AN ASSESSMENT OF THE ECONOMIC VIABILITY OF PRIMARY MIDSTREAM OIL PROJECTS IN UGANDA

A CASE OF EACOP AND THE UGANDA REFINERY PROJECT

YVONNE ATWIINE

S20M23/002

A DISSERTATION SUBMITTED TO THE FACULTY OF LAW IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER OF LAWS OF OIL AND GAS AT THE INSTITUTE OF PETROLEUM STUDIES KAMPALA IN AFFLIATION TO UCU.

APRIL, 2022

DECLARATION

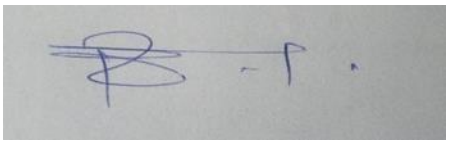
I, Yvonne Atwiine, do hereby declare that this dissertation is entirely my original work an has never been submitted to any other university or any other institution of higher learning forany academic award.

Yvonne Atwiine

14th July 2022

APPROVAL

This is to certify that this research dissertation, “An assessment of the economic viability of primary midstream oil projects in Uganda: A case of EACOP and the Uganda Refinery Project,” has been under my supervision and it is now ready for submission.



Mr. Edgar Baguma Quensi

14th July 2022

TABLE OF CONTENTS

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Introduction

Many governments undertake some form of economic viability analysis to decide whether a proposed project is a good use of public resources. A project is economically viable if the economic benefits of the project exceed its economic costs, when analyzed for society as a whole.[1] The economic costs of the project are not the same as its financial costs, externalities and environmental impacts should be considered. Externalities (positive or negative) are economic impacts that affect persons who are not necessarily part of the project scope. The economic benefits are a measure of the value the project will deliver to society as a whole.[2]

The revenue a project will generate is usually a lower-bound estimate of its economic benefits; however, benefits can be much higher than revenues. In addition, the project may enhance regional economic activity and quality of life for the people living in the vicinity of the project. Similarly, the value of education at local schools should be measured by the enhancement in the lives and prospects of the children who attend those schools, even if no school fees are charged. Economic viability analysis can also include a cost-effectiveness analysis to determine whether the project is the lowest-cost alternative to achieve the identified benefits.[3]

This chapter set forth the background of the study in a historical, conceptual and contextual manner. This was achieved through the research questions that were formulated by the

---

[1] Lima, José Donizetti De, Marcelo GonÁ § alves Trentin, Gilson Adamczuk Oliveira, Dayse Regina Batistus, and Dalmarino Setti. "A systematic approach for the analysis of the economic viability of investment projects." *International Journal of Engineering Management and Economics* 5, no. 1-2 (2015): 19-34.
[2] Ibid
[3] Ibid

researcher and that were based on the objectives of the study. The chapter also put forth the scope of the study with regards to geological location, time and knowledge. The chapter concluded by citing the significance and justification of the study.

1.2 Background of the Study

Viability is a measure of the likely success of a particular action or set of actions. An assessment of economic viability is an evaluation of the various economic effects that may result from the implementation of a particular project.

Africa currently has some of the fastest growing economies in the world and is expected to continue growing given the abundance of natural resources and possession of a young vibrant population. Africa's natural resources which include oil and gas, have been the bedrock of the continent's economy and continue to represent a significant development opportunity for her people. In 2012, natural resources accounted for 77% of total exports and 42% of the government's revenues.[4]

Africa has a considerable amount of oil and gas resources that can help accelerate growth on the continent if used strategically. According to the BP Statistical Review of Energy: "Africa's proven oil reserves have grown by almost 150% since 1980 – increasing from 53.4 billion barrels at that stage to 130.3 billion barrels at the end of 2012".[5]

This is an average annual growth rate of 2.8%, which is the second highest continental growth rate in the world after South America over that period". By 2014, there were about 500 oil companies doing hydrocarbon exploration in Africa. However, Africa's proven oil reserves

[4] Obi, Cyril. "China, Oil, and Africa." *Insight Turkey* 21, no. 1 (2019): 10-24.
[5] Dudley, Bob. "BP statistical review of world energy." *BP Statistical Review, London, UK, accessed Aug* 6, no. 2018 (2018): 00116.

remain much lower than other regions; at the end of 2012, Africa accounted for 7.8% of global reserves.[6]

Although new oil and gas resources continue to be discovered progressively, they are not yet fully utilized to benefit African people, indeed, 38 out of 53 African countries are currently net oil importers and this includes big oil producing countries like Nigeria.[7] High and volatile oil prices are thus a challenge for all of Africa; they represent an opportunity to be pursued for exporting countries and an obstacle to be tackled for importing countries.

Oil reserves in Africa have grown particularly quickly since the mid-1990s. The political environments of most African countries have improved since that time, which has made Africa more attractive for foreign oil companies to explore. This also resulted in Africa's share in global reserves rising from 5.9% in 1993 to as high as 8.6% in 2006, although this declined to 7.7% recently due to conflicts in large producing countries like Libya, Nigeria and Sudan.[8]

A number of other countries are however emerging, with some of the most exciting prospects being Ghana, Uganda and Kenya. According to data from the US Energy Information Administration (EIA), 12 African countries had proven oil reserves of more than 500 million barrels at the start of 2014.[9] Despite Africa's substantial oil resources, refining capacity on the continent remains limited. As such, countries like Angola and Nigeria export crude oil, only to import refined oil at a higher cost which wipes away the little foreign exchange these countries would have invested in much needed social services sector.[10]

---

[6] Supra Note 1
[7] Ibid
[8] Ibid
[9] Cooke, Jennifer G., and David L. Goldwyn. *Africa's New Energy Producers: Making the Most of Emerging Opportunities*. Rowman & Littlefield, 2015.
[10] Ibid

The large African oil producing countries (Nigeria, Libya, Angola) also have challenges as they largely adopted a 'rentier model' of production, which made them abandon other forms of economic production like agriculture and industrial development, to rely only on revenues. The challenge with this 'business or oil trading model' is that it largely relies on foreign capital as it is usually the foreign oil companies which invest in the exploration of oil in Africa, with the states only benefitting in charging these companies 'rents and taxes. This deprives the state of other forms of income and leads to continuous dependence on global capital.[11]

Over dependence on foreign capital breeds conflicts similar to what happened in Libya in 2011. In Nigeria, it led to conflicts as well as environmental destruction. This is due to the fact that the international companies always aim at maximizing their profits with no regard to how it affects the states or communities where these resources are found. The rentier states lack of diversified sources of revenue leads to deprivation of the local communities, as they fail to develop alternative sources of income.

The ruling classes become the major beneficiaries of the oil revenue as they have access to the state which controls all the resources at the expense of the workers and peasants, particularly in the case of Africa. This in the long run brings about conflicts between the ruling class and the workers and peasants[12] as it is a current case in most African resource rich countries like Nigeria; and in Libya after 2011, it brought about the intervention of foreign forces and destruction of productive forces in that nation.[13]

---

[11] Gondret, Florence, Marie-Christine Père, Sandrine Tacher, Sophie Daré, Christine Trefeu, Isabelle Le Huërou-Luron, and Isabelle Louveau. "Spontaneous intra-uterine growth restriction modulates the endocrine status and the developmental expression of genes in porcine fetal and neonatal adipose tissue." *General and comparative endocrinology* 194 (2013): 208-216.
[12] Humphreys, Macartan, Jeffrey D. Sachs, Joseph E. Stiglitz, Margaret Humphreys, and George Soros. *Escaping the resource curse*. Columbia university press, 2007.
[13] Okonta, Ike, and Oronto Douglas. Where Vultures Feast: Shell, Human Rights, and Oil. Verso, 2003.

The rentier states also suffer during depreciations of global currencies and commodity prices, for example the current fall of oil prices which started in 2014 has destabilized the Petro–States globally and has caused political uprisings and economic recession. Other examples of political uprisings and economic recession have occurred in Venezuela, one of the largest oil producers in the world, and in Nigeria and Angola.[14]

Most East African countries discovered oil and gas in the last 10 years. Like Uganda, they are still mostly at the exploration stage or setting up facilities for oil production, transportation and storage. The East African Community (EAC) which was re-established in 2000 comprises of Rwanda, Burundi, Kenya, Uganda, Tanzania and South Sudan. Among the EAC countries, Uganda has the largest of oil deposits at 6.5 billion barrels.[15]

The petroleum reserves in East African region have increased with the discovery of both oil and gas deposits in the region over the past five years, and the exploration is still on going as only a small part of the suspected oil deposits have been explored.[16] The East African market has also changed, especially after the formation of East African community, as major international companies are becoming involved as well as the smaller companies, thus indicating the industry's confidence in East Africa's immense potential.[17] Tanzania has substantial offshore gas reserves and its proximity to Asian demand centers offer the potential for liquefied natural gas (LNG) export by the end of the decade, while Uganda and Kenya present opportunities for commercial oil production even sooner than Tanzania.

---

[14] Ibid Supra Note 1
[15] Ibid
[16] Ibid
[17] Kashambuzi, Reuben. "A matter of Faith: The History of Petroleum Exploration in Uganda. 1984-2008." *Kampala Ugandans Impro Publications* (2011).

Petroleum exploration in Uganda dates back to the early 1920s, when oil seepages were first reported, but intensive exploration work commenced in the 1980s. Aeromagnetic data in 1983 confirmed the existence of sedimentary basins in the Albertine Graben. This was followed by the enactment of the Petroleum Exploration and Production Act in 1985. The Act led to the licensing of international companies to undertake seismic surveys and drilling. In the first five years of this century, there was increased licensing and exploration activity.[18]

In 2006, Uganda confirmed the existence of commercially viable oil deposits in the Albertine Graben, explored by Australia's Hardman Resources and UK's Tullow Oil. This set-in motion the scramble to explore and extract oil in Western Uganda. To date, the Albertine Graben is subdivided into exploration areas. Of these 10 exploration areas, the government of Uganda has licensed five, both onshore and offshore in and around Lake Albert, to oil exploration companies.[19]

According to the Ministry of Energy and Mineral Development (MEMD), 66 exploration and appraisal wells have been sunk, of which 59 were successful. It is estimated that 6.5 billion barrels of oil have been discovered, of which 1.5 to 2 billion barrels are recoverable.[20] It is postulated that Uganda's oil deposits will be the largest onshore discovery made in sub-Saharan Africa in at least 20 years. The Ugandan reserves are the fourth-largest in Africa following Libya, Nigeria, Angola and Algeria.[21]

Some of the largest oil fields are located in the Kaiso-Tonya area in Hoima District. This area has been selected to be the location of Uganda's only oil refinery.[22] The strategy is to build a

---

[18] Ibid
[19] Bainomugisha, Arthur, Hope Kivengyere, and Tusasirwe Benson. "Escaping the oil curse and making poverty history: a review of the oil and gas policy and legal framework for Uganda." (2010).
[20] Ogwang, Tom, Frank Vanclay, and Arjan van den Assem. "Impacts of the oil boom on the lives of people living in the Albertine Graben region of Uganda." *The Extractive Industries and Society* 5, no. 1 (2018): 98-103.
[21] Ibid
[22] Ibid

refinery that meets the petroleum products needs of Uganda and its regional neighbors and to export the rest of crude oil production via a pipeline to Kenya's Port of Lamu.[23] This has changed now as Uganda chose the Tanzanian route over Kenyan.[24]

In February 2015, the Uganda government picked Russia's Russia Technical Services Global (RT Global), to construct the Oil Refinery, the work was expected to begin in the Second half of May, 2015 but other projects in the area were in progress. From the time of its proposal, the crude oil refinery has been a contentious project. President Museveni initially insisted on refining all crude oil in-country to increase local value addition and end dependency on fuel imports.[25]

The president's views were bolstered by Foster Wheeler's feasibility study conducted in 2010–11, which claimed that a 150,000 bbl/day refinery would generate US$1 billion in profits annually through import substitution and export earnings.[26] These figures were disputed by the oil companies, which expected local demand to be insufficient to render the refinery profitable. The oil companies cited a similar situation in Kenya, where the refinery in Mombasa shut down due to lower efficiency than the large competitors in the Middle East and India, and other failed refinery projects across Africa.[27]

After lengthy negotiations, the government changed its view and agreed to a smaller refinery of 30,000 bbl/day (scalable to 60,000 bbl/day) to serve the domestic market. The Russian

[23] Ibid
[24] Ogwang, Tom, Frank Vanclay, and Arjan van den Assem. "Rent-seeking practices, local resource curse, and social conflict in Uganda's emerging oil economy." *Land* 8, no. 4 (2019): 53.
[25] Ibid
[26] Kinyera, Paddy, and Martin Doevenspeck. "Imagined futures, mobility and the making of oil conflicts in Uganda." *Journal of Eastern African Studies* 13, no. 3 (2019): 389-408.
[27] Aboda, Caroline, Paul Vedeld, Patrick Byakagaba, Frank Mugagga, Goretti Nabanoga, Tumwine Fredrick Ruguma, and Paul Mukwaya. "Socio-economic consequences of displacement and resettlement: a case on the planned oil-refinery-development project in the Albertine region of Uganda." *Journal of Refugee Studies* 34, no. 1 (2021): 851-873.

company (p.309) RT Global Resources was selected as lead investor for the refinery in early 2015. However, the deal fell through due to disagreement on the terms, and this led to another round of bidding. In early 2018 the GoU signed a new deal on the refinery with investors consisting of the Albertine Graben Refinery Consortium (led by US-based General Electric).[28] A final investment decision is yet to be taken, making the completion date an open question.

