & Petroleum
NNPC	Nigerian National Petroleum Corporation
NOCK	National Oil Corporation of Kenya
NPV	Net Present Value
OECD	Organization for Economic Co-operation and Development
PTDF	Petroleum Technology Development Fund
R&D	Research & Development
TCB	Technology Capacity Building
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNRISD	United Nations Research Institute for Social Development
WCED	World Commission on Environment and Development

## CHAPTER ONE

### INTRODUCTION

#### 1.1. Background of the Study

There has been a massive surge of Multinational Corporations (MNCs) into the African extractive sector over the past decade. It is estimated that up to 60 percent of foreign direct investment (FDI) is going to natural resource extraction. The oil and gas sector takes a significant share of FDI inflows (African Economic Outlook 2013). The United Nations Development Programme (UNDP) found out that nearly all African countries, approximately 50, have invested in oil and gas exploration, while some have started production (UNDP, 2013). Despite evidence of increased investment in the industry, while extraction companies have enjoyed record profits, the developing countries where these extractions are occurring remain steeped in poverty. Socioeconomic studies indicate that a significant population in these countries continue to live in abject poverty (Sigam& Garcia, 2010; Tordo, Warner, Manzano, & Anouti, 2013; Asiago, 2017).

In most countries that have exhibited the ‘oil curse’, where oil exploration and production triggers resource-fueled political instability, poor management of oil resources, particularly neglect and continued marginalization of local communities has been identified as the most dominant indicator. Esteves, Coyne and Moreno (2013) add that even though resource rich regions have an expectation that oil and gas exploration and production can increase local development, in most cases, these regions do not have the capacity to exploit the opportunities created by resource extraction in creating jobs whether skilled, semi-skilled or unskilled; developing local businesses through domestic sourcing or joint ventures and partnerships; and building skills through training. These activities can promote economic growth and sustainable development.

To promote equitable distribution of natural resource wealth, there has been a movement towards introducing policies to leverage the resource, promote industrialization, and sustain economic growth. These policies are called local content requirements, legislations, or regulations (Acheampong, Ashong& Svanikier, 2016). Many governments have stated a commitment to ensuring that resource-based investments should fuel to broad economic growth (White, 2017). While Dobbs, Oppenheim, Thompson, and van der Marel (2013) note that over 90 percent of resource-fueled economies now have local content (LC) regulations, Kinyondo and Villanger

(2017) argued that these LCs remain deeply controversial and are associated with rent seeking, corruption, and non-productive lobbying. Since, governments continue to use local content requirements despite the highly controversial debate in literature about their success or failure (Weiss, 2016), it is crucial to determine how local content policies affect sustainable local development.

Most oil and gas producing and export-dependent states are rentier states, meaning that the state relies on revenues or generated from selling to foreign markets, as opposed to the surplus production in the domestic economy. Oil companies operating in these host countries pay rents, taxes and royalties to continue their mining operations (Losman, 2010). As a result, there are various stakeholders in the development of oil and gas, and they can be categorized as oil companies, mainly international oil companies (IOCs). They include organized labor groups and host community, the government, industry, oil companies, and regional interests. Therefore, to effectively operate and meet their corporate objectives, oil companies must identify stakeholders, sort them out according to interest and influence, outline stakeholder characteristics, and understand the value of the extraction projects on all stakeholders (Mbelwa, 2018). The author reiterated that understanding appropriate procedures, stakeholders, and critical factors for effective decision making is important. It is on this basis that the International Petroleum Industry Environmental Conservation Association (IPIECA) notes that achieving sustainable local development demands the assessment of the specific roles and responsibilities of all stakeholders (IPIECA, 2017).

### **1.1.1. Local Content Policies**

Grossman (1981) was one of the first scholars to study the effect of local content requirements on resource allocation and is widely regarded as the pioneer of local content policies. The author defined local content policies as the proportion of value addition or domestically sourced components used in production by foreign companies. Therefore, local content can be denoted by  $M$ . The input,  $k$ , is a fraction or percentage of the total quality of all inputs needed to produce a final product for the market. Without this, firms must pay a penalty for importing inputs. As a result, firms satisfy local content requirements to maximize profits. The author further theorized that local content requirements should ensure that local inputs are employed beyond the point where the marginal revenue of local inputs equals marginal cost,  $MR > MC$ . In a scenario where

local content inputs are not employed, the relationship is one of  $MR=MC$ . Therefore, local content inputs can increase the equilibrium output of domestic inputs,  $dM/dk>0$ . It is important to note that local content requirements are instruments for protecting local industries, increasing output and generating employment, hence the extent of protection is a crucial indicator of whether they fail or succeed in meeting objectives (Grossman, 1981).

According to Kalyuzhnova, Nygaard, Omarov, and Saparbayev (2016) local content can be defined as an industrial tool used expand the activities of domestic producers by increasing their access to superior international managerial, technical and technological expertise. Ramdoo (2016) on the other hand defines them as policy instruments developed by governments to push foreign companies to source the factors of production such as labor, supplies, and technology from the local population. OECD (2016) defines them as policies that are imposed on foreign firms by host governments to ensure that they use goods and services manufactured locally in their production processes.

The most comprehensive definition of local content is provided by Warner (2011). The author defined local content as the composite value contribution to when foreign companies purchase local goods and services, which includes wages, materials, plant and equipment, subcontracts and taxes. According to Warner (2011), the effects of the purchase can either be first order, second order or third order. First order encompasses those direct economic impacts on employees, contractors and suppliers working with the foreign firms. Second order includes the direct impacts on the subcontractors and sub-subcontractors. The third order are those impacts that arise from employees spending earned incomes in the wider economy (Warner, 2011).

Lahiri and Ono (1998) argued that FDI does benefit local production or provide employment opportunities in the absence of local content policies, while Grossman (1981) stressed that local content policies increase output. Further, Ohdoi (2009) noted that local content policies decrease the price on final goods. Melo and Rodriguez-Clare (2009) argued that local content policies strengthen the productive structure of a specific economy by ensuring that foreign firms are procuring goods and services from domestic firms, and employing locals (Melo & Rodriguez-Clare, 2006). Other local content policy measures may include tariffs, taxation, pricing controls, licensing, and concessions favoring local industries (Cimino, Hufbauer, & Scott, 2014). The definition of local content policies therefore draws from Grossman (1981), Kalyuzhnova et al

(2016), and Warner (2011) and relates to the provision of employment, training of local personnel, sourcing from local businesses, and technology transfers from foreign firms to local firms.

In Kenya's legislative framework captured in Local Content Bill (2016), local content policy also aligns with the constructs of employment, training, sourcing and technology transfer. In terms of employment, foreign companies in the extractive sector are required to ensure a percentage of their employees are locals. Further, there should be a distinction made between skilled and unskilled labour, and employment in various positions ranging from lower-level positions to upper-level positions. However, in some cases, there is less prescription and the only focus is on demonstrating job creation and employment of local personnel. In Kenya, under Section 26 of the Local Content Bill, 2016, the oil and gas companies are (a) required to give preference to local persons in employment consideration; (b) minimize the employment of foreign personnel as much as possible; and (c) ensure that foreigners are only employed in positions where local expertise could not be attracted (Local Content Bill, 2016).

Training is the provision of technical-field related education to local workforce so as to enhance the skills, knowledge, and capabilities of local personnel in the long term. Training programs can incorporate sessions for existing workforce, resource commitments for government funds aimed at enhancing the skills and capabilities of locals, as well as company-devised plans for local education. Under Section 23, such skills development can encompass providing on-the-job internships to locals, cross-posting staff to gain global experience, and equipping staff with the necessary knowledge and skills to effectively perform in the sector. Section 25 calls on foreign companies to train employees and implement capacity building programs targeting locals.

Domestic sourcing of goods and services is a critical element in local content requirements. Domestic goods may include materials, equipment, and components. Domestic services may include legal, financial, consulting, and various forms of contracts necessary for setting up, developing, and operating oil exploitation activities. Section 39 calls on these companies to maintain a bidding process that is fair. Section 40 requires the foreign companies to give first preference to local companies. Section 41 requires foreign companies to give preference to goods produced in Kenya or services produced by Kenyan nationals (Local Content Bill, 2016).

On technology transfers, the focus is on improving local knowledge and capacity to perform technical work and typically include research and development investments in local institutions such as universities and research institutes, as well as government research agencies. This is achieved through contribution of a percentage of revenues or profits to research institute or government funds that are specifically designed to enhance local capacity. Companies can also devise independent plans for transferring technology. Under Section 30, oil and gas companies should transfer of technology to local company or citizens through the adoption of technology transfer agreements with locals, and formation or entry into joint ventures and licensing partnerships (Local Content Bill, 2016).

### **1.1.2. Sustainable Local Development**

The term sustainable development was first introduced in the 1980, in a presentation of the World Conservation Strategy by the International Union for the Conservation of Nature and Natural Resources (IUCN), the focus was on helping the poor so that they do not destroy the environment, promoting self-reliance, encouraging cost-effective development, utilization of appropriate technologies in food production, health control, water and shelter provision, and encouraging people-centered initiatives.

The World Commission on Environment and Development (WCED) defined sustainable development as that “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987; p. 43). This is the most commonly used definition in literature. In defining the concept, WCED (1987) further elaborated that the critical objectives of sustainable development were to revive growth, change quality of growth, meet essential needs for jobs, food, energy, water and sanitation, ensure sustainable population growth, conserve natural resource endowments, reorient technology and manage risk, incorporate environmental issues in economic decision making, and reorient international economic decisions (WCED, 1987, p. 49).

In the 1980s, following the introduction of “sustainable development” into development literature, Lele (1991) argued that even though it was becoming nothing but a catchphrase embraced by both governmental and non-governmental agencies as a new paradigm for development, the concept lacked consistency in its interpretation. The author added that there is lack of semantic and conceptual clarity in the theoretical and analytical framework. Nonetheless, the author noted that

in general, sustainable development refers to development that can be continued either indefinitely or for the implicit period of concern. Development is a process of directed change, and therefore encompasses the processes and means of achieving the change (Lele, 1991).

On the contrary, just a successful achievement of a development objectives does not make the development sustainable. Barbier (1987) noted that sustainable economic development can be achieved through a tailored design and implementation of projects aligned with the needs and capabilities of the beneficiaries. Additionally, the concept of sustainable development arose from studies in ecological sustainability which was concerned with the constraints and opportunities of natural systems and how the utilization of these natural resources should not cause irreparable damage to the environment.

Holden, Linnerud, and Banister (2016) argues that sustainable development can also be understood as a normative value system, which is essentially a strong ethical and moral imperative to satisfy human needs, ensure social equity, and respect environmental limits. This understanding borrows from the foundational objectives laid down by WCED (1987), and is not just concerned with a model of sustainable development that seeks to balance the social, economic, and development objectives.

According to UNDP (2018) sustainable local development can be characterized by the minimization of waste, prevention of pollution, promotion of efficiency and development of local resources to revitalize the local economy. Sustainable local development promotes community rights, enhances environmental management systems, supports local investments and innovations and learning, and strengthens indigenous voice in national policy processes (UNDP, 2018). The Centre for Sustainable Development noted that achieving sustainable local development means putting greater emphasis on employment and economic demand management, waste management, efficient energy use, increased reliance on renewable energy, increased community self-reliance, and sustainable resource management (CSD, 2018). The UNDP (2018) definition of sustainable development will be adopted for this study because it aligns with the overall goal of achieving local development through local content policies. Therefore, sustainable development will be operationalized in terms of minimization of waste, pollution prevention, promotion of efficiency, and revitalization of local economy through infrastructural development (roads, hospitals, water etc).

### **1.1.3. Upstream Oil and Gas Sector in Kenya**

The industry value chain is categorized into upstream, midstream and downstream sectors. The upstream sector is concerned with exploring and producing oil and gas. Exploration includes activities such as geologic surveys, and actual drilling and recovery. The midstream sector includes all process of storing, marketing and transporting of oil and natural gas. The midstream sector usually links the oil upstream activities which are often in remote and far flung areas to the consumers (population and industries) which are distributed across the country. The downstream sector encompasses the oil refineries and petrochemical plants, petroleum and gas product distributors, and retail outlets (Colombano & Crnkovic, 2015).

Oil and gas exploration has been going in in Kenya for over 60 years. In the 1950s, explorations were carried out in Lamu Bay and surrounding islands and the Mandera Basin. In Lamu, 10 wells were dug by BP and Shell Oil but none of the wells were fully evaluated despite indications of oil staining and presence of gas. In Mandera, photo geological, gravity, aeromagnetic and seismic surveys were done by Frobisher Ltd, Adobe Oil Company and Burmah Oil Company but no drilling was done. In 1975, Lamu Basin was explored again, this time by Texas Pacific and oil and gas was detected in the cretaceous rocks. The Anza Basin was explored in 1976 by Chevron and Esso and the team detected hydrocarbons and microfills from the drills. In 1982, a consortium of Cities Services, Marathon and Union conducted seismic surveys and reported salt diapiric structures along the Kenyan coast. This was the Lamu Basin offshore drills Simba 1, Maridadi -1 and Kofia-1. Other explorations were carried out in 1986, the Garissa-1 and Kencan-1, which was a joint venture between the Kenyan Government and the Petro-Canada International Assistance Corporation. The same year, 8 wells were dug at Anza and Mandera Basin but there was no recoverable quantities. This trend of explorations continued with Lamu Basin from 1991-1995, the Tertiary Rift Valley from 2000-2010 which also detected potential sources. However, it was not until the Tertiary Rift Valley (Turkana) explorations of 2010-2016 that Tullow Oil Kenya made major oil discoveries and confirmed 9 commercially viable wells (MOEP, 2016).

Kenya has four prospective sedimentary basins: Mandera (51,441.98Km<sup>2</sup>), Anza (76,107.63Km<sup>2</sup>), the Tertiary Rift (116,619.13Km<sup>2</sup>) and Lamu (252,297.65Km<sup>2</sup>). The Lamu basin being the largest extends offshore. The Kenya Gazette Notice No. 3344 listed sixty-three (63) Petroleum Exploration Blocks of which thirty-seven (37) are located in the Lamu Basin, seven

(7) in the Anza Basin, five (5) in the Mandera Basin, and fourteen (14) in the Tertiary Rift Basin (MOEP, 2016). Out of the 63 blocks more than 40 had been licensed to oil exploration and production companies and operated by over 20 international oil companies: Africa Oil Corporation, Afren/EAX, Anadarko, A-Z Petroleum, BG Group, Camac Energy, Cepsa, ENI, FAR Energy, Imara Energy, Lamu Oil and Gas, Lion Petroleum, NORK, Ophir/Dominion, Milio Energy, Rift Energy, Simba Petroleum, Total E.P Kenya, Simba Petroleum, Tullow Oil, Van Oil Energy, and Zarara Oil & Gas, in addition to and the National Oil Corporation of Kenya (NOCK) (MOEP, 2016).

There is increased interest in onshore and offshore exploration of gas and oil deposits in Kenya and it is projected that extractive activities will have a substantial impact on the Kenyan economy (MOEP, 2016). Local content legislations have been developed to maximize the use of local labor, local goods and services, while promoting joint ventures and partnerships between foreign and local companies (MOEP, 2016).