The refinery is estimated to have a cost of US$3–4 billion and is to be financed to 40 per cent by the GoU. The government's stake in the project is held by the Uganda Refinery Holding Company (which is a subsidiary of UNOC). The refinery, as well as the planned airport, will be hosted in the Hoima Oil and Gas Industrial Park.[29] A major bone of contention at the moment is the resettlement of more than 20,000 people in the area that has been earmarked for the refinery, complicated by the lack of formal land ownership titles among Ugandan residents.

The President recently noted how the refinery in Uganda will boost the region's refining capacity and ensure the security of supply of petroleum products especially for the landlocked Partner States such as Rwanda and Burundi. Besides being a strategic investment for the country and the region, developing a refinery in the country will improve Uganda's balance of payments by reducing the petroleum products import bill.[30]

The Project will also contribute to economic gains for Ugandans as the construction of the refinery alone is estimated to create 4,000 to 6,000 temporary jobs. Once complete, ongoing refinery operations are expected to create more than 650 permanent jobs. The development of attendant industries such as the petrochemical and manufacturing industries will also create

[28] Ibid
[29] Etukuri Charles, 'Oil Refinery Project Affected Persons' Case Resumes' (*New Vision*, 2018) <https://www.newvision.co.ug/news/1534717/oil-refinery-project-affected-persons-case-resumes> accessed 18 February 2022.
[30] Supra Note 23

jobs for Ugandans and ensure the transfer of technology in the refining and associated industries.[31]

For the oil companies, the construction of a crude oil export pipeline was non-negotiable; it was viewed as the only commercially viable and reliable path to bringing Ugandan oil to the international market. In late 2013, the government accepted the oil companies' demands for a pipeline, but the choice of route quickly became a geostrategic issue.[32]

A deal between Uganda and Tanzania for the East African Crude Oil Pipeline (EACOP) was reached in 2016, after an informal agreement with the Kenyan government was voided. The 1,445 km pipeline will be the longest heated pipeline in the world. In addition to the route being more cost effective thanks to numerous concessions by the Tanzanian government, issues of land acquisition, resettlement, and security played a role in swaying the GoU to decide against Kenya.[33]

President Museveni was also said to have been wary of the Kenyan route due to Uganda's experience with price surges of fuel transiting through Kenya during the 2008 election period. The governments of Tanzania and Uganda are planning to finance 70 per cent of the project through international lenders, and 30 per cent through equity from the joint venture partners. At an expected cost of US$3.5 billion, it will transport a maximum of 216,000 barrels a day, at an expected price of US$12.2 per barrel.

---

[31] Olanya, David Ross. "Will Uganda succumb to the resource curse? Critical reflections." *The Extractive Industries and Society* 2, no. 1 (2015): 46-55.
[32] Barlow, Aidan. "The politics of the temporary: Tanzanian local content in the East African crude oil pipeline." *The Extractive Industries and Society* 7, no. 2 (2020): 738-747.
[33] Ibid

1.3 Statement of the Problem

Objective 4 of the National Oil and Gas Policy (2008) for Uganda is to promote valuable utilisation of the country's oil and gas resources through in-country refining of crude oil.[34] While there are various ways in which this can be achieved, Uganda has focused on developing a refinery and pipeline as its two primary projects in the midstream sector of the oil industry. The East African Pipeline and the Uganda Refinery Project are finally getting into their last stages of development and the country is looking forward to commence their execution.

The proponents of the pipeline have claimed that EACOP will create short term employment for highly skilled and semi-skilled professionals, as well as casual laborers over a period of 2 to 3 years. It is estimated that 10,000 jobs would be created during the construction phase, boosting the income of the households along the pipeline. However, as witnessed in Uganda, Tanzania as well as other East African countries, very few jobs are usually allocated to the local community, thus leaving them even more vulnerable and disenfranchised. [35]

On the other hand, the projects will result in the physical displacement of local communities from their ancestral and communal land. It is anticipated that EACOP will directly affect approximately 14,000 households in Tanzania and Uganda leading to loss of income and livelihoods. The pipeline risks polluting water resources of which over 40 million people in nine countries depend on; an unacceptable human rights violation. Beyond ruining people's lives, the pipeline will tear through some of the world's most significant habitats, home to

[34] National Oil and Gas Policy (2008)
[35] Ibid

endangered species including African elephants, chimpanzees and lions, pushing them ever closer to extinction.[36]

1.4 Aims and Objectives

1.4.1 General Objective

To assess the economic viability of primary midstream oil projects such as EACOP and the Uganda Refinery.

1.4.2 Specific Objective

a) To assess the strengths, weaknesses, opportunities and threats presented by the midstream oil and gas projects for Uganda.
b) To evaluate the efficacy of Uganda's legislative framework in creating an enabling environment for the profitability of the EACOP and Uganda Refinery projects.
c) To investigate the role of the EACOP and Refinery projects in building domestic capacity and increasing employment opportunities.
d) To make recommendations on how to achieve economic feasibility for midstream projects in Uganda.

1.5 Research Questions

a) What are the strengths, weaknesses, opportunities and threats presented by the oil and gas projects for Uganda?
b) How effective is Uganda's legislative framework in creating an enabling environment for the profitability of the EACOP and Uganda Refinery projects?

---

[36] Ogwang, Tom, and Frank Vanclay. "Cut-off and forgotten? Livelihood disruption, social impacts and food insecurity arising from the East African Crude Oil Pipeline." *Energy Research & Social Science* 74 (2021): 101970.

c) What is the role of the EACOP and Refinery projects in building domestic capacity and increasing employment opportunities?
d) What recommendations can aid the achievement of economic feasibility for midstream projects in Uganda?

1.6 Scope of the Study

1.6.1 Geographical Scope

This study was based on the countrywide impact of the economic viability of midstream projects like the EACOP and the Uganda Refinery Project. It was however carried out in Kampala because the major representatives of the involved bodies are based in there.

1.6.2 Time Scope

The research focused on both the past and the future in order to make an informed conclusion on the economic viability of the midstream oil projects. It analysed data from 2015 to date when feasibility studies were carried out for both the Uganda Refinery Project and EACOP. It will also look at how these projects will remain viable in the coming years.

1.6.3 Conceptual Scope

This research focused on the knowledge relating to the economic viability of oil and gas projects in developing countries especially in the midstream sector.

1.7 Significance of the Study

Uganda is set to finance 70% of both the EACOP and the Uganda Refinery Project which accounts for about 4.2 billion dollars. This is a substantial risk that the country is taking and therefore ensuring the economic viability of these projects is paramount. While various economic feasibility studies have been undertaken, few have taken into account factors such as

our legislative framework, Uganda financial practices and the expected delays in production. This study intended to make a wholesome analysis of the midstream projects.

1.8 Justification of the Study

Much of the Ugandan citizenry has been swept up in the excitement of Final Investment Decision (FID) and has forgotten to ask the most vital question, is the investment in midstream oil projects like EACOP and URP economically viable for a developing country like Uganda. Are we not taking on too much before we get the hang of managing the industry? Uganda has barely produced any oil, but the government has already signed investment deals to construct the pipeline and the refinery. Given that we are investing heavily in both projects, shouldn't we carry out an extensive economic feasibility study. This study went on to ascertain the economic viability of the earlier named projects by assessing their strength, weaknesses, opportunities and threats.

1.9 Theoretical Framework

In this study, both the stakeholder theory and institutional theory were applied. Stakeholder is a person, group or organization that has interest or concern in an organization, whereby stakeholders can affect or be affected by the organization's actions, objectives and policies. Some examples of key stakeholders are creditors, directors, employees, government (and its agencies), owners (shareholders), suppliers, unions, and the community.[37]

Regarding background of stakeholder theory, it was embedded in the management discipline in 1970s and gradually developed by Freeman (1984) incorporating corporate accountability to a broad range of stakeholders. Stakeholder theory is a less formal unified theory and more

[37] Parmar, Bidhan L., R. Edward Freeman, Jeffrey S. Harrison, Andrew C. Wicks, Lauren Purnell, and Simone De Colle. "Stakeholder theory: The state of the art." *Academy of Management Annals* 4, no. 1 (2010): 403-445.

of a broad research tradition incorporating philosophy, ethics, political theory, economics, law and organisational science.[38]

Stakeholders of a firm can be defined as individuals and constituencies that contribute, either voluntarily and involuntarily to its wealth-creating capacity and activities and who are therefore its potential beneficiaries and or risk bearers. Stakeholder theory attempts to address the group of stakeholders deserving and requiring management's attention. The firm is a system where there are stakeholders and the purpose of the organisation is to create wealth for its stakeholders.[39]

Stakeholder theorists have tended to devote relatively little attention on defending stakeholder rights, while issues of governance and corporate law have received insufficient attention among advocates of radical departure from the shareholder focused conception and failure of stakeholder theory being viable over time, failing to demonstrate its ability both to achieve the multiple objectives of the different parties and to distribute the value created in ways that maintain their commitment.[40] It is important to note that stakeholders can make or break a project/corporation or programme. It can be tough to pin them down or describe the depth of the project with them, creating a stakeholder management plan can help them informed.

Institutions are 'social structures which have attained a high degree of resilience'. The institutional theory can be decomposed into three core thematic areas: the cultural cognitive, normative and the regulative.[41] These three core thematic areas work in tandem and when combined with appropriate activities and resources, bring about stability and meaning to social life. Institutions operate at various degrees of power, ranging from the 'world system to

[38] Ibid
[39] Ibid
[40] Ibid
[41] Suddaby, Roy. "Challenges for institutional theory." *Journal of management inquiry* 19, no. 1 (2010): 14-20.

localized interpersonal relationships' and are affected by both periodic and constant change they entail stability.[42] This implies that institutions have the inherent capacity to control and restrain behaviour thus being able to shape actions.

[44] Ibid

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review which is guided by the specific objectives that are aimed at allowing the conducting a chronological review of the existing literature by the researcher. The chapter therefore brings forth the previous literature related to the study.

2.2 External and Internal Analysis of Midstream Projects

With an increasing number of African countries having discovered commercially viable quantities of oil and gas in recent years, including, for example, Kenya, Chad, Ghana and Uganda, there is both excitement and trepidation about the prospects for increased incomes and investments, economic growth and development on the continent.[43] This is due to comparative historical evidence of the link between natural resource exploitation, economic growth and development on the one hand and natural resource exploitation, economic decline and socio-political crises on the other hand. Indeed, a substantial body of empirical studies has shown that many countries 'blessed' with natural resources have paradoxically faced economic decline and severe socio-political crises.[44]

The observation that countries rich in oil, gas or other minerals often end up facing serious economic, social and political challenges rather than economic progress and political stability has led some scholars to claim that these countries experienced a so-called 'resource curse'. More specifically, the Natural Resource Governance Institute (NRGI) refers to the resource

[43] Langer, Arnim, Ukoha Ukiwo, and Pamela Mbabazi. Oil Wealth and Development in Uganda and Beyond: Prospects, Opportunities, and Challenges. Leuven University Press, 2019.
[44] Ibid

curse as 'the failure of many resource-rich countries to benefit fully from their natural resource wealth, and for governments in these countries to respond effectively to public welfare needs.[45]

It is noteworthy that many developing countries seem to be plagued by the resource curse. As noted by Arthur (2014) in this respect mentions that there is increasing evidence that extractive natural resources have not helped developing countries, especially those in Africa, to achieve prosperity and their desired socioeconomic ends'. In Africa, Nigeria and D.R. Congo are often seen as prominent examples of countries where the resource curse has manifested itself.[46]

To illustrate this point, Sala-i-Martin and Subramanian (2012) posit that despite earning more than US$ 350 billion in cumulative oil revenues between 1965 and 2000, Nigeria's GDP per capita did not improve over this period. Instead, the country has been plagued by endemic corruption, institutional failure and violent conflicts.[47]

A range of economic, social and political problems and challenges have been associated with the extraction and exploitation of natural resources. In terms of political challenges, Michael Ross, one of the leading scholars on the politics of resource-rich countries and the causes and consequences of the resource curse, asserts that there is strong evidence that one type of resource wealth, petroleum, has at least three important effects: It tends to make authoritarian regimes more durable; it leads to heightened corruption; and it helps trigger violent conflict in low- and middle-income countries, particularly when it is located in the territory of marginalized ethnic groups.[48]

---

[45] Reader, N. R. G. I. "The resource curse: The political and economic challenges of natural resource wealth." *Natural Resource Governance Institute* (2015).
[46] Arthur, Peter. "Governance of natural resource management in Africa: contemporary perspectives." In *Managing Africa's Natural Resources*, pp. 39-65. Palgrave Macmillan, London, 2014.
[47] Sala-i-Martin, Xavier, and Arvind Subramanian. "Addressing the natural resource curse: An illustration from Nigeria." *Journal of African Economies* 22, no. 4 (2013): 570-615.
[48] Supra Note 1

The possible ruinous impact of natural resource wealth on a country's political institutions and the state of democracy is often linked to the issue of taxation. In particular, as noted by the Natural Resource Governance Institute (NRGI) that governments are more responsive to their citizens and are more likely to transition to democracy when government spending is reliant on citizen taxation.[49] When countries collect large revenues from natural resources, they are less dependent on levying taxes on citizens, and thus citizens feel less invested in the national budget. Politicians and government officials are also less directly tied to citizen requests or demands.