## **1.2. Statement of the Problem**

Even though countries are incorporating local content policies, and increasing legal and regulatory provisions for extractives, their effects on development outcomes are unclear. White (2017) reported provisions on local sourcing of goods and are largely ineffective in the absence of a framework for ensuring strict compliance. Ovadia (2017) studying the effects of local content policies in Nigeria reported that rather than a broad-based economic effect, these policies have mainly benefited the “one percent” domestic elite. Jagede et al (2013) reported that indigenous firms are affected by high costs of operation, lack of skilled labor, and inadequate research and development (R&D) which prevents them from taking advantage of market opportunities and competing with highly innovative foreign firms. Monday and Argozie (2014) added that local firms suffer from a fundamental lack of quality management, poor preventive and operational maintenance, and limited compliance with international quality standards.

The above studies demonstrate that more attention has been paid to investigate challenges facing implementation of LC policies with limited focus on their effect on sustainable development. Few studies have investigated the direct relationship between local content policies and specific development outcomes. This study sought to determine the influence of local content requirements

(local employment, training of local workforce, domestic sourcing and technology transfer) adopted by upstream oil and gas companies on sustainable development outcomes.

In terms of methodological gaps, most studies on the effect of LC policies on development are systematic reviews, focusing on the nature of local content policies in different countries and potential benefits (Ovadia, 2013; Esteves, Coyne & Moreno, 2013; Arthur & Arthur, 2014; Acheampong, Ashong, Svanikier, 2016; White, 2017). Senoo & Armah (2015) used quantitative techniques, and selected respondents by purposive sampling, interviewed stakeholders from the upstream oil and gas sector in Ghana, and relied on descriptive analysis to examine the social, economic, and political outcomes of local content policies. Ngoasong (2014) also used a qualitative approach. In Kenya, and the only known studies on the effect of local content policies are white papers or civil society publications (Omolo & Mwabu, 2014; KCSPOG, 2015; MOEP, 2016).

As the above analysis shows, there are insufficient empirical studies employing inferential statistical analyses in determining a direct relationship between various local content requirements and sustainable development outcomes. This study sought to fill that methodological gap by using correlation analysis and multiple regression to determine the nature, direction, and strength of the relationships.

### **1.3. Research Objectives**

#### **1.3.1. General Objective**

The general objective of the study is to establish the effect of local content policies on sustainable local development in the upstream oil and gas industry in Kenya.

#### **1.3.2. Specific Objectives**

- i. To determine the effect of employment of local workforce on sustainable local development by the upstream oil and gas companies in Kenya.
- ii. To establish the effect of training local workforce on sustainable local development by the upstream oil and gas companies in Kenya.
- iii. To establish the effect of domestic sourcing of goods and services on sustainable local development by the upstream oil and gas companies in Kenya.

- iv. To determine the effect of technology transfers to local economy on sustainable local development by the upstream oil and gas companies in Kenya.

#### **1.4. Research Questions**

- i. What is the effect of employment of local workforce on sustainable local development by upstream oil and gas companies in Kenya?
- ii. What is the effect of training programs on sustainable local development by the upstream oil and gas companies in Kenya?
- iii. What is the effect of domestic sourcing of goods and services on sustainable local development by the upstream oil and gas companies in Kenya?
- iv. What is the effect of technology transfers to local economy on sustainable local development by the upstream oil and gas companies in Kenya?

#### **1.5. Significance of the Study**

The study is of importance to the government, especially the Ministry of Energy and Petroleum, relevant government agencies, and stakeholders in the upstream oil and gas sector and researchers with interests on how multinational companies influence development in host countries, particularly the link between local content policies and sustainable local development.

##### **1.5.1. Government Agencies**

As Kenya begins oil production, questions of how resource extractive activities will benefit local communities is therefore an issue of urgent concern. Local content laws and regulations represent an attempt at oil governance in a way that natural resource extraction promotes socioeconomic transformation and sustainable development. This study is important because it examines the questions around local content and evaluates the extent to which they align with development objectives.

### **1.5.2. Oil and Gas Companies**

Tullow Oil completed the exploration and appraisal phase in 2017 and is expected to transition to the Early Oil Pilot Scheme (EOPS) and development of discovered resources. The plan is to start small-scale crude oil production of 2000 barrels a day for export in the course of 2018. The 2016 Ministry of Energy and Petroleum assessment report of local content shows that there is need for additional evaluation of the industry. This study yield new evidence that can be used by the Ministry of Energy and Petroleum as well as relevant government agencies and stakeholders in establishing the capacity building initiatives for enhancing sustainable economic growth and development.

### **1.5.3. Scholars and Researchers**

As Kenya moves towards becoming a producer of natural gas and oil, it is to be expected that more questions about its effect on economic growth and national development will arise, and consequently, increased research studies in the field. Even more important will be those questions on the effect of oil and gas production on local development, and whether regulatory frameworks such as local content policies adopted in order to maximize returns from extractive exploitation will satisfy the myriad of stakeholders in the sector. This is one of the initial academic studies on the impacts at the downstream sector. The findings will be of great significance to researchers, academicians, and students, particularly those at Strathmore University, since it will provide empirical analyses of the relationships between local content policies and sustainable local development. Further, in the absence of a significant body of research on this phenomenon in Kenya, the study will bridge the scarcity of scholarly research in local content development and participation in the sector.

### **1.6. Scope of the Study**

The study investigated the extent to which local employment, training programs, domestic sourcing, and technology transfer affects sustainable local development. Examination of local business development was limited to domestic sourcing. The local development initiatives were limited to measures implemented in re-skilling, job-development, and redeployment, and effect of such initiatives on sustainable local development. The study used a descriptive design.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1. Introduction

This section presents a critical literature on theoretical frameworks and empirical literature on the influence of local content policies on sustainable development of surrounding communities. Section 2.2 deals with the theoretical framework, in which the foundational theory grounding the study; the stakeholder theory is discussed and its choice justified. Section 2.3 critically analyzes existing empirical literature on the influence of local contents: creation of employment, training, sourcing from domestic firms, and technology transfer, on sustainable local development. Section 2.3 elaborates the research gap identified during critical literature review. Finally, Section 2.4 is the conceptual framework for the study.

#### 2.2. Theoretical Framework

This study is anchored on the stakeholder theory.

##### 2.2.1. Stakeholder Theory

The stakeholder theory originated from the “*Strategic management: a stakeholder approach*” by Freeman (1984). The theory was proposed as a managerial perspective for identifying the key stakeholders of a firm, and defined stakeholders as entities that “affect or be affected by” a corporation. These entities include business owners, employees, customers, and suppliers. The theory assesses stakeholders’ identity on the basis of the possession of one or more of the attributes: power, legitimacy, and urgency, in the relationship. According to Donaldson and Preston (1995), there are three main perspectives in stakeholder theory: descriptive, normative, and instrumental. The descriptive perspective describes stakeholder characteristics. The instrumental approach identifies the connections existing between stakeholders and how the connections affect the achievement of overall goals. The normative approach is concerned with the health of these relationships, particularly the guidelines that can be adopted to successfully coordinate and implement objectives (Donaldson & Preston, 1995; Vita, Lagoke, & Adesola, 2016).

The stakeholder theory was originally conceived and has been widely applied in the private sector; however, there is an increasing use of the theory in analyzing the public sector as well as

government policies (Vita, Lagoke, & Adesola, 2016). There are various studies that have used the theory in analyzing government project. Bailur (2006) used it in investigating public sector policy program and Reed *et al* (2009) in evaluating participatory natural resource management, and Vita, Lagoke, and Adesola (2016) in assessing the oil and gas sector in Nigeria. The theory aids in identifying the different types of stakeholders, differentiation of stakeholders by creating distinctions based on their level of interest and influence with regard to local content policies, and understanding their power-interest relationship (De Vita, Lagoke, & Adesola, 2016).

Stakeholder analysis of the sector's local development policy explores the extent of the interactions between stakeholders and how these interactions are aligned with the specific local content policies. As initially stated, stakeholder approach is concerned with identify the entities that are affected by a firm's activities or that affect a firm's activities. There are many stakeholders involved in Kenya's upstream sector; particularly the exploration and production work in Tertiary Rift Valley (Turkana) block. These stakeholders range from National agencies (Ministry of Energy and Petroleum, National Environment Management Authority, Kenya Pipeline Company, Ministry of Industrialization and Enterprise Development, Energy Regulatory Commission), Parliament (Parliamentary Committee on Energy), County government, Civil Society Organizations, the community, and Licensed Petroleum Companies.

A stakeholder's identity can be characterized on the basis of power, legitimacy and agency. Firms that possess greater attributes of power, legitimacy, and agency must, of necessity, take into account different issues affecting stakeholders. In this study, the firms holding these three attributes are the upstream oil and gas companies. They include Africa Oil Corporation, Octant Energy, Shell, Erin Energy, ENI Energy, National Oil Corporation of Kenya, Total E.P Kenya, Tullow Oil (K) B.V and Zarara Oil & Gas. As captured by the stakeholder theory, the activities carried out by these firms affect the host community. The effect under study in this case is the level of sustainable development.

### **2.3. Empirical Review**

This section reviews empirical studies done on the relationship between local content policies and sustainable local development. It reviews studies done globally, in Africa, regionally in East Africa, as well as locally in Kenya. As per the research objectives, the section focuses on the effect

of employment initiatives, local workforce training, domestic sourcing and technology transfer and how they affect sustainable local development in host countries.

### **2.3.1. Employment of Local Workforce and Sustainable Local Development**

The effect of multinationals activities on host countries can either be direct or indirect. The direct effects are the primary effects and the indirect effects are the secondary effects (Abebe & Begum, 2016). The direct effects include capital formation, employment creation, and increased trade. The indirect effects are those that arise from externalities associated with the process. The indirect effects are also known as spillover effects and relate to the effect of multinationals on local companies (Abebe & Begum, 2016).

Borensztein, Gregorio and Lee (1998) noted that the process of liberalization of economies was to attract the perceived positive effects of MNCs in poverty reduction, economic growth and national development. One way of achieving this is through employment. Multinationals provide employment and incomes necessary for a direct positive effect in terms of increasing the quality of life. James, Ilvento, and Hastings (2001) argued that one of the ways of determining local economic development is positive or negative changes in total employment relative to the region. Therefore, a multinationals impact on local community is creation of employment opportunities. In a study carried out by UNRISD (2010), out of the 73 million jobs that are created by multinational companies worldwide, only 12 million are in developing countries. Creation of jobs has a positive effect on the provision of new and better products, improved health, improved education services, improved housing amenities, and general improvement of the quality of life (UNCTAD, 2010). Tirimba and Macharia (2014) reported that MNCs contribute 65% of employment in host countries. MNCs consider the utilization of labour resources in developing countries as a competitive strategy that not only allows them to increase their productivity but also enable the countries where they are operating to reduce the high levels of unemployment.

With particular focus to multinational companies in the oil and gas industry, employment is a major objective that these companies seek to achieve. The International Labour Organization (ILO) established that in the United States, the industry will create up to 1.4 million job opportunities by 2020 (ILO, 2012). Agerton, Hartley, Medlock & Temzelides (2015) in a study of the oil and gas market in the USA noted that it is important to determine whether the increase in

the production increases employment. The authors noted that there is unreliable evidence that variations in employment are associated with changes production. The study demonstrated that increased oil production in the United States was correlated with a 5% increase in industry employment. The positive effect was also observed in increased tax revenues. Increased employment leads to income gains by households, and subsequently, increased local expenditures which improve the performance of local businesses.

The Ministry of Energy and Petroleum (2016) assessment noted that the oil and gas industry provides significant employment to Kenyans. The report indicated that the country has one petroleum refinery, one pipeline entity, as well as 30 importing and marketing companies operating at the downstream. In the upstream sector, there are more than 23 licensed international oil exploration firms in Kenya. In the downstream sector, 20,961 employees are employed at the fuel stations as at 2015. At the midstream, there are 282 people employed. These figures show that the provision of employment is currently concentrated on the downstream sector. The Ministry does not have data on the number of Kenyans employed on the upstream. However, with the continued exploration and drilling, some companies estimate that 145 jobs will be created, 21 directly and 124 indirectly (Ministry of Energy and Petroleum, 2016). There is low technical capacity in the country; hence local content is interpreted by international oil companies to mean semi-skilled and unskilled labour. In Kenya, a majority of oil exploration and production occurs in regions that have been economically marginalized since independence. The historical marginalization is responsible for the low literacy rates, estimated at 20%, which is lower than the national average of 70%. The lack of education undermines efforts to increase local participation in the sector (Ministry of Energy and Petroleum, 2016). A large percentage of populations living in these mineral rich areas live below the poverty line, as a result of historical marginalization by successive governments through their policies.

The employment dynamics in these regions show that 97.6% of employment opportunities created are of unskilled labour. Semi-skilled labour constitutes 74.7%, while they are excluded from skilled labour positions. Further, the study shows that only 9.4% employed in the sector are women, among these 0.03% are in director positions, 1.7% in management position, and 18.5% in skilled positions. Since employment is the primary route through which communities can be

uplifted from poverty, the continuing exclusion does not extend the benefits of resource extraction to locals (Omolo & Mwabu, 2014).

Other studies have examined the gender dimension of employment in the sector. Ngabiirwe (2014) carried out a study on oil, gas, and mining industry in Kenya, Uganda, Tanzania, Rwanda, and Burundi, to review women's participation and contributions, the findings showed that men and women are affected differently. There is an increased amount of evidence shows that women are generally more vulnerable to the operational risks associated with oil and gas extraction as well as limited access to the benefits. Extractive activities overburden women and have negative consequences for families and communities. Ngabiirwe (2014) adds that while oil and gas production has created employment and income, the focus has primarily been to men. There is a gendered lopsidedness in the oil and gas job market.

According to UNEP (2017) there are direct and indirect effects of the extractive industry at the community level. Emoluments and amenities that arise from extractive activities have the potential of driving local development and empowering women by increasing access to employment and income. The problem, is however, not limited to East Africa. Globally, it is difficult to find countries where more than 10% of the employment in the extractive industry has gone to women. In many countries, female employment in the industry is less than 5%. The justification behind this trend is that men have access to better education and training and possess the requisite skills that women do not possess. The discrimination on female employment is exacerbated by gender stereotypes which continue to lock women from better-paid skilled jobs in the industry (UNEP, 2017).

Magelah (2014) examined the capacity needs for the sector in Uganda. At the time of the study, the government had not carried out a training needs assessment to determine the country's capacity and the ability of industry players to adopt local content requirements. However, based on existing data, the industry has the potential of employing 13,000 people, mainly engaged in construction work during exploration and production 3-5 years. In the same vein, it is projected that 3,000 people can be employed in the operational phase between 20-30 years. In terms of skill sets, it is estimated that 15% of the required personnel will be managers and engineers, while 25% are unskilled workers. Further, the sector has the potential of providing indirect employment to up to 100,000 people in related sectors such as construction and information technology.

In a study done by Senoo and Armah (2015) to assess the effect of local content policy in Ghana, the researchers examined whether the policy was successful in fulfilling its objectives by evaluating the effectiveness of the evaluation process. The study analyzed four main areas, notably: how the main policy content was aligned with intended outcomes; how the socioeconomic and political context has been incorporated in the legislation; how the leadership is guiding local content implementation, and how the stakeholders are involved in the whole process. The results indicated that even though the institution of the local content legislation was a laudable move, the alignment of legislation with expected outcomes, the socioeconomic and political context, leadership, and stakeholder involvement were not supportive of effective implementation. As a result, there has been minimal realization of expected outcomes such as increased creation of employment for local communities.

In a study carried out in Nigeria, Onodugo (2012) noted that even though multinationals have provided employment, they continue to employ more foreigners than domestic workers. The entry of multinationals has increased the employment of expatriates. The study also established that the majority of staffing decisions continue to be controlled by the international headquarters of these multinational companies. In Ghana, an assessment of the effectiveness of local content policies by Senoo and Armah (2015) found out that even though instituting the legislation was a laudable move, it was not effectively aligned with expected outcomes, the social, political, and economic contexts were not fully incorporated in the legislation, there was minimal leadership and stakeholder involvement and direction. As a result, there has been minimal realization of expected outcomes such as increased creation of employment for local communities.

From the analysis of studies on the employment of local workforce on sustainable local development, it is clear that researchers have demonstrated that the entry of multinational companies can have both positive and adverse effects on the level of local employment. Multinational companies aid in job creation (James, Ilvento & Hastings, 2001; UNRISD, 2010; Tarimba & Macharia, 2014). Oil and gas production has a positive effect on both employment and government revenue in developed economies like the United States (ILO, 2012). However, this positive effect has not been reported in all the studies analyzed. In terms of gender distribution, employment is biased towards women are the majority of workers in oil and gas exploration (Ngabiirwe, 2014). Onodugo (2012) reported that foreign companies continue to employ more

expatriates in senior positions than locals and Senoo and Armah (2015) contend that the impact of local content policies depends on the capabilities existing in the local economy. These studies; however, do not utilize expanded indicators of employment. Apart from the employment rates, other indicators of employment that align with local content policies such as preference of local personnel, salaries and wages, workplace conditions, non-discrimination, among others are not examined, hence the need for an expanded conceptualization of the construct.

### **2.3.2. Training Programs and Sustainable Local Development**

According to Franco and Sasidhan (2009) multinational companies possess certain advantages that local companies do not have. Some of these advantages are intellectual assets such as organizational knowledge, managerial capacity, and human resource capacity. For the host country to gain from these organizational resources there must be some kind of spillovers, and since multinationals are rarely interested in technology transfers, training is one of the ways through which local stakeholders can gain from foreign companies.

Worasinchai and Bechina (2010) define training as activities which build knowledge, skills and competence of local workers. Training is perceived as a prerequisite for the successful transfer of technologies as well as the diffusion of technologies. Senoo and Armah (2015) stated that in most cases, when multinational companies hire local staff, they often lack adequate skills needed for the job. This lack of skills has been attributed to low levels of education. As a result, multinationals engage in capacity building efforts, while also delivering education and a myriad of training programs to locals. Worasinchai and Bechina (2010) added that education, training, and capacity development programs are associated with an improvement of production levels owing to the ability of locals to work more efficiently.

According to ILO's (2012) assessment, there are serious skills shortages in the industry. These shortages are in the technical expertise, project management, and leadership. In the technical areas, there are shortages of engineers in chemical, electrical power, drilling, operations, petroleum, reservoir, production, mechanical, pipeline, and structure. There are also shortages in scientists such as geologists/geophysicists, microbiologists, and chemists. In management, there are shortages in project management, people skills, financial, commercial and business skills, and sales and marketing skills. Therefore, training is necessary for bridging the skills gap.

Muduli (2010), in a survey of HR developments in the upstream segment in India, reported that factors such as increased globalization, high number of mergers and acquisitions, increased technological advancement, frontier and new production development, as well as changing demographics, and strengthening regulatory requirements were challenging the upstream petroleum industry. These factors are also affecting the industry's ability to attract, recruit, and retain a skilled workforce. Muduli (2010) notes that there is a supply and skills gap in India, and that one of the main HRM strategies for tackling this gap is through human resource development. Sohrabi & Hazini (2018) investigated the challenges facing strategic human resource management (SHRM) in managing oil and gas industry projects. The study reported that workforce challenges can be addressed through proactive planning for sustained availability of skilled workforce.

### **2.3.3. Domestic Sourcing and Sustainable Local Development**

One of the central objectives of local content requirements is to increase the participation of local businesses in the extractive value chain. Globally, there is an increasing recognition that multinational companies in the oil and gas sector should improve opportunities for local businesses, particularly with regard to participating in the supply chains of resource projects. Local content policies explicitly aim at increasing local procurement (Esteves & Barclay, 2011).

Multinational companies have different procurement and supply chain policies that govern contracts with other companies, subject to the political and regulatory environment. However, in the oil and gas industry, multinationals operate in a fixed regulatory environment that is governed by contracts with government and acts of parliament (Martemyanova, 2018). Mohammed and Price (2017) undertook a study on the challenges facing procurement in the oil and gas industry in developing countries. The study reported that that the procurement experiences of other industries cannot be directly transferred to the oil and gas exploration and production. Martemyanova (2018) clarified that in the oil and gas sector, regulations affect the nature of procurement policies, rules and regulations. These policies include sourcing practices concerned with the identification of suppliers. Local content policies can be seen as specifying to multinational companies the type of suppliers they should procure from, as well as the quota of domestic suppliers that they must meet in order to comply and retain their operating license (Martemyanova, 2018).

According to Abebe and Begum (2016), the indirect effects of multinational companies, also called spillover effects, are generated when local companies benefit from their interaction with foreign firms. Acheampong et al (2016) assessed the local content policies in Nigeria, Ghana, Brazil and Norway to determine their implementation and impact. Analysis of the effect of this framework shows that it has yielded benefits. In terms of backward linkages, evidence shows that there are desirable results, with three sub-sectors: construction and fabrication, completions and control systems, and information and communications technologies reporting significant benefits. Further, evidence showed that more than half of all goods are purchased from local firms. The fabrication and construction subsectors was the biggest beneficiary with approximately 75 % of sourcing obtained locally. Rugraff and Hansen (2011) assessed the link between MNCs and local firms in emerging economies and showed that the backward linkages between multinational companies and local suppliers is one of the major channels for disseminating the effects of foreign direct investment into the local economy. Backward linkages enable local firms to engage in the supply chain and provide domestic goods and services.

Ekiugbo and Papanagnou (2017) investigated the role of the procurement practices in achieving sustainable local development goals in emerging economies. The study noted that owing to the unsustainable nature some oil and gas activities, sustainable procurement practices can be adopted to improve the social, economic, and environmental performance of firms, and advance the broad objectives of sustainability. The exploration of sustainable procurement practices in the Nigerian market revealed that adoption can help improve the performance of oil and gas companies, and by extension sustainable local development of surrounding communities.

On the contrary, various factors affect influence the ability of local business to gain from interacting with multinationals in the oil and gas sector. The researchers sampled 100 indigenous firms in Nigeria, to establish their ability to participate in the industry, it was established that high costs of operation, lack of skilled staff in the research and development (R&D) departments prevented the firms from taking advantage of market opportunities and competing with highly innovative foreign firms (Jagede et al., 2013). Monday and Agorzie (2014) investigated the extent of technological capacity building (TCB) of indigenous oil companies in Nigeria, and found out most firms suffered from poor quality management, poor preventive and operational maintenance, and poor compliance with quality standards. In Ghana, Acheampong et al (2016) reported that the

local content policy has increased the participation of local actors; however, in terms of backward linkages, local company involvement remains low as a result of lack of capacity.

Foreign companies working in the upstream oil and gas segment are required obtain a percentage of the goods and services needed for their productive activities from local companies. As a result, these companies are in contractual agreements with local companies to supply inputs for the exploration and production process. While the studies reviewed show that multinationals have embraced linkages with local firms, there are various limitations that prevent local firms from gaining from the interaction. This brings to the fore the influence of country-specific factors, meaning that findings found in other oil producing countries cannot be generalized for Kenya, and consequently the need for local studies on the effect of domestic sourcing on sustainable development.

#### **2.3.4. Technology Transfer and Sustainable Local Development**

Multinational companies are leaders in research and development. However, these multinational companies are concentrated in a few developed countries (Abebe & Begum, 2016). Technology development differs greatly between countries, and developing countries lack access to technologies needed for economic advancement. Therefore, developing countries rely on multinational companies to provide the foundation for technological advancement, thereby allowing developing countries to profit from sophisticated research and development processes (Spero & Hart, 2010).

According to Asghari and Rakhshanikia (2013) technology consists of the knowledge, processes, tools, and systems for producing finished products. There are four compartments, namely: techno-ware, human-ware, info-ware and organ-ware. There are three main ways of acquiring technology: creating technologies through research & development, developing existing technologies, and purchasing and transferring technology. Developing countries with low domestic technology creation ability depend on technology transfer to meet the gap. Manjily and Taleghani (2015) demonstrated that in the upstream oil and gas segment, the transfer of scientific knowledge and physical technology have the highest priority.

UNCTAD (2010) argue that technology diffusion occurs when there is contact between the local stakeholders and the foreign firms. In most cases, multinational companies do not have the ability

to fully protect their technologies from leaking or spilling over during their interactions with local stakeholders. However, to ensure that there is a systematic transfer of technology, host countries must develop appropriate policy interventions (Abebe and Begum, 2016). MNCs can spread technology to new users through formal market transactions or informal non-market channels. The mechanisms of spread can be voluntary or involuntary and active or passive. In formal transactions, active mechanisms include joint ventures and licensing, and passive mechanisms are trade in goods. On the other hand are informal transactions. Active mechanisms in informal transactions include the building of linkages while passive ones include information shared in trade journals and scientific publications (Abebe & Begum, 2016).

According to Blomström and Kokko (1997) linkages between multinational firms and local firms is associated with technology diffusion. Backward linkages arise when multinationals engage in relationships with local suppliers, while forward linkages happen when multinationals are in a relationship with customer. Technology transfer through backward linkages occur multinational companies and local companies interact in the process of providing technical assistance, purchasing raw materials, providing training, and assisting suppliers to diversify.

Technology transfers can also occur during the training of local employees by MNCs, via on-the-job training, seminars, and formal education sponsorships to overseas educational institutions. The net result is the transfer of both technical and managerial skills to local staff. As Spero and Hart (2010) reiterate technology transfer can be achieved through training local staff, stimulating local technological activities, and transferring technology to the local economy so as to improve overall quality of local production and development (Spero & Hart, 2010). It is important to note that technology transfer projects are not effective if they do not enhance organizational development and increase profitability in the organization. Technology transfer is also a strategic objective that can be adopted by MNCs to increase performance (Kavousi & Ansari, 2014).

Clarke and Robinson (1998) compared international joint ventures and alliances and established that joint ventures lead to higher levels of knowledge sharing. However, while Smarzynska (2000) found out that developing countries are more likely to favour joint ventures over other forms of FDI, joint ventures in industrial sectors with high degrees of investment in research and development may present less potential for technology transfer to their wholly-owned subsidiaries. In a later study, Smarzynska (2004) reported positive findings on knowledge transfers for projects

that are jointly owned by domestic and foreign parties, but are not fully-owned subsidiaries of foreign firms.

Piva (2004) investigated the economic impact of technology transfers in developing countries. The objective of the study was to survey the theoretical models and empirical studies investigating the effect of technology transfer. The findings show that the transfer of technology was dependent on trade liberalization and internationalization of production. The main positive effects of technology transfer were positive spillovers, technological catching up by domestic firms, and the growing complementarities between foreign and local firms. On the negative side, technology transfers can lead to the displacement of workers, increase competition between foreign and local firms, and lead to negative welfare outcomes. To determine the effect of technology transfer in the manufacturing industry, Mottaleb and Sonobe (2011) carried out a country-specific approach and found out that technology transfer leads to rapid and continuous growth and development.

Areish and Bardai (2013) examined the impact of technology transfer in the sector in the Libyan economy (1996-2001). The study divided the era into the closed economy (1996-2010), transition economy (2002-2004), and open economy (2005-2010) periods. Qualitative and quantitative analysis showed that technology transfer has both beneficial and adverse effects. During the closed economy period, there was a drop in production output and revenue generation, and consequently government capital expenditure. However, technology transfers also had a positive impact on engineers and technicians employed in key positions that had been dominated by expatriates.

Chima and Owioduokit (2019) examined the level of development of technological capabilities in the Nigerian oil and gas industry, by focusing on the Nigerian National Petroleum Corporation (NNPC). The researchers were interested in establishing whether the training adopted under local content policies led to the transfer of technology to Nigerians. The findings showed that transferring and acquiring technology was achieved through the Petroleum Technology Development Fund (PTDF) which provided scholarships for engineering-based programs in Nigerian universities. The creation of the Petroleum Training Institute also enhanced the country's technological capabilities. Over time, this has increased the number of engineers in its technical team.

Ashgari and Ali (2013) investigated the impact of technology transfer in economic development in developing countries. The study found demonstrated that the effect can be understood in two ways. First, oil related technologies lead to an increase in oil revenue, and second, it increases the risk of no oil future for oil-producing countries. The technology transfer included engineering capability and strong technical infrastructure. However, the degree of these effects varies from country to country, hence the need for more country-specific studies.

#### **2.4. Research Gap**

The above literature review reveal that there is a wide body of research showing that local content policies are introduced as part of the regulatory framework for the oil and gas industry. These policies are informed by the perception that international oil companies benefit from the terms of contract irrespective of the dynamics in the market. Given that these companies continue to enjoy record profits while the areas where extraction occurs remains steeped in poverty, these policies can help the local populations to benefit from the abundance of natural resources. It is on this basis that the development and implementation of local development policies has been associated with the ability to maximize oil and gas revenues, create local jobs, foster industrial development, resolve community conflicts, enhance social and economic impacts of procurement strategies, and promote the transfer of technology (Asiago, 2017).

On the contrary, other researchers have offered a less favorable view of local content policies. According to Warner (2010) local content policies distort trade and FDI. These policies have the potential of significantly reducing the net present value (NPV) calculation and the internal rate of return (IRR) for the multinational companies. As a result, they may reduce overall trade and FDI. The author adds that local content requirements may be harmful to the local investment climate because they strengthen the competitiveness of domestic players over foreign players and consequently lead to allocative inefficiencies (Warner, 2010).

There is continuing tension in promoting local content in extractive industries. Even though there is abundant theory on how local content policies could potentially improve economic growth and spur development, there is little empirical evidence that supports the assertion that they promote economic growth. This lack of empirical evidence is clearly apparent when analyzing government reports on the potential benefits of local content policies, while reports by organizations such as

the World Bank view them as part of “productive development policies”, which are essentially policies of state intervention (Tordo *et al.*, 2013). While these policies have the potential of stimulating broad-based economic development necessary for poverty alleviation, the outcome of their application in resource rich countries has achieved mixed results since the specialized inputs and technological complexity of the petroleum sector often limit the possibility of developing backward and forward linkages in the local economy. Mixed results on the effect of these policies have been reported by several authors (White, 2017; Ovadia, 2017; Jagede et al., 2013; Monday & Argozie, 2014; Ablo, 2016).

There are methodological gaps in existing research, with a scarcity of empirical studies employing inferential statistical analyses in determining a direct relationship between various local content requirements and sustainable development outcomes. This study will fill that methodological gap by using Pearson correlations and regressions to establish the nature, strength, and direction of the relationships.