With respect to the apparent empirical association between natural resource wealth and violent conflict risk, myriad plausible mechanisms have been proposed to explain this relationship. More specifically, Humphreys (2005) argues that there are 'at least six rival families of mechanisms that could explain the relationship between natural resources and war onset'. These are; the greedy rebels' mechanism, the greedy outsider's mechanism, the grievance mechanism, the feasibility mechanism, the weak states mechanism, and the sparse networks mechanism.[50] Importantly, empirical support seems to be stronger 'for the weak state structures and grievance than for the booty futures or state capture.

While in the last two decades a large amount of research has focused on the relationship between natural resource wealth and its associated political consequences, or the so-called 'political resource curse'. The original resource curse hypothesis was mainly concerned with possible negative economic consequences associated with an abundance of natural resources.[51] Indeed, the British economic geographer Richard Auty, who introduced the resource-curse

---

[49] Supra Note 3

[50] Humphreys, Macartan. "Natural resources, conflict, and conflict resolution: Uncovering the mechanisms." *Journal of conflict resolution* 49, no. 4 (2005): 508-537.

[51] Tadjoeddin, Mohammad Zulfan. "Conflict, natural resources and development." In *Elgar Handbook of Civil War and Fragile States*. Edward Elgar Publishing, 2012.

concept in 1993, was predominantly concerned with the adverse effects of an abundance of natural resources on a country's economic growth.[52]

There are essentially three channels through which natural resource abundance can lead to lower economic grow. First, 'natural resources generate rents which lead to rapacious rent seeking (the voracity effect), whose adverse manifestation is felt through political economy effects and through increased corruption which adversely affects long-run growth'. Second, resource-rich countries are vulnerable to volatility in international commodity prices and ipso facto resource revenue volatility, with potentially adverse implications for economic growth.[53]

With regard to the volatility in resource revenues, the Natural Resource Governance Institute (NRGI) further observes that it is very difficult to effectively spend fluctuating and unpredictable revenues. Governments often get trapped in boom-bust cycles where they spend on legacy projects, such as airports and monuments, when revenues are rising and then must make painful cuts when revenues decline. Resource-rich governments have a tendency to over-spend on government salaries, inefficient fuel subsidies and large monuments and to underspend on health, education and other social services.

Third, countries with an abundance of natural resources also appear to be more susceptible to the adverse effects of the 'Dutch disease'. Tadjoeddin (2012) explains that the Dutch disease refers to the economic disruption in the form of de-industrialization or de-agriculturalization (in accordance with what is the tradable sector in the economy) originating from the large inflow of foreign currencies from natural resource exports.[54] Similarly, Di John (2011) notes that the Dutch disease is a situation in which the export of natural resources leads to an

[52] Auty, Richard. Sustaining development in mineral economies: the resource curse thesis. Routledge, 2002.
[53] Supra Note 5
[54] Supra Note 9

appreciation of the exchange rate, which in turn 'leads to a decline in the competitiveness, and hence production and employment, of the traded goods sector'.[55]

Given the potentially disastrous political, social and/or economic problems and challenges facing resource-rich countries, it is understandable that the discovery of large quantities of mineral resources, especially in developing countries, has provoked a mixed reception from policy makers, civil society organisations and the general population. There are four important points to be made in this regard, however.

First, it is worth emphasising that the resource curse is absolutely not inevitable. Indeed, there are a range of resource-rich countries, including, for example, Botswana, Canada and Norway, that have been able to prevent the resource curse from taking hold by introducing sound policies and developing an effective and transparent resource governance regime. Moreover, resource-rich countries with effective institutions and sound resource governance regimes, with Norway arguably being the benchmark in this regard, can enormously benefit from their resource wealth.[56]

Second, in recent years scholars and policy makers have increasingly started using the term 'governance curse' instead of 'resource curse'. This is a welcome change in terminology because 'governance curse' more accurately identifies governance failures and not resources per se to be the cause of the negative social, political and economic consequences often associated with the extraction of natural resources, such as oil, gas and other minerals.

Third, it is also important to note that countries that have recently discovered commercially viable quantities of oil, gas or other mineral resources, and hence are facing the herculean task

---

[55] Di John, Jonathan. "Is There Really a Resource Curse-A Critical Survey of Theory and Evidence." *Global Governance* 17 (2011): 167.
[56] Supra Note 1

of developing a country-specific resource governance regime, do not have to reinvent the wheel completely in this regard. Indeed, in the last two decades an enormous amount of research and scholarship has been devoted to understanding the potential impact and governance challenges associated with the extraction and export of natural resources.

In addition, a huge amount of knowledge is currently available globally to help emerging oil- or gas-producing countries in their efforts to develop an effective and suitable resource governance regime. There is widespread recognition in this respect that resource-rich countries can learn from each other in terms of how best to manage their mineral resources and revenues. Unsurprisingly, given Norway's successful track-record in transforming its oil wealth into economic development and prosperity, several emerging and prospective oil-exporting countries in Africa, including Uganda, have looked towards Norway for guidance and technical assistance in the development of their oil governance regimes.[57]

The recognition that resource-rich countries are facing similar challenges and hence can learn from each other's governance approaches also partly explains why the comparative analysis of policy choices and pathways of resource-rich countries has continued to attract a lot of scholarship in recent times.[58] Fourth, it is also worth emphasising that the quality of a country's resource governance should not be seen in binary terms, thus good versus bad governance. Instead, there is a lot of variation over time within countries meaning that governance regimes are not fixed and can thus be strengthened or can become less effective over time and between countries.

[57] Polus, Andrzej, and Wojciech J. Tycholiz. "The norwegian model of oil extraction and revenues management in uganda." *African Studies Review* 60, no. 3 (2017): 181-201.
[58] Supra Note 1

2.3 Efficacy of a Legislative and Institutional Framework to enable Economic Feasibility

There is no doubt that historically natural resources have had a decisive and positive role in supporting countries to attain economic growth.[59] Countries that have had sustainable growth because of natural resources include Australia, Canada, the United States, New Zealand, Norway, Denmark and Finland.[60] There are also examples to indicate that the presence of natural resources is not by itself a conclusive basis for attaining economic growth and eradicating poverty.[61]

Several empirical studies seeking to explain the absence of economic growth and development in some resource-rich countries have shown the high probability of the resource curse phenomenon in such resource-rich countries from the onset.[62] The resource curse refers to the context where expected dividends of development do not follow the export of natural resources but ironically stimulate trends that stall development.

One of the noticeable signs of the resource curse is the 'Dutch disease'. This occurs when economic resources are moved from the productive sector, such as agriculture and manufacturing, known for stimulating economic growth, to a newly booming sector of an economy, especially in the natural resource field.[63] This often results in neglecting the productive sectors of the economy due to increasing dependence on revenues from the extractive sector.

---

[59] Karabegović, Amela. *Institutions, economic growth, and the" curse" of natural resources*. Fraser Institute, 2009. website: https://www.fraserinstitute. org/sites/default/files/Curseof NaturalResources2009.pdf
[60] Ibid
[61] Ross, Michael L. "What have we learned about the resource curse?." *Annual review of political science* 18 (2015): 239-259.
[62] Ibid
[63] Sachs, Jeffrey D., and Andrew M. Warner. "The curse of natural resources." *European economic review* 45, no. 4-6 (2001): 827-838.

A major consequence of the disease is the appreciation of a country's currency relative to other currencies, which is often due to the windfall in government revenues from the booming extractive sector of the economy.[64] The problem is usually manageable as long as prices of the natural resources remain stable and revenue flows are uninterrupted. However, the volatility of global market prices of natural resources, especially oil and gas, creates conditions for the manifestation of the curse phenomenon.[65] This is because of the balance of payments issues that arise from dependence on commodities experiencing glut and price slump.

Consequently, Frankel (2010) conducted an econometric analysis and concluded that possession of abundant natural resources does not necessarily lead to the resource curse syndrome, but rather factors such as commodity price volatility, the Dutch disease, political and civil unrest and poor institutional quality set the stage for a resource curse.[66] Karl (2005) emphasises that the resource curse problem is more political than economic.[67] Barma, Kaiser and Vinuela (2012) have also shown that the poor governance indicators in most resource-rich developing countries are an attestation that the resource curse phenomenon has an institutional dimension.[68]

Anthonsen, Löfgren and Nilsson (2009) submit that the quality of institutions is the independent variable that explains the consequence of resources in the economy.[69] This is a marked departure from the previous perspectives that regarded the quality of institutions as the

---

[64] Supra Note 52
[65] Supra Note 54
[66] Mbabazi, Pamela, and Martin Muhangi. "Uganda's Oil Governance Institutions: Fit for Purpose." *Oil wealth and development in Uganda: prospects, opportunities and challenges* (2017).
[67] Sanfo, Jean-Baptiste MB. "Connecting family, school, gold mining community and primary school students' reading achievements in Burkina Faso–A three-level hierarchical linear model analysis." *International Journal of Educational Development* 84 (2021): 102442.
[68] Barma, Naazneen H., Kai Kaiser, Tuan Minh Le, and Lorena Vinuela. "Rents to riches? The political economy of natural resource-led development. Washington, dc: World Bank." (2012).
[69] Anthonsen, Mette, Åsa Löfgren, and Klas Nilsson. "Natural Resource Dependency and Quality of Government." (2009).

intermediate or intervening variable. Institutions have been defined as the constraints devised by humans that structure political, economic and social interaction such as constitutions, laws and property rights.[70]

Much historical evidence suggests that the quality of institutions or governance is more instrumental in cultivating economic growth than the availability of resources per se.[71] Considerable research has been undertaken to determine how countries richly endowed with natural resources such as oil and gas are building and using the quality of institutions to attain good governance and optimum benefits from the resources.[72] This is focused on determining how political and economic actions taken by governments typified by the quality of decisions made, policies and regulatory models selected, and institutional frameworks adopted, affect the management of the resources.

Several scholars have rightly argued that the quality of institutions determines whether natural resources would be a blessing or curse to a given country.[73] The most appropriate illustration of the impact of the quality of institutions is the two neighbouring Southern African states of Botswana and Angola. At independence in 1966, Botswana had 12 kilometres of paved roads and two secondary schools; but with the discovery of diamonds, the country was catapulted into a middle-income country with growth hovering at about 16 per cent in the 1970s and 1980s, and revenue to GDP ratio climbing as high as 60 per cent by the year 2010.[74] The 2016

---

[70] North, Douglass C. "Economic performance through time." *The American economic review* 84, no. 3 (1994): 359-368.
[71] Schubert, Samuel R. "Revisiting the oil curse: are oil rich nations really doomed to autocracy and inequality?." (2006): 1-16.
[72] Mbabazi, Pamela K. "The oil industry in Uganda: A blessing in disguise or an all too familiar curse." *Claude Ake Memorial Lecture* (2013).
[73] Kaznacheev, Peter. "Curse or blessing? How institutions determine success in resource-rich economies." *How Institutions Determine Success in Resource-Rich Economies (January 11, 2017). Cato Institute Policy Analysis* 808 (2017).
[74] Hammond, John L. "The resource curse and oil revenues in Angola and Venezuela." *Science & society* 75, no. 3 (2011): 348-378.

Human Development Index (HDI) graded the country at a score of 0.698 (ranked as 106 out of 188 participating countries) and it is categorised as a medium human development4 country.[75]

On the other hand, Angola is more often presented as the graphic example of a developing country richly endowed with natural resources but experiencing armed conflict and poor performance in economic and social development.[76] Though the oil and gas sector contribute 45 per cent of its GDP, the country has experienced rising poverty levels and political instability. It is designated as a low human development country with a score of 0.532 and ranked at 150 out of the 188 countries surveyed.[77]

It is important to note, therefore, that there is a correlation between strong and efficient institutions with better oil and gas management systems. This has been shown in case studies documenting the experience of Norway and Botswana.[78] The question to be settled, however, is how the Ugandan model will work to achieve the successes evidenced in the Norwegian and Botswanan models.