**Table 2.1: Summary of Literature and Research Gaps**

<b>Author</b>	<b>Findings</b>	<b>Research Gaps</b>
James, Illvento, & Hastings (2001)	Using OLS, findings indicated that county jurisdictions that increased economic development emphasis had higher employment growth.	The generalization of findings is limited to the 146 non-metro counties in the Mid-Atlantic region. Study does not cover the typical local content policies but general economic development policies
Onodugo (2012)	Findings indicate that the MNCs activities have increased employment of more foreigners and therefore does not help tackle local unemployment	Study sampled firms in oil, banking, and manufacturing sectors. Only one indicator of employment (number of employed personnel – local vs foreign ) was used in the study
Tirimba & Macharia (2014)	Even though literature associates MNCs with employment creation and poverty reduction, the study found out that in general, MNCs have outlived their usefulness.	The study focused on developing countries in general, as well as MNCs in all sectors, and not specifically on the oil and gas industry in Kenya
Agerton et al (2015)	Changes in drilling for oil and gas have an economically meaningful and positive impact on employment	The scope of the study was limited to the United States.
Abebe & Begum (2016)	The study established that the ultimate outcome of spillover can be strongly positive, positive but	The study concentrated on the spillover effects of MNCs drawn from various

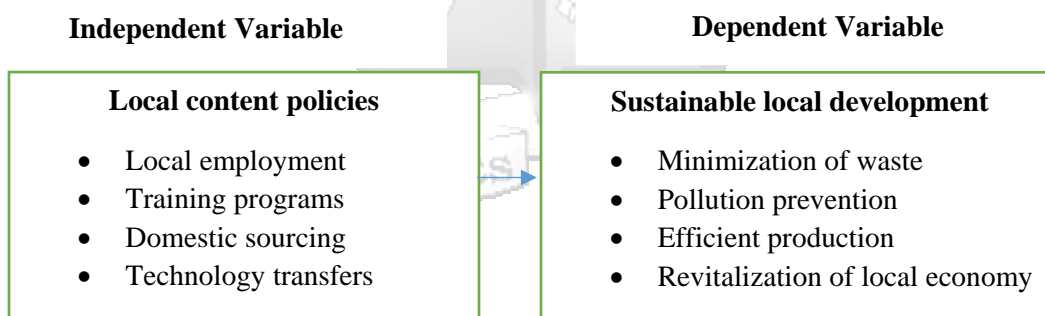
	weak, positive only under certain conditions, negative or there might be no spillover effects at all.	sectors, and no specific focus on the oil and gas sector in Kenya
Muduli (2010)	There is a substantial supply and demand gap in the skills in India.	The generalization of the findings is limited to the Indian oil and gas industry
UNEP (2017)	The review showed that the oil and gas value chain was suffering from inadequate capacity and competence; inadequate personnel with skills to develop oil and gas sector.	The gives an assessment of capacity needs and is not an empirical assessment of the link between local content policies and sustainable development
Sohrabi & Hazini (2018)	Evidence shows that there are soft and hard skill challenges confronting project managers of oil & gas industry projects	The study does not investigate the relationship between local content policies and skills shortages in oil and gas industries
Esteves & Barclay (2011)	Integration of social and economic impact assessment (SEIA) into sourcing strategy can be an effective tool to enhance the benefits associated with projects to local communities	The research concentrates on procurement strategies targeting all firms in the industry, and does not place emphasis on foreign firms in the oil and gas sector procuring services from domestic firms
Esteves, Coyne, & Moreno (2013).	Extractive activities can create sustainable economic development through the creation of jobs, developing local businesses, building skills, and improving technologies.	The paper is a synthesis of existing literature and does not test the relationship between local content policies and sustainable local development
Asghari & Rakhshanikia (2013)	The study found out that technology transfer is beneficial, but the level of transfer remains low.	The study does not capture the technology transfer policies in Kenya's local content requirements
Areish & Bardai (2013)	The findings showed that the technology transfer had both negative and positive impact on the oil and gas industry	The study used a qualitative research approach. Further, the focus was on the effect of technology transfer on the development of the oil and gas industry, and not on local development
Kavousi & Ansari (2014)	The results established that technology transfer is not effective if it does not provide increased development and profitability for the company	One important difference between this study and the proposed study is that this study is carried out in a developed oil and gas production market
Manjily & Telengani (2015)	The study established that the transfer scientific knowledge and	The study concentrated on a developed oil and gas market, and indicates differences with developing markets.

	physical technology is a top priority issue.	
Chima, Owioduokit, & Ogoh (2019)	Findings show evidence of transfer and acquisition of oil technology through scholarships to study engineering, government policy on technological capability building, and establishing the Petroleum Technology Development Fund	Related to the present study; however, the specifics only apply to the Nigerian industry and not the Kenyan industry.

## 2.5. Conceptual Framework

The conceptual framework presents the relationship between the independent variables and dependent variables. In this study, the independent variables are local employment, training of locals, domestic sourcing of goods and services, and technology transfers. The dependent variable was sustainable development, which was concerned with environmental protection in terms of waste management and pollution prevention, efficiency in production, and revitalization of the local economy.

Figure 2.1: Conceptual Framework (Author, 2019)



## 2.6. Operationalization of Variables

The independent variable was local content policies operationalized as local employment, training programs, domestic sourcing, and technology transfers, while the dependent variable was sustainable local development operationalized as minimization of wastes, pollution prevention, efficient production, and revitalization of local economy. Table 2.1 presents the measures of each of the independent variables and the dependent variable in the study.

**Table 2.2: Operationalization of Variables**

<b>Variables</b>	<b>Measures</b>	<b>Likert scale</b>	<b>Author</b>
Local employment	<ul style="list-style-type: none"> <li>• Job creation</li> <li>• Employment plan</li> <li>• Continuous employment needs assessment</li> <li>• Preference for local personnel</li> <li>• Minimization of foreign personnel</li> <li>• Fair and non-discriminatory employment policy</li> <li>• Competitive compensation and benefits</li> <li>• Conducive workplace environment</li> </ul>	5-point likert scale	Grossman (1981), Kalyuzhnova et al (2016), Ramdoo (2016) Warner (2011) Omolo and Mwabu (2014)
Domestic sourcing	<ul style="list-style-type: none"> <li>• Fair bidding process</li> <li>• Preference to local persons or businesses</li> <li>• Preference to local goods and services</li> <li>• Contract from companies in joint ventures with foreign investors</li> <li>• Compliance with local content input threshold (30%)</li> </ul>	5-point likert scale	Grossman (1981), Kalyuzhnova et al (2016), Ohdoi (2009) Muduli (2010) ILO (2012)
Training programs	<ul style="list-style-type: none"> <li>• Skills development plan</li> <li>• Continuous skills need assessments</li> <li>• Accelerated employee skills development</li> <li>• Training in expert fields not available locally</li> <li>• Capacity building</li> <li>• Education scholarships</li> <li>• On-the-job internships</li> <li>• Staff cross-posting</li> </ul>	5-point likert scale	Grossman (1981), Kalyuzhnova et al (2016), Esteves & Barclay (2011). Acheampong, Ashong, and Svanikier (2016)
Technology transfers	<ul style="list-style-type: none"> <li>• Technology transfer agreements with locals</li> <li>• Joint ventures and partnerships</li> <li>• Annual fund to support R&amp;D internally and in Kenyan universities</li> </ul>	5-point likert scale	Grossman (1981), Kalyuzhnova et al (2016), Spero and Hart (2010) Abebe and Begum (2016)
Sustainable local development	<ul style="list-style-type: none"> <li>• Minimization of waste</li> <li>• Pollution prevention</li> <li>• Efficient production</li> <li>• Revitalization of local economy through infrastructural development (roads, hospitals, water etc)</li> </ul>	5-point likert scale	UNEP (2018)

## 2.7. Chapter Summary

This chapter presented the literature review for the study. It describes the two theories: stakeholder theory and CSR theory grounding the study, and presents synthesizes the empirical studies that

have been done on the link between local content policies and sustainable local development. Based on the literature review, the chapter presents a conceptual framework showing the nature of the relationship between the local content policy requirements: are local employment, training programs, domestic sourcing, and technology transfers, sustainable local development. The chapter further operationalizes these variables for measurement in the data collection instrument.



## CHAPTER THREE

### METHODOLOGY

#### 3.1.Introduction

This chapter describes the research design adopted for the study, target population identified, sampling and data collection strategies used, and analysis and reporting proposed for the study.

#### 3.2.Research Philosophy

Saunders and Bristow (2015) defines a research philosophy as an overarching belief on how a phenomenon should be investigated in terms of data gathering and analysis. Creswell and Creswell (2017) defines it as a system of beliefs and assumptions concerning knowledge generation and development. These assumptions relate to human knowledge also called epistemological assumptions, research also called ontological assumptions, and influence of the researcher on the research processes, also called axiological assumptions. Creswell and Creswell (2017) add that these assumptions have significant influence on how research questions are shaped, which methodologies are used, and how findings are interpreted.

Creswell and Creswell (2017) notes that there are two main research philosophies: the positivist and the interpretivist philosophies. Positivism believe that reality is stable, observable and can be described objectively without interfering with the phenomenon under investigation. According to Cooper and Schindler (2014) in positivism, a phenomenon can be isolated and observed repeatedly and data used to establish relationships, after which predictions can be made about observed and tested interrelationships. On the other hand, interpretivism posits that reality is unstable and can only be understood through subjective interpretation, which requires intervention in reality (Cooper & Schindler, 2014). This study adopts the position that reality is stable, observable and that relationships between stakeholders can be described objectively, using numerical data obtained from administration of questionnaires to the selected group of respondents, in order to establish the relationship between local content policies and sustainable local development.

### 3.3. Research Design

A quantitative descriptive research design was adopted in the investigation of research objectives. Research designs are defined as a “blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings” (Korrapati, 2016). Research designs define the processes for sampling, collecting data, analyzing data and interpreting data. Different research designs are appropriate for different types of studies (Almalki, 2016). In quantitative research designs, the emphasis is on systematically measuring the phenomenon under study using mathematical and statistical techniques. On the other hand, the descriptive element means that the study is focused on answering questions relating to “what”, “where”, and “how” aspects (Creswell & Creswell, 2017).

### 3.4. Target Population

The target population for the study were the active Upstream Oil & Gas Companies in Kenya whose number currently stand at seven (KOGA, 2019). Due to the small size population, a census of all these companies was targeted for the study. The current seven (7) active licensed oil and gas companies in the upstream sector in Kenya are: Africa Oil Corporation, ENI Energy, Octant Energy, Shell, Total E&P, Tullow Oil (K) B. V, and Zarara Oil and Gas. The targeted respondents for the study were the permanent employees in senior and middle management level obtained from the Human Resource Department in each company.

**Table 3.1: Population of the Study**

<b>Company</b>	<b>Number of Employees</b>
Africa Oil	10
ENI	7
Octant Energy	5
Shell	5
Total E&P	8
Tullow	50
Zarara	10
<b>Total</b>	<b>95</b>

Source: Author (2019)

### 3.5. Sampling Techniques

Sampling involves the process of selecting a sample of individuals for the study that are representative of the population being studied (Cooper & Schindler, 2014). It involves taking a sub-group from a population in order to take part in the research. The subsection describes the sampling technique used in collecting data for the study.

#### 3.5.1. Sampling Design

Researchers must decide how to select respondents from the target population in order to administer the research instrument. Sampling design is the process for addressing the elements of the population that will participate in the data collection. Sampling design also determines how many respondents will be selected for the study (Cooper & Schindler, 2014). The main goal of sampling is to ensure that the selected respondents are representative of the target population. This study used purposive sampling in respondent selection. By definition, purposive sampling allows researchers to select members of the population that have the information necessary for answering the research questions (Johnson and Christensen, 2008). Purposive sample enables the researcher to select respondents with specific knowledge, skills and expertise about the phenomenon being investigated. In this study, the individuals with the wealth of knowledge required about the local content policies and how they are affecting sustainable local development are the permanent employees of upstream oil and gas firms.

#### 3.5.2. Sample Size

The sample size is a subset of the target population. Sample sizes represent the characteristics of the target population and have the capacity to provide the information that can be used to answer the research questions. Determining a sample size is integral in collecting accurate and adequate data. The sample size should be accurate and precise (Cooper & Schindler, 2014).

The sample size consisted of employees from the licensed upstream companies in Kenya. In this cases, Yamane's (1967) formula was used to establish the sample size for the study.

$$n = \frac{N}{[1+N(e)^2]}$$

Where  $n$  is the sample size,  $N$  is the population sample and  $e$  is the sampling error tolerance.

$$n = \frac{95}{[1+95 (0.05)^2]}$$

$$=77.41$$

The sample size for the study was 77 participants distributed across the 7 upstream oil and gas companies.

**Table 3.2: Sample Size**

Company	Number of Employees	Sample Size
		(Sample ratio: 77/95=0.81)
Africa Oil	10	8
ENI	7	6
Octant Energy	5	4
Shell	5	4
Total E&P	8	6
Tullow	50	41
Zarara	10	8
<b>Total</b>	<b>95</b>	<b>77</b>

Source: Author (2019)

### 3.6.Data Collection

The researcher collected data using questionnaires. Creswell and Creswell (2017) defined questionnaires as sets of questions assessing the A questionnaire is a set of questions collecting biographical information and assessing the opinions and beliefs of respondents (Creswell & Creswell, 2017). The decision to choose one data collection instrument over another is informed by the characteristics of the target population, variables under study, desired response rate, and financial and time constraints.

It was a structured questionnaire designed to capture all the research questions under investigation. The questionnaire had six sections. The first section focused on general information from respondents. The second, third, fourth, and fifth sections contained questions on local employment,

training programs, domestic sourcing and technology transfer. The sixth section collected information on sustainable local development. The responses to the questions were ranked using a 5-point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) to determine the level of agreement with each measure of the constructs of local content policies and sustainable local development.

The questionnaires were chosen as the preferred data collection instruments owing to the fact that they ensured anonymity of respondents, permitted the use of standardized questions, and were less expensive to administer. Questionnaires also eliminated uncertainties and ambiguities since the questions were structured clearly to attract clear and relevant responses (Creswell & Creswell, 2017). The questionnaires were administered face to face to employees at their places of work. The researcher also used phone call reminders to reach employees who had not completed the questionnaire.

### **3.7. Research Quality**

Research quality was determined through instrument validity and instrument reliability tests. The validity of the data collection instrument is the degree to which it measures what it purports to measure (Creswell & Creswell, 2017). The test focused on examining both the face validity and the content validity. The validity was computed by subjecting the questionnaire to academic supervisors to establish whether the constructs represents what is being measured. According to Saunders and Bristow (2015) peer review of the responses on the questionnaire can be used to improve it before final administration.

On the other hand, the reliability is a measure of the internal consistency of the questions (items) that represent each construct. Using the Cronbach Alpha Index, scores in the range of 0.6 to 0.7 are judged as satisfactory (Johnson & Christensen, 2008). The results of reliability analysis were compared with the recommended Cronbach Alpha threshold of 0.7, to ensure that the questionnaire met the required conditions.

**Table 3.3: Reliability Test**

Variable	Cronbach's Alpha	Number of items	Comment
Local employment	0.845	8	Accepted
Training of local workforce	0.864	8	Accepted
Sourcing of goods/services	0.860	5	Accepted
Technology Transfer	0.746	4	Accepted
Sustainable local development	0.811	6	Accepted

#### Primary data (2019)

The findings show that the values for all the variables in the instrument were above the recommended threshold of 0.7, notably: local employment,  $\alpha = 0.845$ ; training of local workforce,  $\alpha = 0.864$ ; domestic sourcing of goods and services,  $\alpha = 0.860$ ; technology transfer,  $\alpha = 0.746$ ; and sustainable local development,  $\alpha = 0.811$ .

### 3.8.Data Analysis

Data from all the completed questionnaires was edited and coded before being entered into a Microsoft Excel spreadsheet. The editing process ensures that data is relevant and appropriate and that such errors are modified. Coding of data involves assigning numbers to various categories of the variables and translating the answers from the questionnaires into numerical data. After editing and coding, the Excel spreadsheet will be imported into the Statistical Package for the Social Sciences (SPSS Version 23).

The data was analyzed for descriptive and inferential statistics. Descriptive statistics summarised the data for basic characteristics of the population and the variables under study. The descriptive statistical measures computed were frequency, percentages, means and standard deviation for demographic indicators such as age, gender, level of education, duration in the firm, among others.. Inferential statistics determined the determine relationships between independent and dependent variables. The inferential measures included Pearson correlation and linear regression to establish the relationship between local content policies and sustainable local development.

Pearson correlation is used to measure the association between variables. It indicates that as one variable changes in value, other variables also change in different directions. A correlation coefficient quantitatively measures the direction and strength of the association. Pearson's coefficient values are interpreted based on the strength and direction. On the basis of strength, the values range from -1 to +1. The higher the value the stronger the correlation. The sign of the correlation coefficient represents the direction of relationship. In interpreting the strength of the correlation, a coefficient of zero represents no linear relationship. A correlation between 0.00 to 0.19 is regarded as very weak, 0.2-0.39 is regarded as weak, 0.40-0.59 is moderate, 0.6-0.79 is strong, and 0.8-1.0 is very strong (Salkind, 2007).

### 3.8.1. Regression Model

The regression model for the study took the form of:

$$y = \alpha + \beta_1 X_1 + \mathcal{E}$$

Where  $y$  intercept is the endogenous variable (independent variable)

$\alpha$  denotes the  $y$  intercept where  $x$  is zero

$\beta_1$  is the regression weight attached to the exogenous variable (independent variable):  $X_1$ .

$\mathcal{E}$  is the error term.

Replacing for the variables:

$$SLD = \alpha + \beta_1 LE + \beta_2 TP + \beta_3 DS + \beta_4 TT + \mathcal{E}$$

Where SLD is sustainable local development

$\alpha$  denotes the  $y$  intercept where  $x$  is zero

LE is local employment, TP is training programs, DS is domestic sourcing and TT is technology transfer.

$\mathcal{E}$  is the error term.

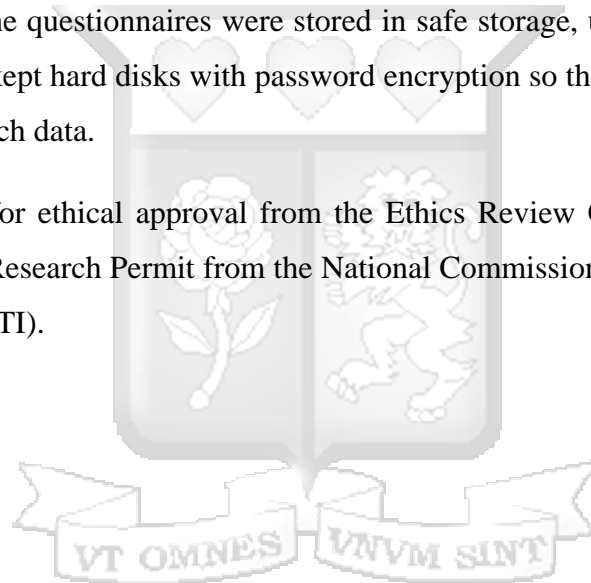
The coefficients and their 95% confidence interval were reported as well as p-values. The findings for both descriptive and inferential statistics were presented in tabular and graphical presentations (pie charts, bar graphs) in addition to an analytical and narrative description of the results.

### **3.9.Ethical Considerations**

Ethical considerations were strictly adhered to, as demanded by the University rules and regulations. The researcher obtained authorization from the university to carry out data collection. Participation was voluntary. No participant was forced, coerced or tricked to participate. All respondents were given comprehensive briefing about the objectives of the study to ensure that they make an informed decision on participation.

The researcher ensured that the participant's rights to confidentiality and privacy were upheld. The questionnaire did not collect personally identifiable information about respondents. All the information shared by respondents was kept completely confidential. To further guarantee privacy and confidentiality, all the questionnaires were stored in safe storage, under lock and key. After data entry, the data was kept hard disks with password encryption so that no unauthorized person can have access to research data.

The researcher applied for ethical approval from the Ethics Review Committee of Strathmore University and obtain a Research Permit from the National Commission for Science, Technology and Innovation (NACOSTI).



## CHAPTER FOUR

### PRESENTATION AND ANALYSIS OF RESEARCH FINDINGS

#### 4.1.Introduction

This section presents the results and interpretations of the study. The section presents the descriptive and inferential statistics on the effect of local employment, training of local workforce, domestic sourcing and technology transfer on sustainable local development.

#### 4.2.General Information

This section presents the findings on the overall response rate and the descriptive statistics for the demographic profiles of all the respondents.

##### 4.2.1. Response Rate

The researcher administered questionnaires to the selected sample of 77 respondents for the study but only 59 completed the questionnaires and returned for analysis. This represents a response rate of 77% which is satisfactory for the study. Researchers such as Babbie (2007) recommended that a response rate of 50% should be judged as adequate, while a response rate of 60% should be judged as good, and 70% judged as very good. Fincham (2008), in a study on what should be accepted in peer-reviewed journals noted that response rates approximating 60% or higher should be the goal of researchers and the expectation of journal editors.

**Table 4.1: Response Rate**

Company	Target population	Sample Size	Response	Response Rate
Africa Oil	10	8	7	88%
ENI	7	6	6	100%
Octant Energy	5	4	1	25%
Shell	5	4	3	75%
Total E&P	8	6	3	50%
Tullow	50	41	34	83%
Zarara	10	8	5	63%
<b>Total</b>	<b>95</b>	<b>77</b>	<b>59</b>	<b>77%</b>

Primary data (2019)

#### 4.2.2. Gender

The results reported in Table 4.2 showed that a majority of those surveyed were male, constituting 54.2%, compared to the 45.8% female. Even though males are the slight majority. Statistically, the gender distribution is close to 1:1 hence no gender was disproportionately represented in the study. It also reveals lack of gender discrimination in employment in the industry.

**Table 4.2: Gender**

Gender	Frequency	Percent
Male	32	54.2
Female	27	45.8
<b>Total</b>	<b>59</b>	<b>100</b>

Primary data (2019)

#### 4.2.3. Age

The study also sought to establish the age distribution among respondents. A majority of those surveyed were aged between 31 and 40 years and accounted for 66.1% of the total number of respondents. This is an indication of the industry early life-cycle pegged on the recent oil discovery in year 2012 that led to hiring of fresh personnel with some years of experience. There was a similar number of respondents aged below 30 years and between 41 and 50 years, each group accounting for 13.6%. A comparatively smaller percentage of respondents, 6.8%, were aged between 51 and 60 years. There were no employees aged above 60 years in the companies that participated in this study.

**Table 4.3: Age**

	Frequency	Percent
Under 30 years	8	13.6
31-40 years	39	66.1
41-50 years	8	13.6
51-60 years	4	6.8
Total	59	100.0

Primary data (2019)

#### 4.2.4. Level of Education

These findings in Table 4.4 indicate that the industry employs personnel with high educational standards. More than half of the respondents, 52.5%, had Master degree, with 42.4% having Bachelor degrees. In essence, 94.9% of the employees had a Bachelor degree as the minimum level of qualification. A small number, 3.4% had a diploma, and 1.7% had certificate as their highest level of educational achievement.

**Table 4.4: Level of education**

	Frequency	Percent
Certificate	1	1.7
Diploma	2	3.4
Bachelor degree	25	42.4
Master degree	31	52.5
Total	59	100.0

Primary (2019)

#### 4.2.5. Duration in the Company

The employees had spent variable number of years in the organization. The duration with an organization can be used as an indicator of their level of knowledge of internal organizational processes, capabilities, and performance. However, the upstream segment in Kenya is nascent, with only a few companies having operated in Kenya for more than 5 years. The results indicated that 62.5% had worked with their company for 0-5 years, 33.9% for 6-10 years and only 3.4% for over 10 years.

**Table 4.5: Duration in the Company**

	Frequency	Percent
0-5 years	37	62.7
6-10 years	20	33.9
Over 10 years	2	3.4
Total	59	100.0

Primary data (2019)

#### 4.2.6. Job Posting

In line with the target respondents of the study, a majority of the respondents were working in the head office, constituting 86.4% of the responses. Only a small number were either in field work, 8.5%, and field administration 5.1%, as shown in the figure below.

**Table 4.6: Job Posting**

	Frequency	Percent
Head office	51	86.4
Field administration	3	5.1
Field work	5	8.5
Total	59	100.0

Primary data (2019)

#### 4.2.7. Position in the Company

The findings show that more than half, 54.2%, of the respondents were in middle management, while 16.9% were in senior managerial positions. Up to 27.1% were junior staff, mostly in the head offices and field administration, and an additional 1.7%, were field workers. These findings were in line with the target respondents of the study.

**Table 4.7: Position in the Company**

	Frequency	Percent
Senior management	10	16.9
Middle management	32	54.2
Junior staff	16	27.1
Field worker	1	1.7
Total	59	100.0

Primary data (2019)

#### 4.2.8. Area of Expertise

With respect to the area of expertise, a majority were from finance (35.6%), administration (10.2%), operations (10.2%), HRM (5.1%), sales and marketing (5.1%), and IT (5.1%), constituting over 60% of the sample. The rest was accounted for by other areas of expertise,

including production, engineering, logistics, and security. Other areas of expertise included supplies and procurement, project management, taxation, and audit and internal control.

**Table 4.8: Area of Expertise**

	Frequency	Percent
Finance	21	35.6
Security	2	3.4
Others	12	20.3
HRM	3	5.1
Administration	6	10.2
Operations	6	10.2
Production	1	1.7
Engineering	1	1.7
Sales and marketing	3	5.1
IT	3	5.1
Logistics	1	1.7
Total	59	100.0

Primary data (2019)

### 4.3.Descriptive Statistical Findings

The subsection describes the descriptive findings for each of the variables under study, presented in terms of percentages, means and standard deviations.

#### 4.3.1. Local Employment

The provision of local employment is one of the central objectives of local content policies. The study sought to establish the influence of various dimensions of local employment on sustainable local development. The focus was on existence of an employment plan for local workforce, forecasting of employment needs, and preference for local workforce, employment policies and compensation terms.

The findings indicate that the most important consideration in local employment was having a conducive environment that promotes productivity (M=4.20, SD=0.924). Maintaining a fair employment policy stipulating non-engagement in discriminatory practices on the grounds of race, nationality or gender was also cited as crucial (M=4.07, SD=0.944).

There was a moderate level of agreement with the statement that the upstream oil and gas companies had established an employment plan for local workforce (M=3.81, SD =0.955), and forecasted the employment needs in terms of skills needed and anticipated skills shortages in local workforce (M=3.68, SD =1.090). In the same vein, the companies only moderately agreed that they give first consideration to the employment of local persons (M=3.66, SD =0.1.124) or that they minimized the employment of foreign personnel (M=3.41, SD =0.131). Similar level of agreement was established for competitive compensation (M=3.49, SD =1.265) and a flexible working arrangement with employee (M=3.66, SD =1.169). In essence, all the companies surveyed had implemented, to a moderate extent, the local employment provisions of the local content policy framework.

**Table 4.9: Local Employment**

Items	Mean	Std. deviation
Presence of an employment plan for local workforce as required by the local content policy framework	3.81	0.955
Presence of forecast for employment needs in terms of the skills needed	3.68	1.090
Preference of employment of local persons who have the requisite expertise or qualifications	3.66	1.124
Minimal employment of foreign personnel	3.41	1.131
Existence of a fair employment policy and non-discriminatory practices	4.07	0.944
Competitive compensation and benefits to local employees	3.49	1.265
Flexible working arrangements with arrangements with our employees	3.66	1.169
A conducive workplace environment and relationships that enhance productivity	4.20	0.924

Primary data (2019)

#### 4.3.2. Training Local Workforce

Training of local workforce is a core element of local content policies. The results showed that the upstream oil and gas industries have taken moderate measures to train local workforce. The most important consideration in terms of training of local workforce was capacity building for local people in different fields of expertise (M=3.80, SD=0.294). A similar trend was observed for the

acceleration of training for local persons so as to increase their participation in extractive activities (M=3.69, SD=1.071). In the same way, the study reported moderate levels of agreement with offering education support in terms of scholarships (M=3.61, SD=1.218). The companies also established skills development plans (M = 3.59, SD=1.085) and carried out forecasts of specific training needs (M = 3.54, SD=1.039). However, there was a comparatively lower level of agreement with the statements that the companies had invested in training locally to bridge the gap in expertise (M = 3.46, SD=1.088), granted on-the-job internships (M = 3.41, SD=1.176) or cross-posted staff across branches, both locally and internationally (M = 3.32, SD=1.121).

**Table 4.10: Training of Local Workforce**

Items	Mean	Std. Deviation
Development of skills development plan aimed at developing a critical mass of knowledgeable and competent national skills pool	3.59	1.085
Forecasts of specific training requirements and the costs of meeting the training needs for local workforce	3.54	1.039
Accelerated training of local personnel to increase their participation in the extractive activities	3.69	1.071
Efforts to supply such training locally in areas where there is lack of local expertise	3.46	1.088
Implementation of strategies for capacity building of local persons in different fields of expertise	3.80	0.924
Granting of education scholarships to local personnel to pursue higher education in technical fields	3.61	1.218
Provision of on-the-job internships to local persons, both internally and internationally	3.41	1.176
Cross-posting staff between across institutions to equip locals at all levels of the extractive value chain	3.32	1.121

Primary data (2019)

### 4.3.3. Sourcing Goods and Services from Local Businesses

The study computed the level of agreement with a set of questions on measures taken by upstream oil and gas companies in sourcing goods and services from local businesses. There was a high level of agreement with the statement that companies carry out bidding processes that ensure equal treatment to local persons in order to give domestic firms a fair opportunity (M=4.03, SD= 0.870). There was a moderate level of agreement with the position that these firms give first preference to local suppliers of goods and services (M= 3.61, SD=0.891). There was also a preference for goods and services produced locally, as showed by a mean of 3.62 but it was comparatively lower than that of preference for local firms. In the same vein, nearly 7 out of 10 firms agreed that they comply with local content input that stipulates that 30% of contracts should be given to local businesses (M=3.41, SD=1.019).

**Table 4.11: Sourcing Goods and Services from Local Businesses**

Items	Mean	Std. Deviation
Bidding process ensures equal treatment to local persons and gives a fair opportunity to local companies to compete in the bidding process	4.03	0.870
Company gives first preference to local companies in the grant of a license or award of a contract with respect to extractive activities	3.61	0.891
Preference to goods and services produced in Kenya	3.42	0.932
Contract services from local companies in joint ventures with international investors	3.49	0.972
Compliance with the local content input threshold of at least 30%	3.41	1.019

Primary data (2019)

### 4.3.4. Technology Transfer

The findings show that there is very minimal technology transfer between upstream oil and gas companies and local businesses and personnel. The mean value of 2.86 and standard deviation of 0.973 indicate that less than 6 out of 10 respondents agreed with the statement that their companies had developed and implemented a framework to support incremental transfer of technological know-how to locals (M=2.86, SD=0.973). The same trend was observed for entering into joint agreements and partnerships with locals (M=2.80, SD=0.943), setting aside an annual fund to

support local R&D initiatives in Kenyan universities (M=2.58, SD=0.969) or an annual fund to support R&D within the company (M=2.61, SD=0.965).