Although indications of the availability of oil can be traced to the 1920s, exploration for the resource in Uganda was not taken very seriously until the early 1980s. The colonial government did not believe that oil was available in sufficient quantities to justify its exploitation.[79] Post-colonial governments took a similar view until a survey 'indicated a possibility of the existence of hydrocarbons in the Albertine area in the north-western part of the country'.[80] From the

[75] Supra Note 34
[76] Hodges, T., 2004. The role of resource management in building sustainable peace. *Accord: An International Review of Peace Initiatives*, (15), pp.48-53.
[77] Supra Note 34
[78] Mehlum, H., K. Moene, and R. Torvik. "Institutions and the paradox of the plenty." *Econ. J* 116 (2006): 1-20.
[79] Okuku, Juma Anthony. "Politics, the State and Limits of Oil-led Development in Uganda." In Makerere Institute of Social Research (MISR) Seminar, Kampala. Retrieved from: https://misr. mak. ac. ug/sites/default/files/events/UGANDA% 20OIL-LED, vol. 20. 2015.
[80] Ibid

1990s onwards, more serious efforts were devoted to exploration in the area. However, no petroleum exploration or production took off in Uganda until 2000.[81]

It is therefore not surprising that Uganda lacked a comprehensive legal framework to regulate her oil sector. The law applicable to the management of all activities in Uganda's oil and gas sector was the Petroleum (Exploration and Production) Act, No. 20 of 1985.[82] The law covered exploration, discovery and production; the obligations of licensees, and the registration,transfer and cancellation of licences; restrictions and surface rights, and financial matters. However, given that no oil had yet been discovered in exploitable quantities, that legislation was barely used. The primary source of regulation of the Ugandan oil sector is the 1995 Constitution of Uganda, which inter alia requires the Government to ensure that resources areused for the benefit of all Ugandans.[83]

Article 244(2) of the Constitution further mandates the Parliament of Uganda to make laws regulating the exploitation of petroleum and minerals, and the sharing of royalties arising from petroleum exploitation and other related activities. As a result, Uganda currently has a number of laws, policies and regulations in place to govern the oil and gas sector. Some of these include the National Oil and Gas Policy (NOGP), 2008, the Oil and Gas Revenue Management Policy (OGRMP), 2012, the Petroleum (Exploration, Development and Production) Act, 2013 (the 'Upstream Act'); the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013 (the 'Midstream Act'); and the Public Finance Management Act (PFMA) of 2015.[84]

---

[81] Bainomugisha, Arthur, Hope Kivengyere, and Tusasirwe Benson. "Escaping the oil curse and making poverty history: a review of the oil and gas policy and legal framework for Uganda." (2010).
[82] Since repealed by the Petroleum (Exploration, Development and Production) Act 2013
[83] ObjectiveXIII of the National Objectives and Directive Principles of State Policy, and Article 244(1) of the 1995 Constitution of Uganda.
[84] Oloka-Onyango, J. "Courting the Oil Curse or Playing by the Rules? An Analysis of the Legal and Regulatory Framework Governing Oil in Uganda." *An Analysis of the Legal and Regulatory Framework Governing Oil in Uganda (June 6, 2020)* (2020).

Looking on the bright side of things, the legal regime in Uganda appears to be determined to avoid the debt trap associated with oil-producing states in Africa in which the future is mortgaged on the basis of oil, a finite resource. It is often the case that rents accruing from oil booms create a tendency of governments to inflate expenditure, especially in sectors that do not have a sustainable and positive impact on development.[85]

When the unreliability of oil revenues causes discrepancies between projected and realised revenues, governments often resort to heavy borrowing on the basis of oil, thereby endangering their economies and future generations.[86] Oil-backed loans, for example, are endangering Angola's future. As of March 2016, its oil-backed debts were estimated to total US$ 25 billion. The result, as is often the case, is that more and more of Angola's crude oil flows to its creditors to offset the debts, leaving less of it available as 'profit' for the state.[87]

2.4 Role of Oil and Gas Projects in Building Economic Capacity

Uganda's economy is largely dependent on its agricultural sector, which currently employs over 80% of the working population. Its major exports are coffee, tobacco and cotton, while most farming products, such as maize, are consumed locally. Although more needs to be done to ensure lasting economic prosperity and to reach its Millennium Development Goals

[85] Ibid
[86] Gary, Ian, and Terry Lynn Karl. *Bottom of the barrel: Africa's oil boom and the poor*. Catholic Relief Services, 2003.
[87] George, L. "Growing Chinese debt leaves Angola with little spare oil." *Reuters* (2016).

(MDGs), Uganda has achieved some significant developmental successes. The proportion of the country's population living in poverty decreased from 57% in 1992 to 31% in 2006.[88]

Furthermore, between 1990 and 2007 the country's Human Development Index rose by 1.59% annually, from 0.392 to 0.514 today,[89] indicating a marked improvement in the nation's overall social well-being. The recent discovery of oil in the Bunyoro region is fortuitous, and presents an opportunity both to accelerate growth and to improve social outcomes in a single leap. However, the concerns of conflict and repression remain, and tribal and ethnic tensions are already emerging over how future benefits from the discovery will be allocated. Uganda's development challenge is to reap the oil dividend in a manner that promotes peaceful and equitable outcomes.

A sudden glut of liquidity that arises from a surge in oil revenues is prone to mismanagement, and examples abound of the resource curse, or how an abundance of natural resources can undermine development. However, the resource curse is not inevitable. On the contrary, the role played by institutions can determine whether a resource-rich country experiences a 'blessing' or a 'curse'.[90]

Resource wealth, in and of itself, has little effect on growth, which is to say that simply having an abundance of resources tucked beneath its soil will make a country neither better nor worse off – as one might easily predict. Rather, the curse operates indirectly through corruption and poor-quality institutions, creating the reinforcing cycle whereby weak institutions lead to low

[88] World Bank, Country Assistance Strategy for the Republic of Uganda for The Period FY 2011– 2015, 2010, http://siteresources.worldbank.org/UGANDAEXTN/Resources/Uganda_CAS.pdf?resourceurlname=Uganda_CAS.pdf

[89] United Nations Development Programme, 'Uganda, the human development index – going beyond income', in Human Development Report 2009, http:// hdr.undp.org/en/reports/

[90] Brunnschweiler C & E Bulte, 'The resource curse revisited and revised: A tale of paradoxes and red herrings', Journal of Environmental Economics and Management, 55, 3, 2008a, pp. 248–264.

long-term investment, such as in human capital,[91] which in turn creates greater resource dependence and further weakens institutions. Therefore, in essence, the curse is a test of how well a country is able to govern its resources and the rents or proceeds which flow from them.

There is an expectation that ordinary Ugandans would benefit from the discoveries of large amounts of oil in the form of improvements in their livelihoods as well as in quality of life. According to Aryeetey and Asmah (2011) the newly discovered natural resources and the associated windfalls are expected to be used to deliver substantial social, economic and infrastructure improvements in the country.[92]

Oil production will generate significant additional revenues for Uganda. However, the emergence of a natural resource windfall is usually accompanied by several challenges. These challenges are mainly of a macroeconomic, budgetary and governance nature. The impact of these additional revenues on Uganda's competitiveness and economic transformation will critically depend on the prudent management of these oil resources.[93] On the basis of the above analysis, we can formulate a number of policy recommendations which could contribute to this goal.

First, on the basis of the estimated production profile, the best strategy is to smooth production to spread the revenue over time. A sequenced development of oilfields will facilitate a smooth distribution of the resources over a longer period of time. This policy would also help in mitigating the impact of price volatility by enabling the smoothing of price shocks over time. Production should be focused on the first third of the production lifecycle contingent on prices.

---

[91] Bravo-Ortega C & J de Gregorio, 'The relative richness of the poor? Natural resources, human capital, and economic growth', World Bank Policy Research Working Paper, 3484. Washington, DC: World Bank, 2005.
[92] Roos, Louise, Philip Adams, and Jan van Heerden. "The economic impacts of a newly discovered oil in Uganda, using a recursive dynamic CGE model." (2013).
[93] Supra Note 75

Ideally the highest production should be achieved when prices are the highest and have a very high impact on the overall economics.[94]

Second, intergovernmental fiscal transfers may promote equity, but may also undermine efforts to mobilise resources at the local level. As such, political commitment to fiscal rules is imperative. The fiscal rules should emphasise counter-cyclicality, should ensure a sustainable debt path and should be consistent with the medium-term expenditure objectives.[95]

Third, there is a strong case for the Ugandan Government to commit to making realistic and relatively conservative projections of future oil prices in order to mitigate unaffordable expenditure commitments in the event of oil revenues falling short of the forecasted levels. Related to this, the streamlining of the collection of oil revenues is key to ensuring transparency and accountability. In particular, the petroleum fund should support fiscal policy and a policy of inter-generational equity. As such, the fund should be separated from the reserve bank's exchange reserves.[96]

Fourth, more information needs to be generated on the refinery before it is actually built. The refinery would benefit from more research on the cost of transporting refined oil to the region, market structure, regional demand for oil and the price of oil. Furthermore, there is scope for sharing information on the value and future prospects of natural resources to ensure that all parties are equally well informed.[97]

Fifth, frontloading investment has a positive impact on public capital through the productivity channel. Transfer to household has a positive impact on welfare through the spending channel. However, both of these polices may have a Dutch disease effect. Gradual investment has a

---

[94] Ibid
[95] Ibid
[96] Ibid
[97] Ibid

positive impact on public investment, but the impact is delayed. Moreover, importantly, the Government should build the institutional capacity to resist pressure to increase the annual allocations above the level budgeted.[98] Any amendments should be orderly and fully justified. In this case, parliamentary oversight and involvement of the civil society will be imperative.

2.5 Conclusion and Identified Gaps

This chapter drew attention to the existing gaps in the analysis of economic viability of midstream oil and gas projects. The literature showed cases the wide reach of the term economic and how it should be viewed when carrying out assessment of oil projects. The literature drew attention at how the feasibility study for the East African Pipeline and The Uganda Refinery Project solely focused on the financial gains from the two projects and not the overall impact the projects would have on the economic. As such this paper aims to fill this gap by executing and all-encompassing study on the economic viability of the midstream projects. The research will focus on the benefits and challenges that the projects will endure and if they are worthy of being an economic endeavour.

A review of the literature shows that there are numerous works on the internal and external analysis of midstream projects in the oil and gas industry. However, form most of the Authors considered above, this analysis was carried out in the view point of the companies undertaking these projects. For most of the projects considered in the work, service contracts were used meaning that the companies were given full access to transport and refine oil products and the government charge them fee in return. This indicates that economic viability of the project solely lies on the Pipeline Company or Refinery Company and not the host government.

[98] Ibid

Herein lies the challenge because Uganda has the majority stake in both the Uganda Refinery Project and EACOP. This means that the mode of determining the economic viability of these projects shifts. This shift in methodology is meant to encompass certain factors like individual economic benefits, socio economic benefits and the trickle-down effects of the projects. It is this gap that the research seeks to fill. How is economic viability of midstream projects determined in the cases where the country and its citizens are primary stakeholders.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This highlights the methods and procedures followed by the researcher while conducting the study. In its structure, this chapter embraced an analogical research onion. Notably, this onion that was developed by Saunders in 2007 describes the various stages that researchers should follow in the process of establishing an effective methodology for the study.[99]

The onion's first section is concerned with the research approach and philosophy used in the chosen topic of study. In its second section, the onion gives a justification for the methods used in the research, and further highlights the strategies used in implementing the chosen methods. Following this part is the third section that focuses on data collection and analysis. In the last section, the research onion highlights the limitations that the researcher may encounter. As reflected in the figure below, chapter three of this study logically follows the layers of the onion by beginning with the outer layers before proceeding to the inner ones.

3.2 Research Approach

This research adopted a research onion philosophy. The research onion was developed by Saunders.[100] It illustrated the stages that must be covered when developing a research strategy. When viewed from the outside, each layer of the onion describes a more detailed stage of the research process. The research onion provided an effective progression through which a

---

[99]. Rojon, Céline, and Mark NK Saunders. "Formulating a convincing rationale for a research study." *Coaching: An International Journal of Theory, Research and Practice* 5, no. 1 (2012): 55-61.

[100] Ibid

research methodology can be designed. Its usefulness lies in its adaptability for almost any type of research methodology and can be used in a variety of contexts.

On a research onion, this is the outermost layer, whose main function is to shape the research design for the study of an individual. Saunders, Lewis, and Thornhill specify that there are two concepts to consider in relation to the research philosophy. These include epistemology and ontology.[101] Unlike ontology, which focuses on the nature of reality, epistemology looks at what is generally accepted. Bryman subdivides the philosophical layer into a classification of two other major segments, subjectivism, and objectivism.

Bryman emphasizes that a research methodology should embrace objectivism because this highlights the independence of existing social phenomena from social factors.[102] On the contrary, Sunders introduces two research approaches, including the inductive and deductive approaches. Most writers often prefer the deductive approach given its clear and logical linear sequence.[103] Preferably, such a research approach is also suitable for this study that will involve reviewing literature and developing a hypothetical proposition that shall be tested before analysing the collected data.

These procedures are typical of a deductive approach that incorporates the linear processes into research initiatives. It is worth noting that this approach integrates quantitative research, which is the method chosen for this study.

---

[101]. Ibid

[102]. Bryman, Alan. *Social research methods*. Oxford university press, 2016.

[103]. Supra Note 96

3.3 Research Design

This study made use of a mixed research design where interviews were undertaken targeting specific identified groups of people especially those with information and knowledge that is important to the success of this research and data analysis through published documents and literature that is relevant for the topic in question. Quantitative and qualitative methodologies complement each other and provide for a more thorough examination when utilized together.

The focus of the qualitative study was on establishing a clear inquiry approach for comprehending a complicated, comprehensive picture through the examination of words, reports, and specific perspectives of informants, all in a natural context. The researcher produces knowledge claims based on constructivist or advocacy/participatory (Mertens, 2003) viewpoints in this technique.

3.4 Sampling, Data Collection, and Analysis

This section focuses on how the researcher collected data and specified how analytical exploration was undertaken on the collected data. The section justified the type of data collection method that will be embraced by the researcher. Saunders explains that surveys tend to use several data collection methods. Notably, these may include; interviews, questionnaires, observations to mention a few. Although the researcher can use all these in a survey, the choice of a specific data collection method depends on various factors.[104] For this study, the researcher adopted an interview guide as the best data collection tool because for two major reasons; firstly, the targeted respondents and secondly the sources of data.