**Table 4.12: Technology Transfer**

Items	Mean	Std. Deviation
Development and adoption of technology transfer agreements with locals to provide a credible and measurable plan for incremental transfer of technological know-how to locals	2.86	0.973
Joint ventures and partnerships with locals through licensing agreements	2.80	0.943
Contributes to an annual fund to support research and development programs in Kenyan universities	2.58	0.969
Contributes to an annual fund to support research and development programs within the company	2.61	0.965

Primary data (2019)

#### 4.4. Inferential Statistics

The study sought to establish the effect of local content policies by upstream oil and gas companies in Kenya on sustainable development. The inferential statistics were Pearson correlations and multiple regressions. Pearson correlations was used to establish the association between all the variables and regression was performed to establish the relationship between the local content policies (local employment, training, domestic sourcing, technology transfer) and sustainable performance.

##### 4.4.1. Correlation Analysis

The study sought to determine the association between the variables. A Pearson product-moment correlation was run to determine the relationship between local employment and sustainable local development. There was a weak but positive correlation between local employment and sustainable local development, which was statistically significant ( $r = .384$ ,  $p = .003$ , at 0.01 significance level). The results also show a weak and positive correlation between training of local workforce and sustainable local development. The correlation was statistically significant ( $r = .300$ ,  $p = .021$ , at 0.05 significance). The correlation between sourcing of domestic goods and services was moderate, positive, and statistically significant ( $r = .393$ ,  $p = .002$  at 0.01 significance

level). Finally, there was a moderate, positive and statistically significant correlation between technology transfer and sustainable local development ( $r = .425$ ,  $p = .001$  at 0.01 significance level).

**Table 4.13: Correlation Analysis**

		Sustainable Local Development
Local employment	Pearson Correlation	.384**
	Sig. (2-tailed)	.003
	N	59
Training of Local Workforce	Pearson Correlation	.300*
	Sig. (2-tailed)	.021
	N	59
Sourcing of Goods	Pearson Correlation	.393**
	Sig. (2-tailed)	.002
	N	59
Technology Transfer	Pearson Correlation	.425**
	Sig. (2-tailed)	.001
	N	59

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

\* . Correlation is significant at the 0.05 level (2-tailed).

#### 4.4.2. Regressions

The model summary reveals that local employment, training of local workforce, sourcing of goods, and technology transfer, is a moderate indicator of changes in sustainable local development, as shown by the positive Pearson correlation R value of 0.495 and R Square value of 0.245. The R Square value means that local content policies is responsible for a 24.5% change in sustainable local development.

**Table 4.14: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.495 <sup>a</sup>	.245	.189	.58253

a. Predictors: (Constant), Technology Transfer, Local employment, Training of Local Workforce, Sourcing of Goods

The study also performed the Analysis of Variance (ANOVA) tests to determine whether the regression model is a significant predictor of the dependent variable. The findings presented in Table 4.15 shows that local content policies is a statistically significant predictor of sustainable local development, as showed by the p value of 0.004 at 95% confidence level (0.05 significance level), thus:  $F(1, 54) = 4.380, p=0.004$ .

**Table 4.15: ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.945	4	1.486	4.380	.004 <sup>b</sup>
	Residual	18.324	54	.339		
	Total	24.269	58			

a. Dependent Variable: Sustainable Local Development

b. Predictors: (Constant), Technology Transfer, Local employment, Training of Local Workforce, Sourcing of Goods

According to the regression coefficients, local employment initiatives have a positive effect on sustainable local development, as indicated by the beta value ( $\beta$ ) of 0.177, but the relationship is not significant as indicated by the p value of 0.212 at 95% confidence level. The beta value implies that 1 unit increase in local employment initiatives leads to an increase in sustainable local development by a factor of 0.177.

The regression results show that the effect of training of local workforce did not have a statistically significant effect on sustainable local development;  $\beta = -0.054, p=0.689$ . The beta value ( $\beta$ ) of -0.054 implies that 1 unit increase in training of local workforce leads to a decrease in sustainable local development by a factor of 0.054, while a p value of 0.689 indicates that the relationship is not statistically significant at 95% confidence level.

The regression coefficients revealed that domestic sourcing of goods and services had a positive effect on sustainable development, as demonstrated by  $\beta = 0.127$ , but the effect was not statistically significant,  $p=0.391$ . The findings demonstrate that 1 unit increase in domestic sourcing increases sustainable local development by a factor of 0.127, and that the relationship between domestic sourcing and sustainable local development is statistically significant at 95% confidence level.

Regression analysis demonstrated that technology transfer has a statistically significant effect on sustainable local development:  $\beta = 0.269, p=0.043$ . These findings imply that a 1 unit increase in

technology transfers between multinationals in the upstream oil and gas sector increases sustainable local development by a factor of 0.269.

**Table 4.15: Regression Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.031	.438		4.638	.000
	Local employment	.177	.140	.205	1.262	.212
	Training of Local Workforce	-.054	.135	-.066	-.403	.689
	Sourcing of Goods	.127	.147	.148	.864	.391
	Technology Transfer	.269	.129	.301	2.075	.043

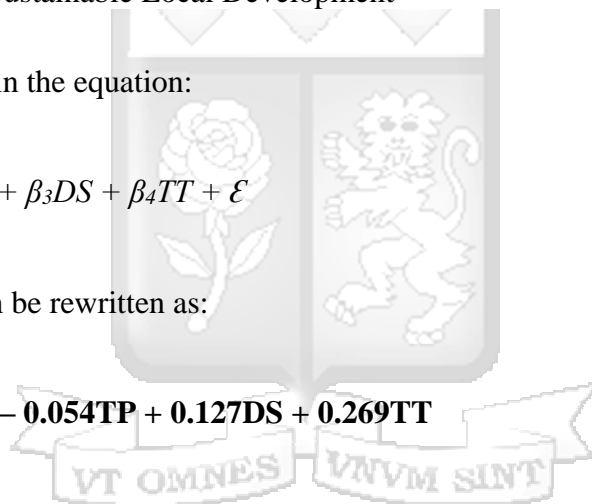
a. Dependent Variable: Sustainable Local Development

Replacing for the values in the equation:

$$SLD = \alpha + \beta_1 LE + \beta_2 TP + \beta_3 DS + \beta_4 TT + \epsilon$$

The regression model can be rewritten as:

$$SLD = 2.031 + 0.177LE - 0.054TP + 0.127DS + 0.269TT$$



## CHAPTER FIVE

### DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1.Introduction

This section presents the discussions of the results and findings for each objective, conclusions drawn from the results, and the recommendations arising from the study.

#### 5.2.Discussions

This section provides the discussions of the findings for each of the research objectives. The study also established the demographic characteristics of the respondents. The results showed that the gender distribution was close to 1:1. This reveals that there is no gender discrimination as far as employment is concerned in upstream oil and gas companies. In the same vein, a majority of the employees were in the reproductive age group, with fewer younger people and fewer older people, with those in the middle ages occupying the majority of positions. This is an expected distribution in the labor environment. Owing to the fact that the industry demands higher technical qualifications, the study also confirmed a higher proportion of employees having Master degrees and Bachelor degrees. On the contrary, a higher proportion of employees had stayed with the companies for less than 5 years. This result is attributed to the fact that the upstream sector remains a nascent segment and it is only currently that Kenya has begun production. Employees were also spread in different positions of management and occupied areas of expertise such as production, engineering, logistics, and security, as well as supplies and procurement, project management, taxation, and audit and internal control. The succeeding section links the findings of the study with prior studies on the relationship between local content policies and sustainable local development.

##### 5.2.1. Local Employment and Sustainable Local Development

The study found out that a majority of upstream oil and gas companies have adopted employment policies meant to enhance their benefits to the communities where they are operating. The descriptive statistics indicated that these companies had established an employment work plan targeting local employment and that there were routine forecasts to establish needed and anticipated skills shortages in local workforce. These companies offered competitive compensation in a flexible and conducive environment. However, the preference of local personnel

was comparatively lower. The inferential statistics established that local employment policies had a positive effect on sustainable local development; however, the effect was not statistically significant.

There are various studies that agree with the findings on the link between employment of local workforce and sustainable local development. According to Abebe and Begum (2016), this interaction can either be direct or indirect. The direct channel is where the multinationals drive capital formation, create employment opportunities and enhance trade, while the indirect effects are the spillover effects of multinational activity.

One of the central provisions of local content policies is that multinationals should create job jobs so as to enhance the livelihoods of the community where they operate. UNRISD (2010) study established that multinationals are responsible for creating millions of jobs across the world, with Tirimba and Macharia (2014) also reporting that up to 65% of jobs in developing countries are created by multinationals. In the oil and gas sector, ILO (2012) noted that multinationals are a significant creator of jobs in the United States. However, a different study by Agerton et al (2012) failed to find conclusive evidence that variations in employment are associated with changes in oil and gas production, even though there was a correlation between oil production and increase in employment in the industry.

The results of the present study support earlier observations that have been made in the industry. For instance, in an assessment of the sector, the Ministry of Energy and Petroleum, noted that the upstream sector can be a significant creator of job opportunities. However, because it is still nascent, employment is still concentrated in the downstream sector. Omolo and Mwabu (2014) contend that in most cases the available employment opportunities mainly target the unskilled labour market.

On the other hand, even though studies such as Ngabiirwe (2014) on oil, gas, and mining in Kenya, Uganda, Tanzania, Rwanda, and Burundi, found out that women are represented in the sector, the gender distribution of the employees of the major companies in the upstream oil and gas segment indicates that there is equality in hiring practices.

With the study showing that there is a link between employment and sustainable local development in Kenya, it adds onto the positive linkages that have been found in other countries. For instance

Senoo and Armah (2015) established that local content policies can lead to positive sociopolitical outcomes, even though minimal outcomes have been realized in Ghana. On the other hand, the findings of this study agrees with those of Onodugo (2012) who reported that multinationals are providing employment of local workers, but there is still a preference for local workers.

### **5.2.2. Training of Local Workforce and Sustainable Local Development**

The upstream oil and gas companies have moderately invested in training local workforce, as observed in responses regarding creating a skills development plan and forecasting training needs, and carrying out accelerated training in areas with higher shortages. The companies had also implemented capacity building strategies. On the other hand, there was a comparatively lower level of education scholarships, on-the-job internships, and cross-posting. The regression analysis revealed that the effect of local training on sustainable development was not statistically significant.

In general, multinational companies, in every sector not only the oil and gas sector, possess certain advantages such as knowledge-based assets, managerial know-how, human resources, or even marketing expertise that local companies may not have. As a result, they can pass these resources to locals through training. It is in this sense that Worasinchai and Bechina (2010) notes that local firms and personnel can gain from education, training, and capacity development programs.

An assessment by ILO (2012) established that there are serious skills shortages in the oil and gas industry. These shortages can be in the technical expertise, project management, and leadership. Kenya is not an exception. The present study as well as prior assessments by the Ministry has demonstrated that Kenya lacks adequate skilled personnel in engineering and managerial areas and that training can help in bridging the gap.

### **5.2.3. Sourcing of Goods and Services and Sustainable Local Development**

Sourcing of goods and services is a key aspect of local content policies. The study found out that companies maintained a fair bidding process and gave preference to local companies in areas where such companies had the required capacity. Upstream oil and gas companies also complied with the 30% quota. However, the number of joint ventures with local companies remained limited.

Overall, there was a positive relationship between domestic sourcing and sustainable local development but it was not statistically significant.

One of the ways through which companies can gain from multinational companies is through sourcing (Esteves & Barclay, 2011). Multinational companies have different procurement and supply chain policies that govern contracts with other companies, subject to the political and regulatory environment. However, in the oil and gas sector, multinationals operate in a fixed regulatory environment that is governed by contracts with government and acts of parliament (Martemyanova, 2018). The Government of Kenya, through provisions in the local content policy guidelines, has stipulated that these companies must contract the services of local firms in the supply of goods and services. It is stipulated that up to 30% of procurement contracts should be given to local companies. The present survey demonstrates that a significant number of firms in the upstream oil and gas sector are complying with these provisions.

Acheampong et al (2016) did a study in Nigeria, Ghana, Brazil and Norway and found out that domestic sourcing was concentrated in fabrication and construction, construction and completions and control systems and information communications technologies (ICT) services. The present study did not evaluate the specific areas where local firms are given contracts. Ekiugbo and Papanagnou (2017) argued that owing to the unsustainable nature some oil and gas activities, sustainable procurement practices can be adopted to improve the environmental, social and economic performance of these firms, thereby leading to sustainable community development. However, researchers such as Jagede et al (2013) have found out, there are many obstacles such as high costs of operation and lack of skilled personnel that prevent local firms from enjoying the opportunities in domestic sourcing.

#### **5.2.4. Technology Transfer and Sustainable Local Development**

The upstream oil and gas companies had put in place limited measures to ensure that there was technology transfer. There is limited development and adoption of technology transfer documents, limited joint contracts and partnerships with local companies, and minimal financial support for research and developments, either within the companies or externally in universities. Nonetheless, the data showed that technology transfer has a positive and statistically significant effect on sustainable local development.

There are various ways through which multinational oil and gas companies can transfer technology to local firms and personnel. It can occur when there is contact between the local stakeholders and the foreign firms. Transfers in this scenario occur through leaking or spilling over during their interactions with local stakeholders. However, to ensure that there is a systematic transfer of technology, host countries must develop appropriate policy interventions (Abebe and Begum, 2016). Technology can diffuse through formal market transactions or informal non-market channels. Local content policies represent formal ways through which technology can flow from the multinational players to domestic firms.

The present study found out that there is minimal transfers of technology. This means that there are weak backward linkages between these oil and gas companies and local suppliers. Nonetheless, technology transfers can also occur through the provision of technical assistance, purchasing raw materials, providing training, and assisting suppliers to diversify. It can even occur through training of local employees (Spero & Hart, 2010) and international joint ventures and buying alliances (Clarke & Robinson, 1998). Despite the channel of transfers, it has been demonstrated that technology transfers have significant benefits on the host economy (Smarzynska, 2004).

The present study reported that there are significant benefits of technology transfer on sustainable local development. Mottaleb and Sonobe (2011) observed that the main positive effects of technology transfer were positive spillovers, technological catching-up, and growing complementarities between foreign and local firms, while the negative effects were displacement of workers, negative welfare implications and increased competition with local firms. On the other hand Ashgari and Ali (2013) demonstrated that the effect can be understood in two ways. First, oil related technologies lead to an increase in oil revenue, and second, it increases the risk of no oil future for oil-producing countries. The technology transfer included engineering capability and strong technical infrastructure. However, the degree of these effects varies from country to country, hence the need for more country-specific studies. The findings of this study therefore align with extant literature.

### **5.3. Conclusions**

This section presents the conclusions drawn from the research findings for each of the research objectives.

### **5.3.1. Local Employment and Sustainable Local Development**

This study concludes that there are measures that have been undertaken by upstream oil and gas companies to create employment opportunities for locals. These include creating employment plans and routinely forecasting of employment needs so as to understand the skills needed by the organization and whether they can be obtained from the local labour environment. There was also agreement with the position that these companies were giving first consideration to locals, if the requisite expertise and qualifications are available. Additionally, these firms have established fair employment policies, provided competitive compensation, and created a conducive work environment that enhances productivity. Overall, the study concludes that local employment has a positive and significant effect on sustainable local development.

### **5.3.2. Training of Local Workforce and Sustainable Local Development**

There is a recognition that Kenya lacks adequate skilled workforce that can be absorbed in the upstream oil and gas sector. The study concludes that one of the ways of tackling the lack of skilled workforce is through training. To this end, upstream oil and gas industries have made moderate investment in developing a skills development plan that identifies the training needs and forecasts specific training requirements for local workforce. There is also evidence that the firms have accelerated training of locals, in addition to implementing capacity building strategies. These firms also provide education scholarships, on-the-job internships, and cross-posting of staff so as to enhance operational skills and experience. The study concludes that training of local workforce has a positive and significant effect on sustainable local development.