---

[104]. Todosioska, Angela. "The role of telecommunication companies in Internet of things." PhD diss., 2020. [Accessed 28th February, 2022]

3.4.1 Sample Size

The sample size was determined by the number of people with crucial information in line with the specific topic in question. The targeted population in the organizations identified was specific to senior officials responsible to the pertinent issues that are crucial to the success of the research. Sampling was used because these samples allow a higher confidence level when developing results. A sample size for 25 respondents was used for the study. These were from different institution and organizations that the researcher believes have valuable information about the economic viability of midstream oil and gas projects.

3.4.2 Sampling Procedure

Sampling is the process of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population. Purposive sampling as a sampling technique was applied and used in conducting this research. This was useful in exploratory qualitative research, and will be decisive in finding the solution in our research. It further involves identifying and selecting individuals that are experienced in a phenomenon in the research.

Purposive sampling procedure involves identifying and selecting respondents depending on their availability for study and accessibility. In this particular area of study most of the respondents are institutional heads, therefore, busy and are always on the move, therefore use of representatives of the group was prime in this research to get the required relevant information for development of the area in study.

3.5 Data Collection Tool and Methods

3.5.1 Interviews

In the interview method, an interview guide was used. This is a set of questions a researcher asks during the interview. Structured interviews were useful not only because they show excellent validity in analytical research, but also because they provide a chance to probe the answers of the respondent and understand precisely what they mean. Interviewing is a very useful approach for data collection because it allows the researcher to have control over the construction of the data and it has the flexibility to allow issues that emerge during the dialogue and discussion to be pursued. It is also done at the convenience of the respondent.

Interviews with officials in the Uganda Investment Authority (UIA), as well as other stakeholders and knowledgeable persons in economic viability of investments and especially in Oil and Gas. The interviews on the other hand will bring the theoretical framework of this research to life by giving it a realistic feeling of the Ugandan situation. The interviews will aid collecting data on the community understanding of midstream oil and gas projects.

3.5.2 Document Analysis

The desk literature reviews have been informative in respect to general principles on economic viability as a whole. The theories and recommendations of the various authors profoundly informed and directed data collection for the research.

Secondary data from materials such as publications and reports both local and international that are in pertinent relation with the topic in study was used to back up the primary informationand relate the findings to come up with a reasonable solution for the research in question. Theuse of documents was basically to ensure that the researcher gets views from other writers who

are instrumental in the area of research especially in comparison analysis and literature review. Though they are useful, conclusions cannot be based on these documents alone.

3.6 Data Sources

3.6.1 Primary Data

The primary data was obtained from the respective respondents that is the managers of home-grown business and application, the Government officials and legislators by use of interviews. This is for the purpose of acquiring first-hand information from the respondents.

3.6.2 Secondary Data

The secondary data was obtained from reports on the contribution of economic viability of midstream oil and gas projects in developing countries.

3.7 Quality/Error Control

In the process of designing an interview guide, the researcher took into account the reliability and validity as the two main key points of consideration. On one side, reliability focuses on consistency of the interview guide.[105] It looks at the ability of the designed data collection tool to generate the same results when used in different places and at different time intervals. Bryman specifies three important aspects that a reliable interview guide should have. Notably, these include inter-observer consistency, internal reliability, and stability.[106]

[105] Ibid

[106] Supra Note 97

3.8 Access and Ethical Issues

Throughout the study, the researcher will observe the required ethical considerations. Before going to the field to collect data, the researcher ensured that the supervisor had approved the interview guide. The supervisor issued an introduction letter to the researcher for identification while in the field. The researcher assured respondents that their information given on interview guides will be kept confidential and used for academic purposes only. Besides, the identity of respondents remained anonymous.

The researcher ensured that the respondents filled a consent form prior participating in the study. The researcher made it explicitly clear that the respondents are entirely free to withdraw their consent at any stage of the study. A declaration of no conflict of interest and potential biases was disclosed whenever and wherever these areas between the researcher and the research study.

3.9 Conclusion

Chapter three focused on philosophical justification, explains research methods, approach, and strategies. It also highlighted the method used in data collection, describes the significance of the study, forecasts the potential challenges to be faced, and displays a timeline to be followed when writing this proposal.

CHAPTER FOUR

RESULTS AND ANALYSIS

4.1 Introduction

This chapter examines the business environment of the midstream oil and gas projects in Uganda, namely, the EACOP and the Uganda Refinery Project. It discusses the perceived strengths and weaknesses of the projects as well as their threats and opportunities. The rationale was to set the stage for the analysis of the economic viability of these projects. The chapter, therefore, seeks to answer whether the business and regulatory environment is well situated to support the projects' feasibility.

The chapter also reviewed the legal infrastructure in place in Uganda that would ensure the economic viability of the Midstream projects in Uganda. The legal infrastructure includes policies and laws that have been enacted and how well they have been implemented that is intended to create an enabling environment for economic development.

While assessing the projects' economic viability, the researcher studies how these projects would affect the different facets of the economy of Uganda like revenue, industry development, local content development, tourism, and agriculture.

4.2 SWOT Analysis of Midstream Sector Business Environment

4.2.1 Perceived Strength for Midstream Oil Projects

Proximity between Projects

The proximity of the projects' locations is the first positive for Uganda's midstream industry. On the one hand, there will be the construction of a 60,000 barrel per day refinery in Kabaale, Buseruka Sub-County, Hoima District. EACOP, also runs from Kabaale District and extends all the way to the Chongoleani Peninsula near Tanga Port in Tanzania.[107] This is less than 100 kilometres between the EACOP and the Uganda Refinery Project. According to a 2011 feasibility study[108], location at Kabaale in Hoima near the oilfields was favorable because;

> *"Locating the refinery near to the oilfield development areas will enablesharing of infrastructure developments, social and recreational facilities, firefighting facilities, technical, warehousing, workshop, maintenance contracting facilities, power and utilities etc. with the oilfield developments. Thegrowth of an 'oil city' will encourage other industries to develop in the region."*

The ramifications of such proximity can only be seen as a benefit for Uganda. Uganda will not spend much on transportation while getting crude oil from the fields to the refinery for value addition. Reduced costs for security, maintenance, sharing of infrastructure developments and other costs result in greater financial gains for the nation.

---

[107] Oxford Analytica (2017), "Long road ahead for Uganda-Tanzania oil pipeline", *Expert Briefings*. https://doi.org/10.1108/OXAN-ES223641.

[108] Feasibility study conducted by Foster Wheeler Energy Limited to the Ministry of Energy and Mineral Development on the Uganda Refinery Project (2011) https://www.pau.go.ug/publications/#

In addition to the aforementioned, the Government plans to build Fuel Storage terminals in Jinja and Mpigi, respectively, 318 and 203 kilometers from the refinery. Due to the short distance that smaller feeder pipelines must travel, their construction will not be as expensive.

UNOC is planning to build the second largest fuel storage facility in the East African region.[109] When finished, the Kampala Storage Terminal (KST), as it is commonly referred to, will have space for up to 320 million liters of refined petroleum products. These petroleum products will stabilize the supply gap that has been existing within East and Central region of Africa.

Readily Available Market

It is a well-known fact that while South Africa has 7 refineries and North Africa has 21 refineries, East and Central Africa only have 1 refinery. This leaves countries like Uganda, Burundi, Rwanda that are landlocked, to import all of their petroleum from Kenya. A refinery in Uganda will therefore find a petroleum thirsty regional market to supply all of its products.

A sizable local market will greet the finding and development of crude oil and its subsequent refining from the transportation and industrial sectors, respectively. The consumption of petroleum products in Uganda is approximately 27,000 barrels per day, whereas the consumption of such items in East Africa is close to 200,000 barrels per day and expanding at an annual rate of almost 7 percent.[110]

[109] Ibid
[110] Supra note 107

The discovery that Uganda contains more than 1.4 billion barrels of oil that is potentially retrievable, this presents Uganda with an opportunity not only in-country but also the neighboring countries, such as Kenya, Rwanda, Burundi, and Tanzania.[111]

Kampala Storage Terminal will feature an extension terminal that will act as a LiquidPetroleum Gas storage facility (LPG).[112] LPG is commonly used in homes for domestic cooking and if locally produced the expectation that it will be more affordable to the local populace and may subsequently replace charcoal that is widely used for this purpose, in turn saving the trees and preserving the environment.

Efficient Legislative Framework

The Upstream[113] and Midstream[114] Acts all indicate in their Section 1 that one of the purposes for which they were enacted is to ensure that petroleum activities in upstream and midstream are carried out in a sustainable way for the benefit of all Ugandans.

Uganda's oil and gas legal and regulatory framework is arguably effective and fair as it has had different countries to benchmark on like Norway and Botswana that have success stories in the oil and gas business while also learning from countries that have made mistakes in the sector like Nigeria. In other words, Uganda's oil and gas laws can be said to be robust enoughto attract investment in the industry[115] having adopted best practices in the industry.

---

[111] Shepherd, Ben. "Oil in Uganda." International Lessons for Success. London: Chatham House. February (2013).
[112] Ndyamuhaki, Derrick, Tony Blair Nasasira, and Brian Ngure. Design and construction of a scaled down supervisory, control and data acquisition (SCADA) system tailored for fuel handling at Jinja storage terminal. Diss. Makerere University, 2022
[113] Petroleum (Exploration, Development and Production) Act, 2013
[114] Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013
[115] Ogwang, Tom, and Frank Vanclay. "Cut-off and forgotten?: Livelihood disruption, social impacts and food insecurity arising from the East African Crude Oil Pipeline." Energy Research & Social Science 74 (2021): 101970.

However the Researcher also found that these legislations have not been properly tested to be able to conclusively boast about their effectiveness. They shall be tested when the country's first drop of oil is out of the ground. So far the areas that are being implemented like local content and licensing are not sufficient to conclude that they are efficient. Moreover since the efficiency of any legal framework must be backed by institutional strength to for example curb corruption. If Nigeria is anything to by, corruption has consistently plagued its oil and gas industry leading to 40% loss of its revenues.[116] It is further reported that absence of political will to prosecute and conclude corruption cases has enabled the vice to grow impeding economic development.[117]

4.2.2 Perceived Weaknesses to the Midstream

Poor Access to Information

The National Oil and Gas Policy 2008 in its Section 5.1.3 calls for openness as a guarantee for transparency and accountability in the oil and gas sector. The Extractive Industries Transparency Initiative (EITI) also reiterates the importance of disclosure of information of revenues obtained extractives like the taxes paid, licenses, contracts and many others.[118] Several countries (Ghana, Nigeria, Liberia, Sierra Leone) have domesticated EITI standards in their laws as it promotes open and accountable management systems for the oil and gas industry through encouraging public participation in holding the Government accountable as a custodian

[116] Olujobi, O. J. (2021). Nigeria's upstream petroleum industry anti-corruption legal framework: the necessity for overhauling and enrichment. *Journal of money laundering control*
[117] Ibid
[118] Promoting Public Awareness about How Countries Manage their Oil, Gas and Mineral Resources: The Extractive Industries Initiative, https://eiti.org/

of the natural resources. Uganda has so far shied away from this approach as Production Sharing Agreements have been classified as confidential.[119]

Access to information is a fundamental human right recognized by various International and Regional human rights treaties. Access to information is a one sure way of having meaningful and impactful participation in decision-making processes.[120] One of the most common causes of social conflict that can lead to delays and stoppages in project progress is a lack of participation in land-related decision-making that is free, active, and meaningful for all parties involved. There are unique safeguards in place for members of groups that are customarily shut out of the decision-making process, such as women and Indigenous peoples in particular for example the FPIC principle.[121] The Free, Prior and Informed Consent (FPIC) principle includes involving local communities in decision-making and assessment during the planning, implementation, and completion of projects.

Poor Environmental Practices

The pipeline crosses rural areas in Tanzania and Uganda that are afflicted by limited and irregular electricity supply, poor sanitation, little or no employment opportunities, and underdeveloped market places. Many respondents worry that the EACOP will further hinder the economic growth of their communities by grabbing their land and obliterating their sources of essential natural resources, such as wetlands and forests. These are important to local

[119] Charles Mwanguhya Mpagi & Angelo Izama v. The Attorney General Miscellaneous Case No. 751 of 2009
[120] Veit, Peter G., Carole Excell, and Alisa Zomer. "Avoiding the resource curse: spotlight on oil in Uganda." WRI working paper/World Resources Institute; January 2011 (2011).
[121] International Finance Corporation, 'IFC performance standards on environmental and social sustainability' (World Bank 2012) (Performance Standard No.7) https://www.ifc.org/wps/wcm/connect/c02c2e86-e6cd-4b55-95a2-b3395d204279/IFC_Performance_Standards.pdf?MOD=AJPERES&CVID=kTjHBzk

communities in Uganda for handicrafts and artisanal and small-scale gold mining in Tanzania.[122]

The right to an appropriate quality of living, which includes the right to sufficient food, clothes, and housing, as well as the right to continual improvement of living conditions, is clearly impacted by denying populations access to the land they are cultivating. Land is a vital component of the economy and a major source of livelihood for the people of Uganda, as it is in many other nations. People's access to food and farm income are impacted when agricultural land is lost. Other rights, such the right to a sufficient place to live and the right to health, may be impacted by this lost income.[123]

Communities along the pipeline route rely on their land and natural resources to supply them with water daily and food. Both Ugandan and Tanzanian respondents voiced concern about how pipeline construction will affect their ecosystem, including how it may contaminate their water and soil, worsen air and noise pollution, and harm their residents' health. Some respondents expressed general worries about the project's potential to aggravate climate change by clearing some areas of trees and flora.