### **5.3.3. Sourcing of Goods and Services and Sustainable Local Development**

Multinational companies are sourcing goods and services from local companies. These firms carry out bidding processes that ensure equal treatment to local persons in order to give domestic firms a fair opportunity. They give first priority to local firms where such firms can meet the conditions of the contract and also show a moderate preference for locally produced goods and services. However, even though there is evidence that a majority of the firms are complying with the 30% preference rule, there are still few joint ventures with local firms. The study concludes that domestic sourcing of goods and services had a positive and statistically significant effect on sustainable local development.

#### **5.3.4. Technology Transfer and Sustainable Local Development**

There are minimal technology transfer transactions occurring between upstream oil and gas companies and local personnel and companies. Only half of the respondents surveyed agreed that the companies had developed and adopted technology transfer agreements with locals or were engaged in a credible and measurable framework for incremental transfers of technology. Similar findings were found for the existence of joint ventures and partnerships with locals. There was also minimal evidence that these companies had set aside an annual fund to support research and development programs both internally within the company, and externally in universities and research institutions in the country. The study concludes that technology transfers had a positive and significant effect on sustainable local development.

#### **5.4. Recommendations for Practitioners and Policymakers**

The study illustrated how upstream oil and gas companies have complied with the basic employment provisions of local content policies; however, the findings show that there is a preference for foreign personnel, when the firm can justify that there are no Kenyan nationals with the necessary qualifications. This can open a Pandoras box and can be exploited by firms that are intent on employment discrimination. There is need for the policy framework to be clear about the expectations as regards local employment.

Compared to other items, there is low investment in providing on-the-job internships to local persons and cross-posting employees across branches, both locally and internationally, so that they can gain requisite experience. Upstream oil and gas companies should expand the provision of internship opportunities as well as staff learning through cross-posting.

Furthermore, there is need for upstream oil and gas companies to increase opportunities for domestic firms. Firms that are not contracting local companies and inviting locally produced goods and services or getting into joint ventures with local firms are adopting a piecemeal approach to embodying local content policies. This can improve through greater collaboration and partnerships.

Evidence indicate that the level of technology transfers is minimal. This calls for upstream oil and gas companies to develop and adopt technology transfer agreements, form joint ventures, and set aside funding support for local research and development.

### **5.5. Research Areas for Further Study**

This study focused on four main elements of local content policy: local employment, training of local workforce, domestic sourcing and technology transfer, and how they affect sustainable local development. As a result, the interpretations of the results are limited to these variables. The study has used Pearson correlations and multiple regressions to establish the relationships between these policies and development. As a result, interpretation is limited to the robustness of these statistical measures.

Further research can investigate other dimensions of local content policies while also exploring various parameters that can be used to measure sustainable local development. Additionally, other studies can use other methodological approaches, particularly qualitative research approaches for an in-depth exploration of the nature of interaction between upstream oil and gas companies and local communities.

### **5.6. Limitations of the Study**

The study collected information from the upstream oil and gas companies on their activities that relate to local content policies and their effects on sustainable local development. However, the study did not collect the opinions of the community and local leaders to establish their perceptions regarding the effect of upstream oil and gas content policies on local development.

## REFERENCES

- Abebe, M. T. & Begum, M. (2016). The Spillover Effect of MNCs on Local Firms: Reviewing the Empirical Evidence. *International Research Journal of Engineering and Technology (IRJET)*, 3(5), 2029-2043.
- Ablo, A. D. (2016). *From local content to local participation? Exploring entrepreneurship in Ghana's oil and gas industry*. University of Bergen.
- Acheampong, T., Ashong, M., Svanikier, V.C. (2016). An assessment of local-content policies in oil and gas producing countries. *J. World Energy Law Bus*, 9, 282–302
- Ado, R. (2016). *Accounting, Accountability and Governance in Upstream Petroleum Contracts: The Case of Local Content Sustainability in the Nigerian Oil and Gas Sector*. Ph.D. Thesis, Robert Gordon University, Aberdeen, UK.
- AEO (African Economic Outlook) (2013). *Structural Transformation and Natural Resources*. Tunis: African Development Bank, Development Centre of the Organisation for Economic Co-Operation and Development, United Nations Development Programme and Economic Commission For Africa. ISBN 978-92-64-20054-8 (PDF), DOI: <http://dx.doi.org/10.1787/aeo-2013-en>
- Agerton, M., Hartley, P., Medlock, K., & Temzelides, T. (2015). *Employment Impacts of Upstream Oil and Gas Investment in the United States*. IMF Working Paper, WP/15/28. International Monetary Fund.
- Almalki, S. (2016) 'Integrating Quantitative and Qualitative Data in Mixed Methods Research-- Challenges and Benefits', *Journal of Education and Learning*, 5(3), 288-296.
- Areish, M. M. & Bardai, B. (2013). The Effect of Technology Transfer on Human Resource Development in Oil and Gas Industry. *Human Resource Management Research*, 3(3), 91-94.
- Arthur, P. & Arthur, E. (2014). Local Content and Private Sector Participation in Ghana's Oil Industry: An Economic and Strategic Imperative. *Africa Today*, 61(2), 57-77

- Asghari, M. & Ali Rakhshanikia, M. (2013). Technology Transfer in Oil Industry, Significance and Challenges. *Procedia - Social and Behavioral Sciences*, 75, 264–271. 10.1016/j.sbspro.2013.04.030.
- Asiago, B. C. (2017). Rules of Engagement: A Review of Regulatory Instruments Designed to Promote and Secure Local Content Requirements in the Oil and Gas Sector. *Resources*, 6 (3), 46.
- Barbier, E. B. (1987). The concept of sustainable economic development. *Environmental Conservation*, 14(2), 1010-110
- Blomström, M. & Kokko, A. (1997). *How Foreign Investment Affects Host Countries*. Policy Research Working Paper 1745. The World Bank.
- Borensztein, E., Gregorio, J., & Lee, J. (1998). How Does Foreign Direct Investment Affect Economic Growth? *Journal of International Economics*, 45, 115-135.
- Bowen, H. R. (1953). *Social Responsibilities of the Businessman*. Harper & Row, New York.
- Campbell, J. L. (2007). Why Would Corporations Behave in Socially Responsible Ways? An Institutional Theory of Corporate Social Responsibility. *The Academy of Management Review*, 32 (3), 946-967.
- CCSI (2018). Local Content Laws & Contractual Provisions. Columbia Center on Sustainable Investment (CCSI). Columbia Law School. <http://ccsi.columbia.edu/work/projects/local-content-laws-contractual-provisions/>
- Centre for Sustainable Development (CSD) (2018). What is Sustainable Community Development? Simon Fraser University. <https://www.sfu.ca/sustainabledevelopment/about-us/what-is-sustainable-community-development.html>
- Chari, V. V. & Christiano, L. J. (2014). *The Optimal Extraction of Exhaustible Resources*. Economic Policy Papers. The Federal Reserve Bank of Minneapolis.

- Chima, Reginald & A. Owioduokit, E & Ogoh, R. (2019). *Technology Transfer and Acquisition in the Oil Sector and Government Policy in Nigeria*. African Technology Policy Studies Network.
- Cimino, C., Hufbauer, G. C. & Schott, J. (2014). *A Proposed Code to Discipline Local Content Requirements*. Peterson Institute for International Economics Policy Brief No PB14–6.
- Clarke-Hill, C. M., Robinson, T. M. & Bailey, J. (1998). Skills and competence transfers in European retail alliances: a comparison between alliances and joint ventures, *European Business Review*, 98 (6), 300 –310.
- Colombano, A. & Crnkovic, P. (2015). *Oil & Gas Company Analysis: Upstream, Midstream and Downstream*. Createspace Independent Pub. South Carolina.
- Cooper, R., & Schindler, S. (2006). *Business Research Methods* (9th edition). USA: McGraw-Hill.
- Creswell, J. W. & Creswell, J. D. (2017) *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Crowther, D. & Aras, G. (2008). *Corporate Social Responsibility*. Ventus Publishing.
- De Vita, G., Lagoke, O. & Adesola, S. (2016). Nigerian oil and gas industry local content development: A stakeholder analysis. *Public Policy and Administration*, volume 31 (1): 51-79
- Dobbs, R., Oppenheim, J., Kendall, A., Thompson, F., Bratt, M., and van der Marel, F. (2013). *Reverse the curse: Maximizing the potential of resource-driven economies*. McKinsey Global Institute
- Donaldson, T, Preston, LE (1995). The stakeholder theory of the corporation: concepts, evidence and implications. *Academy of Management Review* 20(1), 65–91
- Ekiugbo, I. & Papanagnou, C. (2017). The Role of the Procurement Function in Realising Sustainable Development Goals: An Empirical Study of an Emerging Economy’s Oil & Gas Sector. *European Journal of Sustainable Development*, 6, 3, 166-180.

- Esteves, A. M., Coyne, B., & Moreno, A. (2013). *Local Content Initiatives: Enhancing the Subnational Benefits of the Oil, Gas and Mining Sectors*. Briefing July 2013. National Resource Governance Institute.
- Esteves, M. & Barclay, M. (2011). Enhancing the benefits of local content: integrating social and economic impact assessment into procurement strategies, *Impact Assessment and Project Appraisal*, 29:3, 205-215.
- Franco, C. & Sasidharan. S. (2009). *MNEs and Export Spillovers: An Analysis of Indian Manufacturing Industries*. University of Bologna-Italy.
- Freeman, E. R (1984). *Strategic Management: A Stakeholder Approach*. Boston: Pitman.
- Garriga, E. & Mele, D. (2004). Corporate Social Responsibility: Mapping the Territory. *Journal of Business Ethics*, 53, 51-74.
- Grieco, J., & Ikenberry, G. (2003). *State Power and World Markets: The International Political Economy*. New York: Norton & Company.
- Grossman, G. (1981). The Theory of Domestic Content Protection and Content Preference. *The Quarterly Journal of Economics*, 96, 583-603
- Hansen, M. W., Buur, I., Kjær, A, M & Therkildsen, O. (2015). (2015): *The Economics and Politics of Local Content in African Extractives: Lessons from Tanzania, Uganda and Mozambique*. Forum for Development Studies, DOI: 10.1080/08039410.2015.1089319
- Holden, E., Linnerud, K., & Banister, D. (2016). The Imperatives of Sustainable Development. *Sustainable Development*. DOI: 10.1002/sd.1647
- Hotelling, H. (1931). The economics of exhaustible resources. *Journal of Political Economy* 39 (2), 137-75.
- ILO (2012). *Current And Future Skills, Human Resources Development and Safety Training for Contractors in the Oil and Gas Industry*. International Labour Office, Geneva.
- IPIECA (2017). *Mapping the oil and gas industry to the Sustainable Development Goals: An Atlas*. International Petroleum Industry Environmental Conservation Association (IPIECA).

<http://www.ipieca.org/resources/awareness-briefing/mapping-the-oil-and-gas-industry-to-the-sustainable-development-goals-an-atlas/>

James, S., Ilvento, T. W., Hastings, S. E. (2001). *The Effect of Local Economic Development Policy on Employment Growth in Rural Counties in the Mid-Atlantic Region*. FREC SP02-04. University of Delaware.

Jogede, O.O., Ilori, M. O., Sonibare, J. A., Oluwale, B. A., & Siyambola, W. O. (2013). Knowledge Sharing and Innovation as it affects Local Content in the Oil and Gas Industry in Nigeria. *African Journal of Science, Technology, Innovation and Development*, 5 (1), 31-38

Johnson, B. & Christensen, L. (2008). *Educational Research: Quantitative, Qualitative, and Mixed Approaches*. New York: SAGE.

Kalyuzhnova Y., Nygaard, C.A., Omarov, Y., & Saparbayev, A., (2016). *Local Content Policies in Resource Rich Countries*. Basingstoke, Hampshire: Palgrave MacMillan.

Kavousi, E. S. & Ansari, R. (2014). Diagnosing Technology Transfer Processes in the Oil Industry: The case Study of National Iranian Oil Company (NICO). *International Journal of Academic Research in Business and Social Sciences*, 4 (1), 122.

KCSPOG (2015). *Agenda for Kenya's Oil and Gas Development*. Kenya Civil Society Platform on Oil and Gas (KCSPOG)

Kinyondo, A. & Villanger, E. (2017). Local content requirements in the petroleum sector in Tanzania: A thorny road from inception to implementation? *The Extractive Industries and Society*, 4, 371-384

KOGA. (2019). Our Members. Kenya Oil and Gas Association (KOGA).  
[http://www.kogake.com/?page\\_id=1212](http://www.kogake.com/?page_id=1212)

Korrapati, R. (2016) *Five Chapter Model for Research Thesis Writing: 108 Practical Lessons for MS/MBA/M. Tech/M. Phil/LLM/Ph. D Students*. Diamond Pocket Books Pvt Ltd.

- Lahiri, S. & Yoshiyasu, O. (1998). Foreign direct investment, local content requirement, and profit taxation. *The Economic Journal* 108(447), 444-457.
- Lele, S. M. (1991). Sustainable Development: A Critical Review. *World Development*, 19(6), 607-621.
- Losman, D. L. (2010). The Rentier State and National Oil Companies: An Economic and Political Perspective. *Middle East Journal*, 64(3), 427-445.
- Magelah, P. G. (2014). *Local Content in Oil and Gas Sector: An Assessment of Uganda's Legal and Policy Regimes*. ACODE Policy Briefing Paper Series, No. 28, 2014.
- Mahdi, A, & Rakhshanikia, M. (2013). Technology transfer in oil industry, significance and challenges. *Procedia - Social and Behavioral Sciences* 75, 264 – 271
- Manjily, H. P. & Telengani, M. (2015). Technology transfer strategy in the upstream oil industry (oil fields development) of the Islamic Republic of Iran has provided the effectiveness of technology transfer model. *International Journal of Applied Operational Research*, 5(4), 87-101.
- Martemyanova, L. (2018). *Procurement practices influencing service delivery: a case of TNK-BP Oil & Gas Company in Russia*. JAMK University of Applied Sciences.
- Mbelwa, L. (2018). Investigation of Stakeholder Management in the Oil and Gas Industry in Tanzania. *University of Dar es Salaam Journals*, 21 (1), 34-59
- Melo, A. & Rodríguez-Clare, A. (2006). *Productive Development Policies and Supporting Institutions in Latin America and the Caribbean*”, Inter-American Development Bank Research Department Competitive Studies Series Working Paper C-106, February 2006, p. 5, available at: <http://www.iadb.org/res/publications/pubfiles/pubc-106.pdf>.
- MOEP (2016). *Strategic Environmental and Social Assessment of the Petroleum Sector in Kenya*. Ministry of Energy and Petroleum (MOEP). Republic of Kenya.
- Mohammed, N. F. & Price, A. D. F. (2012). *Challenges on Procurement in the Oil and Gas Industry: Developing New Strategies*. Loughborough University, Leicestershire.