However, the study found that in order to account for, reduce, and offset the environmental and social costs of resource extraction operations, the Government should seek out potential for local and national advantages. Natural resource exploitation can result in the intended economic multiplier benefits for Ugandans through such initiatives.[124]

---

[122] Byakagaba, Patrick, Frank Mugagga, and Dianah Nnakayima. "The socio-economic and environmental implications of oil and gas exploration: Perspectives at the micro level in the Albertine region of Uganda." The Extractive Industries and Society 6, no. 2 (2019): 358-366.
[123] Supra note 115
[124] Ibid

4.2.3 Perceived Opportunities of Midstream Projects

Employment Opportunities

During the construction phase of the project in Uganda, it is anticipated that roughly 1,800 jobs would be created. In addition, approximately 8,500 indirect jobs will be created, including logistics, supply chain, catering, and security positions. There are 1,600 skilled jobs associated with the direct project, and 1,080 of those opportunities are reserved for nationals. The ESIA does not include any information regarding the number of jobs that will be created as a result of the project.[125]

During the building phase, which will last for three years, Total E&P anticipates creating about 4,000 direct construction employment opportunities in Tanzania; however, only 400 jobs will be open to those with no prior construction experience. According to the standards for the use of local content, about 2,400 workers, or sixty percent of the total workforce, will be nationals, while the remaining 1,600 workers will be foreign workers.[126]

During the construction phase, the project documents state that it will produce indirect and induced employment (an anticipated total of 18,700 employment opportunities) in various industries such as logistics and supply chains, catering, and security.

[125] Byaruhanga, Julius, and Arnim Langer. "On the right track? An analysis of the implementation of oil and gas sector local content policies in Uganda." The Extractive Industries and Society 7, no. 2 (2020): 302-309.
[126] Ibid

The Researcher found that while both men and women desire employment prospects they may be limited by their inadequate education and thus unable to take advantage of career chances associated with the project.

Economic Development

Large-scale development projects come with a myriad of hazards. Still, they link to economic growth and employment prospects, both of which have the potential to give new options for underprivileged populations theoretically. It should not come as a surprise that communities anticipate the EACOP will benefit them. In addition, Uganda and Tanzania both have particular laws that regulate the necessity for businesses to make the most efficient use of natural resources, which includes the petroleum industry.[127]

Uganda Refinery Project is expected to process Uganda's crude oil into liquefied petroleum gas (LPG), gasoline, jet fuel, diesel, and other products. The Researcher found that Uganda's balance of payments are expected to improve since these products will no longer be imported.

In addition to mandating that Ugandans be accorded priority hiring and training, Ugandan law also requires businesses to emphasize the participation of people with disabilities, women, and people from various geographical areas or ethnic origins. Although the ESIA provides a comprehensive summary of the jobs that will be produced as a result of the EACOP project, it does not give a clear overview of the occupations that will assist economically excluded groups and women.

[127] Junior, Patrick. "Stakeholder engagement and participation in Uganda Oil and Gas Industry: A pitch." Journal of Accounting and Management Information Systems 18, no. 1 (2019): 133-140.

The EITI Global Standard mandates the disclosure of employment data that is broken down not just by gender but also, in cases where the information is available, by the degree of employment.[128] This information has not been provided at this time for either the work possibilities that are already available or the jobs that are going to be created.

4.2.4 Perceived Threats for Midstream Projects

Spill Risk to Water and Livelihoods

In Uganda and Tanzania, the EACOP will travel through areas that are extremely sensitive in terms of water supply for the surrounding communities. Oxfam states that "along the route, the majority of communities depend on a percentage of groundwater to meet their daily water needs." For instance, according to a member of the impacted community from Ntondo village, approximately fifty percent of the water in Nkwae and Ntondo villages, which are located in the Singida region of Tanzania, originates from the ground.[129]

About 460 kilometers of the pipeline will go across the freshwater basin of Lake Victoria, the biggest lake in Africa, which directly supports the livelihoods of over 40 million people in the region. The planned pipeline route will pass the Rift Valley, one of the most geologically active locations on the planet.[130] This considerably increases the likelihood of a leak along the pipeline. It should also be noted that in the past 20 years, this region has been hit by more than 300 earthquakes with a magnitude of at least 4.5 on the Richter scale.

---

[128] Villar, Paul Fenton. "The extractive industries transparency initiative (EITI) and the technical reforms model: insights from the global performance assessments literature." The Extractive Industries and Society 8, no. 4 (2021): 100963.
[129] Steinhauer, Ineke, Arend Jan van Bodegom, Bopp van Dessel, J. Griffioen, and Tom Ogwang. "Review of the Scoping Report and Terms of Reference for the environmental and social impact assessment for the East Africa Crude Oil Pipeline." reference 7228 (2017).
[130] Ibid

In areas where pipelines are located beneath water sources, the EACOP poses the danger of a spill and a significant threat of degrading or poisoning those water supplies. Instead of using horizontal directional drilling to cross watercourses which is considered industry best practice, Total E&P, and its partners have decided to use open-cut trenching, for almost all of the water crossings. This is because open cut trenching is the more cost-effective option. According to various experts' opinions, this method has the potential to have severe adverse effects, particularly on wetlands. According to what they have stated, "this seems to be overlooked," and the Environmental and Social Impacts Assessment (ESIA) report does not make it evident that the proposed technology is suitable and for what reasons.[131]

Delayed Compensation of Evicted Settlers

It has been two years since the valuation cut-off dates were announced in Tanzania and one year since they were announced in Uganda, but compensation has still not been paid. Furthermore, there is no certainty surrounding when compensation will be paid.[132] People's ability to provide for their families has been significantly hindered as a result of the delays in receiving compensation and the restrictions placed on how the land can be used. Even though cultivating seasonal crops is permitted on the site, several households are concerned that they will not be able to take their harvest with them if required to leave the land on short notice.

Other people have asserted that they are not permitted to produce cash crops. A significant number of the impacted households in Uganda have decided to stop farming. Concerns have also been raised over the potential low agricultural yield of the sites designated for development. According to Oxfam, Total E&P is aware of this risk, and affected people will

[131] Ibid
[132] Supra note 115

have the opportunity to visit the land that has been provided to them in advance.[133] However, replacement land is limited, and it is unclear whether the procedures that Total E&P has suggested are sufficient to mitigate the risk.

4.3 Legal Framework for Midstream Economic Viability Assurance

4.3.1 National Policy Framework

The National Oil and Gas Policy (NOGP) 2008

The Energy Policy for Uganda, which was released in 2002, has been superseded in all issues pertaining to the exploration, development, production, and exploitation of the nation's oil and gas resources by the National Oil and Gas Policy of 2008. The policy seeks to put in place a framework for the efficient management of oil and gas resources, as well as revenues accruing therefrom. This is in addition to creating an environment that is favorable to the sustainability of petroleum exploration in the country, the anticipated development, production, and utilization of any resources that are discovered.[134]

This policy lays a foundation for regulating and investing in the midstream petroleum subsector and outlines a number of guiding principles, objectives, and tactics that are directed toward the different players involved in the development of oil and gas in Uganda.[135].

According to the findings of the study, it is the responsibility of licensed oil companies to protect the environment where they work or any areas in the country that are impacted by their

[133] Ibid
[134] The National Oil and Gas Policy, 2008
[135] Ibid

operations. At the same time, the Government is responsible for passing laws regarding, regulating, and monitoring compliance with these laws.

The policy encourages oil and gas businesses operating in the midstream sector to take into account the needs and concerns of the communities that are located nearby. Some of these interests are economic, such as the responsible discovery and development of oil resources to without causing disruption to the farming and fishing activities.

In response to the guidelines provided in the policy, an ESIA has been carried out for the project to preserve the natural environment[136]. In addition, a program of consultation with relevant stakeholders has already been and is now being carried out. This is done to discover various approaches to generate economic growth in the regions in which midstream projects are located.

The National Oil and Gas Policy (NOGP) states that the oil and gas corporations currently operating in the country are obligated to contribute toward capacity building and the transfer of technology. Transferring technologies has a significant bearing on the rate of economic expansion, both in the near term and over the longer term.

This is now what has culminated into what is known as local content or sometimes called national content. The growth of the economy and progress in the level of international competitiveness are significantly influenced by innovation and the transfer of technological knowledge.

Midstream projects such as EACOP and URP require a specific set of skills, and the existence of a system that makes it mandatory for the International Oil Companies (IOCs) to transfer

---

[139] Ibid

technology and knowledge through training to Ugandans, is intended to ensure that the industry directly benefits the Ugandan citizen.

The National Policy for the Conservation and Management of Wetland Resources, 1995

The implementation of this strategy, which began in 1995, was done to ensure the protection of Uganda's wetland areas to maintain the ecological and socio-economic services that they perform.[137] The neighborhood also benefits economically and socially from the presence of wetlands. Products derived from plants, such as papyrus, are utilized in the creation of handicrafts and the thatching of roofs.

Wetlands are beneficial because they produce fish that can be consumed and sold, clean water and grass that cattle can graze on, places to raise bees, sitatunga (waterbuck) that can be hunted, and chances for businesses related to tourism. Because they filter the water, wetlands are beneficial to the health of the entire country.[138] This form of naturally occurring water filtration is estimated to have an annual economic value of around $25 million USD in rural areas.

Given that the pipeline route passes through wetlands and watercourses that feed into wetlands, the policy lays out the guiding principles and techniques for the environmentally responsible management of wetland areas. Additionally, it highlights the necessity for users of wetlands to consider the knock-on impacts of their actions and outlines non-destructive wetland uses that may be allowed in certain circumstances.[139] The researcher came to the conclusion that as a

[137] The National Policy for the Conservation and Management of Wetland Resources, 1995
[138] Steinhauer, Ineke, L. Özay, Arend Jan van Bodegom, Bopp van Dessel, J. Griffioen, and Tom Ogwang. "Review of the Environmental and Social Impact Assessment (ESIA) Report for the Tilenga Project-Findings of the NCEA working group." (2018).
[139] Ibid

direct result of this policy, the EISAs for both the EACOP and the Uganda Refinery contains assessment and mitigation of impacts on wetland ecosystems and associated ecosystem services, including those resulting from unforeseen events.

Uganda National Climate Change Policy, 2015

Climate change will likely negatively impact, on economic growth in the long run. Although climate change will produce winners and losers at different levels of warming, the impact of rising temperatures can be widespread.[140]

This is partly due to the world's economies' financial, political, and economic integration. Damage to property and infrastructure, decreased productivity, mass migration, and concerns to national security will be the primary ways global warming will impact economic growth[141].

According to the study's findings, the policy's objective is to guarantee that a unified and coordinated strategy would be taken toward a climate-resilient and low-carbon development route in Uganda to achieve sustainable development. The primary goal of the policy is to guarantee that all relevant stakeholders and economic sectors take adequate action to address the impacts of climate change and their causes, all while fostering sustainable development and a green economy.[142]

It is important to note that the midstream projects, particularly the Uganda Refinery Project, would produce greenhouse gas emissions (GHG). Vehicles and equipment used in construction, as well as the operation of bulk heaters, are examples of sources of emissions. It

[140] Uganda National Climate Change Policy, 2015
[141] George, Taako Edema, Kiemo Karatu, and Andama Edward. "An evaluation of the environmental impact assessment practice in Uganda: challenges and opportunities for achieving sustainable development." Heliyon 6, no. 9 (2020): e04758.
[142] Supra note 132

was discovered that a climate impact assessment had been carried out for the EACOP, and various mitigating strategies had been identified. According to the report from EACOP, the greenhouse gas emissions from the project will be tracked and reported.

Uganda National Land Policy, 2013

The goal of the policy is to simplify the intricate constitutional and legal framework for sustainable management and stewardship, as well as to harmonize and streamline the complicated land tenure regimes in Uganda so that everyone has an equal opportunity to acquire land.[143] In addition to this, it seeks to ensure the environmentally responsible utilization, protection, and management of environmental, natural, and cultural resources on land to foster socio-economic growth. It provides an overview of the Government's strategies for managing land resources concerning the development of minerals and petroleum.

It is necessary to acquire land to complete the midstream project for the EACOP and the Refinery project infrastructure. According to the researcher's findings, this policy must be considered whenever plans pertaining to project-related land acquisition and resettlement are developed and put into action. It was also discovered that a resettlement plan had been devised for the ongoing midstream projects (EACOP and URP) and that Resettlement Action Plans (RAPs) and Livelihood Restoration Plans (LRPs) would be generated to guide land purchase in accordance with this policy.[144]

The property rights of customary landowners and those of individual landowners and communities will be acknowledged in every land transaction. Those who were forced from

[143] Uganda National Land Policy, 2013
[144] EACOP RAP, 2017

their land will get prompt, substantial, and reasonable recompense for their loss of property.[145] In order to lessen the adverse effects on the land and the resources associated with it, mitigation measures and management plans pertaining to biodiversity, resource management, soil, and cultural heritage will be put into place.

Oil and Gas Revenue Management Policy, 2012

Through the construction of a legislative and institutional framework, the policy outlines the operational framework for the wise management of oil and gas resources. When fully functional, the projects will provide financial benefits to the Government. In accordance with the provisions of this policy, the project will collaborate with the appropriate governmental financial institutions for the transparent and efficient management of these resources.[146]

According to the findings of the researcher, the policy offers specifics on how the expected income from oil is to be incorporated and managed within the framework of the existing laws governing public finances like the Public Finance Management Act 2015. A structure will be put in place so that long-term estimates and the impact of oil income may be formulated and evaluated.

This will include a strategy for the distribution of resources among various alternative uses, as well as the formulation and implementation of medium-term fiscal plans that are conducive to achieving the country's long-term development goal. The evaluation needs to consider the quantity of the resource's proven reserves, the costs of production, reasonable estimates for

[145] Supra note 115
[146] Oil and Gas Revenue Management Policy, 2012

world pricing, the extraction and depletion rates, and the fiscal regime, together with all of the uncertainties related to these factors.

4.3.2 Legislative Framework

The Constitution of the Republic of Uganda, 1995

Article 2 of the 1995 Constitution of the Republic of Uganda, declares that it is the supreme law of the land and serves as the foundation upon which all other pieces of national legislation derive validity.[147] Before taking possession of any privately-owned property, the Government is required to "promptly pay fair and adequate compensation". The Constitution also grants the government and local authorities the power of compulsory land acquisition when it is in the public interest.[148]

Currently in Uganda, the notion of compulsory land acquisition by the Government has become a contentious public issue with the tabling of the Land Acquisition Bill 2019. This Bill seeks to amend the Act to provide for expeditious compulsory acquisition of land to avoid delaying Government projects. The Minister for Lands, Housing and Urban Development argues[149] that while the law allows for compulsory land acquisition in public interest, fair and adequate compensation must be given to affected persons prior to the acquisition. This has caused project delays where the affected persons rejects this compensation and seeks court intervention.

---

[147] The Constitution of the Republic of Uganda, 1995
[148] Article 26 (2), 237 (2)(a) and S. 42 of the Land Act Cap 227
[149] According to a Press Statement released on November 22, 2021 titled "Minister explains status of law on compulsory land acquisition" https://nilepost.co.ug/2021/11/22/minister-explains-status-of-law-on-compulsory-landacquisition/#:~:text=The%20Land%20Acquisition%20Act%20Cap%20226%20provides%20for%20the%20procedure,land%20for%20a%20public%20purpose

According to Objective XXVIII of the Constitution, the state is required to encourage sustainable development and raise public awareness of the necessity to manage the country's land, air, and water resources in a sustainable and balanced way for both the current generation and the future generations. In addition, objective XXVII (iii) specifies that the state shall implement energy policies to guarantee that both the fundamental requirements of people and those for the preservation of the environment are addressed.[150]

As a direct consequence of this, Environmental Impact Statements (EISs) have been drafted, consisting of baseline information as well as potential impacts on natural resources, cultural heritage, and biodiversity, and mitigation measures have been proposed to avoid or reduce these impacts.

The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013

Midstream operations are subject to regulation, management, and coordination and monitoring by virtue of the provisions of the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013 (hereinafter called the Midstream Act). This piece of legislation gives effect to Article 244 of the Constitution, which among other things, makes it possible to develop, place, and own facilities, as well as fulfills other requirements for midstream operations[151]. Section 3 of this Act places a strong emphasis on the responsibility that a licensee and a person who exercises or performs functions, duties, or powers under this Act concerning midstream operations shall take into consideration, and comply with, the environmental

[150] Ibid
[151] The Petroleum (Refining, Conversion, Transmission and Production) Act, 2013

principles prescribed by the National Environment Act and any other laws that are applicable.[152]

The Midstream Act, which provides for midstream operations such as the planning, preparation, installation, and execution of functions related to refining, conversion, transmission, and storage of petroleum products, contains provisions related to licensing that are comparable to those found in the Upstream Act.[153]

The Act provides the Minister with excessive discretionary power to approve licenses for midstream projects and the content of those licenses. Given the magnitude of this power, in the absence of a clearly defined standard model license, there is a high probability that the contents of one license will vary significantly from those of another license.[154] This also gives room for bad practices like corruption that have the ability to stifle all economic growth expectations from the oil and gas industry. Olujobi O.J (2021) describes the extractive theory of corruption as;

> *"The model emphasises a well-known hypothesis that power tends to pervert, and unlimited power causes absolute corruption. In other words, where extreme power is concerted entirely in the hands of a few individuals, for instance, the Minister of Petroleum and Energy Resources' discretionary power in the petroleum industry, give room for prospective corruption, misapplication of power, quest for wealth and extraction of wealth for the personal advantage."*[155]

[152] Ibid
[153] The Petroleum (Exploration, Development and Production) Act, 2013
[154] Supra note 142
[155] Supra note 115

The extensive ministerial powers also present a risk of a concentration of political (and economic) muscle, which is typical of oil-rich nations with a history of poor management and has the potential to bolster corruption because there are few or no checking safeguards to combat it. This risk is common in countries where mismanagement is the norm like Nigeria. Due to these factors, the EACOP and the Uganda Refinery Project will have challenges in achieving economic sustainability.

The researcher found that these excessive powers could be a danger as it provides an incentive for businesses to negotiate and exert influence over the Minister in a coercive manner to secure favorable conditions for themselves and maybe to lessen their legal responsibility and commitment to social and environmental protection.

East African Crude Oil Pipeline (EACOP) (Special Provisions) Act, 2021

One of the EACOP Act's goals is to ensure proper oversight by the legislature. The Government controls the petroleum resources of Uganda on behalf of the people of Uganda in accordance with Article 244 of the Constitution of Uganda. Consequently, any acts taken by the executive arm of Government in this regard should be subject to oversight by the representatives of the people of Uganda. This ensures that there are checks and balances in place between the legislative and executive branches of the Government.

According to Section 11(1), the EACOP project will be considered a public work for the purposes of Section 1 of the Land Act.[156] Given the nature of the project and the high level of sensitivity regarding profitability associated with any stoppage of operations, this is a robust provision that guarantees the security of tenure of the land for the EACOP company. It also ensures that the project can proceed without interruptions, which is especially important given the nature of the project.[157]

The study also found that on December 9, 2021, when Parliament passed the EACOP Bill into law, it was received as an early Christmas present to the oil and gas industry. This legal reform was especially welcome since it would encourage the use of local resources and labor, lay the foundation for a more predictable tax regime, and boost the confidence of investors willing to pump $10–$15 billion into various oil projects over the next five years. The EACOP Act formally establishes the East African Crude Oil Pipeline Company, which will serve as the conduit for most of these investments.

The EACOP Company is owned by France's TotalEnergies, which holds 62 percent of the company's shares, Uganda National Oil Company (UNOC) with 15 percent, Tanzania Petroleum Development Corporation (TPDC) with 15 percent, and China National Offshore Oil Company (CNOOC) with 8 percent. The crude oil pipeline project cost is estimated to be $3.5 billion, with loan financing accounting for 60 percent of the total and equity funding making up 40 percent.

The study found that during the process of drafting the EACOP Act, there were a few areas of contention. From the consultation of stakeholders, the question of procurement processes for

[156] East African Crude Oil Pipeline (EACOP)(Special Provisions) Act, 2021
[157] Ibid

goods and services for the project was contentious. The Government had the idea that all of the necessary goods and services should be advertised to provide local players a chance to participate in the bidding process. However, in the end, the oil firms' stance of allowing the EACOP Company to directly acquire some services for day-to-day business purposes without having to advertise them or go through the typical tendering processes took the day.

4.3.3 Institutional Framework

The Ministry of Energy and Mineral Development (MEMD)

The MEMD is the entity charged with formulating rules, regulations, and overall strategies in the energy industry. The establishment of standards and the promotion of product quality, industrial safety, environmental protection, and code of practice in petroleum supply operations are some of the major strategies that are implemented by the MEMD.[158] These strategies include the promotion and monitoring of mineral exploration, development, production, and value addition by the private sector for local consumption and export. Other major strategies include the promotion and monitoring of exports.[159]

MEMD is also responsible for promoting and maintaining transparency in the midstream petroleum industry, which is particularly crucial for accomplishing economic viability This responsibility falls under the broader umbrella of the Ministry's commitment to ensure economic viability.[160]

---

[158] Manyak, Terrell G. "Oil and governance in Uganda." Journal of Public Administration and Governance 5, no. 1 (2015).
[159] Ibid
[160] Ibid.

Petroleum Authority of Uganda (PAU)

PAU is the agency mandated to monitor and regulate the exploration, development, and production of petroleum in Uganda, including the midstream projects. This, according to the laws, will be achieved by monitoring and regulating petroleum activities, including reserve estimation and measurement of the produced oil and gas, advising the Minister in the negotiation of petroleum agreements and the granting and revocation of licenses, and reviewing and approving all transmission and storage tariffs, levies and pricing frameworks of operators of transmission and storage facilities. PAU is directly supervised by the Ministry of Energy and Mineral Development.

Uganda National Oil Company (UNOC)

The National Oil and Gas Plan (NOGP) includes provisions for the national oil corporation, which grew out of the state's need to establish a separate organisation to manage its commercial interests in the oil industry. The intended roles of the oil company are outlined in regulatory best practice 7.2.5 of the NOGP.[161]. These roles include managing the business aspects of state participation, developing in-depth expertise in the oil and gas industry, participating in contracts, and investigating and proposing new upstream, Midstream, and downstream ventures locally, and eventually internationally.

The policy makes the astute observation that initially, it will be difficult to finance the national oil business, and as a result, the oil firm will not be able to attract shareholders. This is a valid observation. The idea is that the national oil corporation should be maintained as an embryonic

[161] Van Alstine, James, Jacob Manyindo, Laura Smith, Jami Dixon, and Ivan AmanigaRuhanga. "Resource governance dynamics: The challenge of 'new oil'in Uganda." Resources Policy 40 (2014): 48-58.

entity from the very beginning. This would mean that the company would begin with very few resources but would gradually expand as it gained knowledge from more seasoned actors.[162]

According to Section 42 of the Midstream Act, the national oil firm must be incorporated and have the State as its sole shareholder so that it can effectively handle the commercial aspects of Uganda's petroleum activities. The Act also outlines certain responsibilities for the national oil corporation and, in section 44, establishes a Board of directors for the company.

The President, with Cabinet agreement, is responsible for making the appointments to this Board of directors. It is expected that the Board of Directors will present audited accounts of revenues and expenditures to the annual general meeting in regard to the State's participating interests, along with an annual report that provides an overview of the participating interests managed by the company. This is to be done in conjunction with the annual report that contains an overview of the participating interests managed by the company.

However, subsection 7(3) makes it very apparent that the decision on whether or not the national oil firm should take part in midstream operations rests solely with the Minister and requires the approval of Parliament. It is, therefore, no surprise that UNOC is one of the shareholders of the EACOP company as stipulated under the EACOP Act, 2021.

Although including provisions for the national oil corporation in the various policies and regulations is a positive move, those provisions are not as thorough as they ought to be and need to be enhanced in more specific ways. After going over this background information, we

[162] Ibid

will then be able to discuss the most recent advancement that has been made in the field of oil legislation, which is the Public Finance Management Act of 2015.[163]

The Uganda Refinery Holding Company Limited (URHC) and the National Pipeline Company (Uganda) Limited are both completely owned subsidiaries of UNOC. These two companies are the primary drivers of the midstream sector (NPC). On behalf of the Government of Uganda (GoU), the Uganda Refinery Holding Company Limited (URHC), a subsidiary of Uganda National Oil Company Limited (UNOC), will hold Uganda's commercial interests. UHC will participate in the refinery Project with up to forty percent of the total shares available.[164]

The Uganda National Pipeline Business, sometimes known as the National Pipeline Company Uganda Limited (NPCUL), is a Ugandan private limited liability company that is a wholly-owned subsidiary of the Uganda National Oil Company. Its official name is the Uganda National Pipeline Company (UNPC).

UNPC was established in accordance with the Companies Act of 2012, and its primary mission is to protect the interests of the Ugandan Government in the crude oil, petroleum products, and natural gas pipelines, as well as storage facilities and associated infrastructure, that are part of the country's nascent petroleum industry.

The Researcher found that Uganda adopted the best practices in UK and USA where the Government only acts as a Regulator and has a national oil firm handling the commercial interests of the Government.[165] This has been accepted as a more transparent institutional

[163] Ibid
[164] Ibid
[165] Carlyle, R. (2020), "Why does the United States do not have a national oil company?", available at: www.quora.com/why-does-the-us-does-not-have-a-national-oil-company

framework as compared to the one in Nigeria where the Nigeria National Petroleum Corporation (NNPC) handles both regulatory and commercial roles.[166]

4.4 Economic Viability of Midstream Projects

4.4.1 Revenue Generations

With the discovery of oil in 2006, the International Oil Companies proposal was to take the crude oil, refine it and return it as finished products for sale to Ugandans. This position however was challenged by H.E Yoweri Kaguta Museveni whose vision was to build a refinery. In the feasibility study for the Refinery conducted by Foster Wheeler, a 150,000 barrel per day at USD 2 billion worth refinery was recommended as the viable option. This report revealed that Uganda would save $1b which is approximately Ug.Shs. 3.5 trillion annually through producing its own petrol, diesel, kerosene, cooking gas (liquefied petroleum gas) and also exporting the same products to its neighbors (Rwanda, Burundi, Tanzania and Kenya).