- Monday, J. U. & Agorzie, C. J. (2014). Strengthening Technological Capacity Building of Indigenous Oil Firms: The Local Content Policy Dimension. *Jorind*, 12(2), 112-121
- Mottaleb, K. & Sonobe, T. (2011). An Inquiry into the Rapid Growth of the Garment Industry in Bangladesh. *Economic Development and Cultural Change*, 60 (1), 67-89.
- Muduli, A. (2010). HR Issues in Upstream Oil and Gas Industry of India: Some reflections. *SSRN Electronic Journal*. DOI: 10.2139/ssrn.2804578.
- Ngabiirwe, W. (2014). *An in-depth Research on Oil & Gas Extraction Industry in East Africa: An African Feminist Perspective*. Akina Mama wa Africa
- Nwapi, C. (2016). A Survey of the Literature on Local Content Policies in the Oil and Gas Industry in East Africa. *The School of Public Policy (SPP) Policy Paper*, 9(16), 1-28
- OECD. (2016). *The Economic Impact of Local Content Requirements*. Organization for Economic Co-operation and Development (OECD), Trade Policy Note.
- Ohdoi, R. (2009). Innovation, Foreign Direct Investment and Local Content Requirement. Working Paper (August).
- Omolo, M., & Mwabu, G., (2014). *A Primer to the Emerging Extractive Sector in Kenya: Resource Bliss, Dilemma or Curse*. Institute of Economic Affairs.
- Onodugo, V. A. (2012). Multinational corporations (MNC) and employment and labour Conditions of developing countries: the Nigerian experience. *European Journal of Business and Social Sciences*, 1(6), 67-76.
- Ovadia, J. S. (2013). The Nigerian “One Percent” and the Management of National Oil Wealth through Nigerian Content. *Science & Society*, 77(3), 315-341
- Piva, M. (2004). The Economic Impact of Technology Transfer on Employment and Income Distribution in Developing Countries: A Survey of Theoretical Models and Empirical Studies. *Rivista Internazionale di Scienze Sociali*, 22 (4), 433-469.

- Ramdoon, I. (2015). *Unpacking Local Content Requirements in the Extractive Sector: What Implications for the Global Trade and Investment Frameworks?* E15 Initiative: Geneva, Switzerland.
- Republic of Kenya (2016). Local Content Bill, 2016  
[http://kenyalaw.org/kl/fileadmin/pdfdownloads/bills/2016/LocalContentBill\\_2016.pdf](http://kenyalaw.org/kl/fileadmin/pdfdownloads/bills/2016/LocalContentBill_2016.pdf)
- Ricardo, D. (1817). *The Principles of Political Economy and Taxation*. London: John Murray.
- Rugraff, E. and Hansen, M. (2011). *Multinational corporations and local firms in emerging economies*. Amsterdam University Press.
- Saunders, M. N. & Bristow, A. (2015). *Research Methods for Business Solutions*. 7th Edition. London: Pearson Publishing.
- Senoo, J. E., & Armah, S. E. (2015). Assessing the Effectiveness of Ghana's Local Content Policy in the Oil and Gas Industry. *Journal of Energy and Economic Development*, 1(1), 22-61.
- Sigam, C., Garcia, L. (2010). *Extractive Industries: Optimizing Value Retention in Host Countries*; UNCTAD: Geneva, Switzerland.
- Smarzynska, B. (2000). *Composition of Foreign Direct Investment and Protection of Intellectual Property Rights: Evidence from Transition Economies*. Mimeo, World Bank.
- Smarzynska, B. (2004). Composition of Foreign Direct Investment and Protection of Intellectual Property Rights: Evidence from Transition Economies, *European Economic Review*, 48(1), 39-62.
- Sohrabi, M. & Hazini, K. (2018). Strategic Human Resource Management and its Challenges in Oil and Gas Industry Projects. <https://www.researchgate.net/publication/282016342>
- Spero, J., & Hart, J. (2010). *The Politics of International Economic Relations*. USA: Wadsworth, Cengage Learning.
- Sweeney, J. I. (1992). *Economic Theory of Depletable Resources: An Introduction*. In, Chapter 17 in Handbook of Natural Resource and Energy Economics, Volume 3 Editors Allen V. Kneese and James L. Sweeney, Stanford University.

- Tirimba, O. I., & Macharia, G. M. (2014). Economic Impact of MNCs on Development of Developing Nations. *International Journal of Scientific and Research Publications*, 4(9), 1-6.
- Tordo, S., Warner, M., Manzano, O., Anouti, Y. (2013). *Local Content Policies in the Oil and Gas Sector*. World Bank Publications. 2013.
- Tullow Oil (2014). Tullow in Kenya. Tullow Oil. <https://www.tulloil.com/Media/docs/default-source/operations/tullow-kenya-profile.pdf?sfvrsn=0>
- Tullow Oil (2019). East Africa: Kenya. Tullow Oil. <https://www.tulloil.com/operations/east-africa/kenya>
- UNCTAD (2010). *Foreign Direct Investment, the Transfer and Diffusion of Technology, and Sustainable Development*. United Nations Conference on Trade and Development (UNCTAD), TD/B/C.II/EM.2/2.
- UNDP (2013). *UNDP's Strategy for Supporting Sustainable and Equitable Management of the Extractive Sector for Human Development*. New York: United Nations Development Programme.
- UNDP. (2018). *Sustainable Development*. United Nations Development Programme, <https://www.undp.org/content/undp/en/home/sustainable-development/environment-and-natural-capital/communities-and-local-sustainable-development-solutions.html>
- UNEP (2017). *Regional Oil and Gas Capacity Building Programme for the Nairobi Convention*. United Nations Environmental Programme, UNEP/NC/EP/2017/4/Doc/5.
- UNEP (2017). *Regional Oil and Gas Capacity Building Programme for the Nairobi Convention*. United Nations Environmental Programme, UNEP/NC/EP/2017/4/Doc/5.
- UNCTAD. (2010), *World Investment Report 2010: Investing in a Low Carbon Economy*. United Nations Conference on Trade and Development. New York: United Nation Publication.
- UNRISD. (2010). *UNRISD Flagship Report 2010: Combating Poverty and Inequality*. United Nations Research Institute for Social Development. New York: United Nation Publication

- Votaw, D. (1972). Genius Became Rare: A Comment on the Doctrine of Social Responsibility Pt 1. *California Management Review* 15(2), 25–31.
- Warner, M. (2010). *Local Content Optimisation: Modelling the Economic Impact of Local Content on Commercial Interests and Public Industrial Policy*, Solutions Briefing # 4.
- Warner, M. (2011). *Local Content in Procurement: Creating Local Jobs and Competitive Domestic Industries in Supply Chains*. Sheffield, South Yorkshire, GBR: Greenleaf Publishing.
- Weiss, M. (2016). *The Role of Local Content Policies in Manufacturing and Mining in Low – and Middle Income Countries*. United Nations Industrial Development Organization (UNIDO), Department of Policy, Research and Statistics, Working Paper 19/2016
- White, S. (2017). Regulating for local content: Limitations of legal and regulatory instruments in promoting small scale suppliers in extractive industries in developing countries. *The Extractive Industries and Society*, 2(2), <https://doi.org/10.1016/j.exis.2016.08.003>
- Worasinchai, L. & Bechina, A. (2010). The Role of Multinational Corporations in Developing R&D in Thailand: the Knowledge Flow between MNC's and University, *Electronic Journal of Knowledge Management*, 8(1), 171-180.
- WCED. (1987). *Our Common Future*. World Commission on Environment and Development, New York: Oxford University Press.
- Yamane, T. (1967). *Statistics: An Introductory Analysis*. 2nd edition, New York: Harper and Row.

## APPENDICES

### APPENDIX I: INTRODUCTION LETTER

My name is Julius Wachiya Mulati. I am a Masters student at Strathmore University, undertaking a Research Project on **“THE EFFECT OF LOCAL CONTENT POLICIES ON SUSTAINABLE LOCAL DEVELOPMENT BY UPSTREAM OIL AND GAS COMPANIES IN KENYA”**.

This is a request to collect your opinions on local content policy requirements that have been adopted by your company and how they affect sustainable local development.

Please note that your participation is highly valued but it is voluntary. You will not be coerced to participate in this study. The responses you give are private and confidential and will not be shared with any other party. We will protect the anonymity and confidentiality of your responses and will not collect any individual information without your consent.

It will take you an estimated 10 minutes of your time to complete the questionnaire.

Thank you for participating.

Kind Regards,

Julius Wachiya Mulati



ADM 12733

## APPENDIX 2: QUESTIONNAIRE

**INSTRUCTIONS:** Please answer the following questions by placing a mark (x) in the appropriate box.

### SECTION A: GENERAL INFORMATION

1. What is your gender?

Male

Female

2. What is your age?

Under 30 years

31-40 years

41-50 years

51-60 years

Over 60 years

3. What is your highest level of education?

Primary school

Secondary school

Certificate

Diploma

Bachelor degree

Master degree

PhD

4. How many years have you been working with the company?

0-5 years

6-10 years

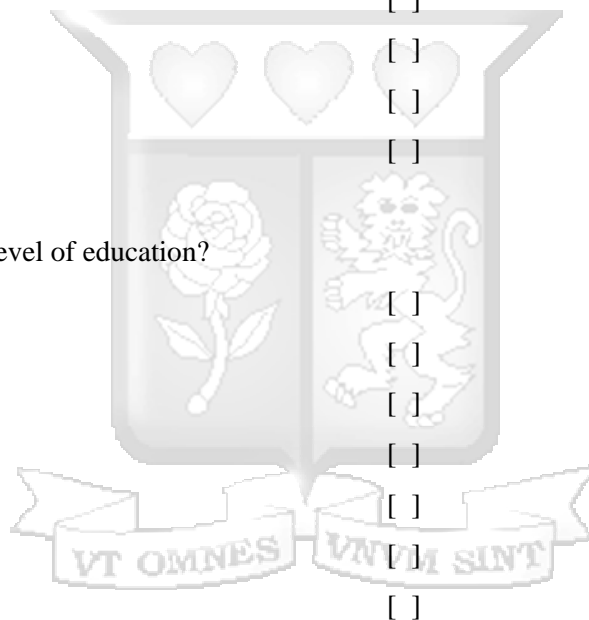
Over 10 years

5. Where do you work?

Head office

Field administration

Field work



Other (specify) [ ]

6. What is your level of position in the company?

Senior management [ ]

Middle management [ ]

Junior staff [ ]

Field worker [ ]

7. What is your area of expertise? ( You can mark more than one answer)

Finance [ ]

Human resource management [ ]

Administration [ ]

Operations [ ]

Production [ ]

Engineering [ ]

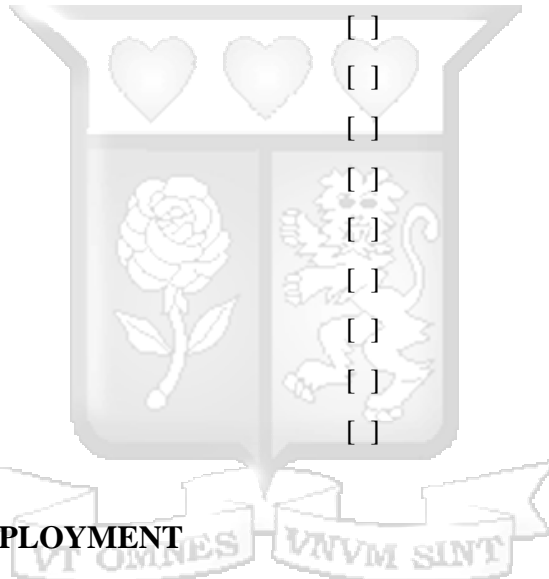
Sales and marketing [ ]

IT [ ]

Logistics [ ]

Security [ ]

Other (specify) [ ]



**SECTION B: LOCAL EMPLOYMENT**

8. To what extent do you agree with the following statements on local employment creation activities undertaken by your company?

1=Strongly Disagree (SD), 2=Disagree (D), 3=Neutral (N), 4= Agree (A), 5=Strongly Agree (SA)

ITEM	SD	D	N	A	SA
a) We have an employment plan for local workforce as required by the local content policy framework					
b) We have forecasted the employment needs in terms of the skills needed and anticipated skills shortages in local workforce.					

c) We give first consideration to the employment of local persons who have the requisite expertise or qualifications in various levels of the extractive operations					
d) We minimize the employment of foreign personnel and ensure that foreign employees are only engaged in positions where we have not found any Kenyan nationals with the necessary qualifications and experience					
e) We have a fair employment policy and do not engage in discriminatory practices on the grounds of race, nationality or gender in the conditions of service provided for personnel					
f) We offer competitive compensation and benefits to local employees					
g) We have flexible working arrangements with arrangements with our employees					
h) We have a conducive workplace environment and relationships that enhance productivity					

### SECTION C: TRAINING OF LOCAL WORKFORCE

9. To what extent do you agree with the following statements on training of local workforce?

1=Strongly Disagree (SD), 2=Disagree (D), 3=Neutral (N), 4= Agree (A), 5=Strongly Agree (SA)

ITEM	SD	D	N	A	SA
a) We have developed a skills development plan to aimed at developing a critical mass of knowledgeable and competent national skills pool					
b) We have forecasts of specific training requirements and the costs of meeting the training needs for local workforce					
c) We have accelerated training of local personnel to increase their participation in the extractive activities					
d) In areas where there is lack of local expertise, we have made efforts to supply such training locally					
e) We have implemented strategies for the capacity building of local persons in different fields of expertise					
f) We grant education scholarships to local personnel to pursue higher education in technical fields					

g) We provide on-the-job internships to local persons, both internally and internationally					
h) We cross-post staff between and across institutions to equip locals at all levels of the extractive value chain					

#### SECTION D: SOURCING GOODS AND SERVICES FROM LOCAL BUSINESSES

10. To what extent do you agree with the following statements on measures taken by the company to procure goods and services from local businesses?

1=Strongly Disagree (SD), 2=Disagree (D), 3=Neutral (N), 4= Agree (A), 5=Strongly Agree (SA)

ITEM	SD	D	N	A	SA
a) We carry out a bidding process that ensures equal treatment to local persons and gives a fair opportunity to local companies to compete in the bidding process					
b) We give first preference to local companies in the grant of a license or award of a contract with respect to extractive activities					
c) We give preference to goods and services produced in Kenya					
d) We contract services from local companies in joint ventures with international investors					
e) We comply with the local content input threshold of at least 30%					

#### SECTION E: TECHNOLOGY TRANSFER

11. To what extent do you agree with the following statements on measures taken by the company to achieve technology transfer as required by local content policies?

1=Strongly Disagree (SD), 2=Disagree (D), 3=Neutral (N), 4= Agree (A), 5=Strongly Agree (SA)

ITEM	SD	D	N	A	SA
a) We have developed and adopted technology transfer agreements with locals to provide a credible and measurable plan for incremental transfer of technological know-how to locals					
b) We have entered into joint ventures and partnerships with locals through licensing agreements					
c) We have set aside an annual fund to support research and development programmes in Kenyan universities					

d) We have set aside an annual fund to support research and development programmes within the company					
---	--	--	--	--	--

**SECTION F: SUSTAINABLE LOCAL DEVELOPMENT**

12. To what extent do you agree with the following statements on the achievement of sustainable local development objectives in the community the company where the company is?

1=Strongly Disagree (SD), 2=Disagree (D), 3=Neutral (N), 4= Agree (A), 5=Strongly Agree (SA)

	SD	D	N	A	SA
a) Company has an efficient waste management system					
b) Company prevents pollution from volatile organic compounds (such as benzene, toluene, xylene, ethylbenzene, 1,3-butadiene and acetaldehyde)					
c) Initiatives to reduce greenhouse gas emissions and reductions achieved					
d) Company has invested in renewable energy sources					
e) Company has achieved energy savings through conservation and efficiency improvements					
f) The company has made infrastructure investments and services for the primary benefit of the public					

### APPENDIX 3: LIST OF UPSTREAM OIL AND GAS COMPANIES

1. Africa Oil Corporation
2. Octant Energy
3. Shell
4. ENI Energy
5. Total E.P Kenya
6. Tullow Oil (K) B.V
7. Zarara Oil & Gas