The researcher discovered that all of the EACOP and URP feasibility studies had demonstrated that the two projects would result in significant revenue generation for the nation. The total annual revenues are expected at approximately USD 1.5 million to USD 2 million[167] for 20-25 years which is USD 30 million to USD 50 million. However, USD 10 billion is estimated to be injected in the economy even prior to commercial production that is expected in 2025[168] which increase the country's GDP by 22%. This is money that is going to infrastructure development to commercialize the oil like construction of roads, schools, hospitals, airport,

---

[166] Supra note 115

[167] Tom Ayebare (2021), ***Manager, Economic and Financial Analysis at the PAU*** https://www.pau.go.ug/understanding-the-difference-between-the-economics-of-the-upstream-and-eacop-projects/

[168] Patrick Poyanné, CEO of Total E&P. Daily Monitor of February 2, 2022

hotels and many others. It is worth noting that Uganda's total recoverable oil deposits of 1.5-2 billion barrels would take USA 75-101 days to consume , its (USA) consumption for 2021 having stood at 19.78 million barrels per day.[169]

The EACOP project is anticipated to draw more investors for the exploration of the nation's oil and gas resources as part of its long-term economic benefits.[170] The project is expected to boost Tanga Port's logistical activities, and the port will also get additional direct investments of 600 million US dollars for the construction of new fuel storage tanks, and supporting infrastructure.

Numerous training and educational programs, including those for welder training and traffic safety, will benefit the local populations along the EACOP route. Additionally, since workers operating on the pipeline will stay in nearby hotels and bars and eat at nearby restaurants, the little communities along its route are expected to witness a boom in local commerce.

The employment opportunities that will arise throughout the project, with about 10,000 jobs anticipated during the construction phase, will have an impact on individuals. This includes skilled, semi-skilled, and temporary employees. In order to boost the development of local capacity through technology transfer, indigenous casual employees from each district through which the pipeline traverses will be engaged during the project's construction phase.[171] Additionally, the EACOP will create short term employment between two and three years, for workers such as welders, truck drivers, mechanics, site engineers, construction managers, and laborers.

---

[169]Independent Statistics and Analysis, U.S. Energy Information Administration website https://www.eia.gov/tools/faqs/faq.php?id=33&t=6#:~:text=EIA%20uses%20product%20supplied%20to,day%20over%20consumption%20in%202020.

[170] Steinhauer, Ineke, Arend Jan van Bodegom, Bopp van Dessel, J. Griffioen, Tom Ogwang, and Tanya van Gool. "Advisory review of the environmental and social impact assessment for the East Africa Crude Oil Pipeline (EACOP)/Uganda." (2019).

[171] Ibid

The study also discovered that by creating new infrastructure, improving logistics, transferring technology, and enhancing the standard of living for East Africans, the midstream projects would boost the central corridor connecting Tanzania and Uganda. One of the respondents noted that,

> *"The pipeline will also provide business opportunities for the different sectors of the economy involved in the pipeline design, construction, and operation and decommissioning of the project, and create a trickle-down economic effect spurring the development of local content."*

The growth and maintenance of the infrastructure of refineries and pipelines in the two nations will also help develop the capacity and know-how of national service providers. Targeted national content programs will enhance the transfer of knowledge, training, and capacity building to provide these businesses with the ability to be pre-qualified for complex and high-caliber projects and potentially bid on them. One of the respondents in the Ministry of Energy and Mineral Development noted that,

> *"Along the pipeline route, service roads will be upgraded or developed to facilitate the access to and maintenance of the pipeline during its construction, operations and decommissioning phases. These roads will increase accessibility of the areas traversed by the pipeline enhancing the movement of goods and people and overall economic exchanges."*

In addition, the researcher came to the conclusion that the development of the midstream projects will result in a sizeable increase in the amount of Foreign Direct Investment (FDI) for both nations. The United States Dollar investment capital of $3.5 billion that is associated with the construction and operation of the pipeline will be directly injected into the economies of

Uganda and Tanzania, increasing those countries' foreign direct investment by more than 60 percent during the construction phase of the pipeline.

Local communities located along the EACOP route will have access to a variety of educational and vocational training programmes, such as those focusing on welder training and road safety. Because workers working on the pipeline will need to stay overnight, they will stay in construction camps, local hotels, and drink in local pubs. This will likely result in a boom for the local economy in the tiny towns that are located along the pipeline's route. And shell out some cash for some amusement.

The cash compensation that the local people will get will result in a rise in their spending power, which will have a multiplier effect on the economy of the region. On the other hand, this will result in an increase in prices. As a result of the presence of oil workers and the opportunities that come with doing business there, more service providers will be encouraged to make investments in the aforementioned regions. There will be an expansion in the tax baseavailable to local authorities. It is anticipated that more tax income will be channeled toward the provision of much-needed social services to support the local population, which will ultimately result in an improvement in the welfare of the people who live there.

4.4.2 Communal Economic Development

The study found that municipalities that host midstream oil projects, such as Hoima Municipality, are likely to benefit from a general economic boost due to the beneficial cumulative impacts from employment, training, and purchasing associated with the EACOP

project and its associated facilities (Tilenga and Kingfisher projects), as well as other third-party developments.[172]

This was found to be the case in Hoima Municipality. Enhancing access to the national road network and to health care, as well as reducing travel times, including response times in emergency situations, will be possible as a result of the upgrade of the EACOP project access road as well as the upgrades to third-party roads, both of which will have a beneficial cumulative effect over the long term.

According to one of the respondents,

> *"Many opportunities have been created and more are expected from the construction of the pipeline. Some infrastructure built for the oil industry has benefited local communities. The villagers are optimistic that EACOP will enhance the benefits that have already occurred from the oil-related activities."*

The respondent continued to note that,

> *"As a community, we will greatly benefit from jobs for our children, and already some children here have been given jobs in the airport construction activities. Our area has already become a national focus of development because many activities are taking place here that, of course, never used to happen before oil was discovered. We now have a first-class tarmac road, the airport is being constructed in the neighborhood here, I hosted two presidents, one from Uganda and that of Tanzania the other day. All*

[172] Ibid

people whose property will be affected will receive compensation, and business will boom here."

Another respondent indicated they were optimistic about EACOP because they had received much information from local leaders about what to do,

"Our leaders at the sub-county and district levels have been on radio stations so many times to tell the masses about how we should prepare to benefit from this resource. If people prepare enough to tap the opportunities from this resource and the Government does its role of fair compensation for the people's affected property and extend services like water, electricity, schools and hospitals, this oil resource will surely be a blessing to the subjects of Bunyoro Kitara and the nation."

Many project-affected persons were concerned about whether they will receive fair compensation for their land, assets, and cash crops, for example, coffee, bananas, and other fruit. A local government leader argued that EACOP had affected people's livelihoods, both positively and negatively, depending on how one looks at it. They mentioned that,

"Some people have been motivated to plant more crops so as to tap more compensation in case their crops were cut down [destroyed] due to the pipeline construction activities, while some other people have been discouraged from growing more crops and trees as they fear that their crops will be cut down and they will receive little or no compensation."

On the other hand, the researcher discovered that the communities who are going to be impacted by the pipeline had high hopes that they will be given access to power. On the other hand, it is unclear whether or not this has been accepted by the partners in the project. However, according to international standards, it is expected that a project will lead to an improvement

in the lives and wellbeing of affected communities.[173] Therefore, it is only natural that when an electricity or gas corridor is established, affected communities in the surrounding area will also benefit from this. If the expectations of the local community are not realized, this could result in complaints directed on the partners of the project.

A great number of community leaders have developed plans in order to maximize the benefits that their community will receive from EACOP and other midstream projects. One of these plans involves encouraging people to grow more crops so that they can take advantage of the increased demand for food that will result from the presence of construction workers.[174] People have also been cautioned against engaging in land speculation and given stern advice to avoid doing business with land speculators. People in the community have been given the opportunity to ask questions and receive answers at information meetings that have been hosted.

One of the respondents from the Albertine region who was a village leader observed that the various oil projects had positively transformed the area and that local communities were in full support of EACOP and mentioned that,

> *"We are hoping for the best. First of all, there will be more jobs available for our educated children. The community will benefit from compensation and will be in a position to construct good houses, and improve their standard of living. While for all people who prefer relocation, the Government will construct houses for them, just like it did to some individuals who opted for relocation in the oil refinery land. The market for our products will improve. That's the reason why we are so much encouraging our community members to grow more crops so they can prepare to benefit from this*

[173] Supra note 115
[174] Ibid

market. Also, the health standards of my sub-county have been boosted due to oil, for example, construction and renovation of Buseruka Health Centre III has happened, Kabaale Health Centre III, Buseruka Primary school, Nyahaira and Kyapuloni Primary schools have been all been constructed or renovated due to oil discovery here."

4.4.3 Infrastructure Development

Many of the individuals who were interviewed in the Albertine Region expressed their belief that the access roads will allow them to more easily reach the marketplaces located along the pipeline route, as well as improve the transit of commodities. They noted that commercial enterprises such as hotels and shops selling wares were already thriving in the region as a result of the growing population there.

According to the findings of the researcher, one of the demands made by the oil firms to the Government was in regard to the utilisation of labour from other countries (noting that one partner, CNOOC, is a Chinese company). Although the oil companies want a guaranteed block number of permits for foreign workers, President Museveni has insisted that the companies nominate the skills required, which would then be scrutinised by the Government. Work permits for foreigners would only be given if those skills were not available in Uganda. Despite the fact that the oil companies want a guaranteed block number of permits for foreign workers, President Museveni has insisted that the oil companies nominate the skills required.

4.4.4 Land Valuation

The EACOP and the facilities that are associated with it will need to be built on land. This piece of land is going to be purchased, depending on the circumstances, either temporarily or permanently. According to the EACOP RAP, 92 percent of the pipeline route runs through

rural areas.[175] The livelihoods of the majority of families and people whose lives will be impacted by EACOP are based on the land, with households cultivating crops and economic trees for their own subsistence consumption and income generation. Because of the delays in compensation and the farming constraints that were initially given to affected households, they are only able to plant crops that are harvested during specific seasons.

The EACOP project is planned to occupy 1402 hectares of land. According to the findings of the project ESIA, there will be a need to relocate around 300 to 400 households, and approximately 1700 to 3000 households will be economically displaced. The acquisition of land will also result in a loss of agricultural production, some of which will be temporary and some of which will be permanent. As a result, local food shortages will be focused in the communities that lie along the pipeline route.[176]

The research found that the communities that were going to be affected by EACOP were worried about being displaced and whether or not the Government would provide fair and prompt compensation because they were aware of the negative experiences that were reported by people who were affected by the Kabaale Industrial Park in Hoima.

However, several pointed out that the expected financial gains from land sales for midstream projects have not yet been realised as a result of inadequate and delayed compensation. According to the findings of the researcher, the applicable compensation rates were specified in a schedule of payments for each district. This schedule of payments had already been approved by the Chief Government Valuer. Nevertheless, the contractor used the results of the

[175] Ibid
[176] Ibid

asset survey that they carried out in order to arrive at the actual amounts of each individual payment.

One of the members said that;

> *"…… we are unable to predict the potentially negative effects at this time, but we do anticipate that those who leave here will be adequately compensated. But even under those circumstances, they are powerless to do anything because their destiny is not in their own hands. This means that even if they are offered peanuts in exchange for our priceless land, they will not be able to challenge the Government or the project."*

Some of the respondents had reservations regarding the appropriateness of the remuneration and the timeliness of its delivery.

They took into consideration the possibility that they would be awarded compensation for their land and other assets; nonetheless, they were concerned about the amount of money that they would be awarded. During the course of this research, it became clear that the project had an effect on the residents of the area, particularly in regard to their expressed concerns regarding inadequate compensation, delays in the distribution of compensation, as well as emotions of hopelessness and helplessness.

Furthermore, a respondent observed that the pipeline will displace some community members, others will lose land, and there will be disruptions affecting how they farm. There is a real fear that they will not be fairly compensated. With regards to this, they noted that,

> *"The Government is too powerful. Even if they will compensate you unfairly, you cannot stop the passing of the proposed pipeline through your land. We anticipate that our land will be taken away and we will receive little in terms of compensation. The construction activities are also likely to lead to the loss of some of the important native*

trees ... and even if the contractors carry out tree planting, they are likely to only plant eucalyptus trees, which cannot provide some important functions"

Despite the efforts of the oil firms, respondents have described how the land acquisition process has been distinguished by confusion, deficiencies in evaluation and valuation processes, delayed payments, and a lack of transparency. In addition to this, respondents stated that they did not have adequate information regarding the timetables and valuation rates that were employed.

Farming cut-off dates have been given, but no compensation has been paid as of yet, according to the accounts of both men and women. They describe being left in a situation of speculative uncertainty. Due to the fact that men are more likely to own land, women are more likely to be exploited during land acquisition operations. The analysis also places an emphasis on the dangers that may be posed to indigenous people and other vulnerable ethnic groups that may be impacted by the project. This would have an impact on the economy that is difficult to quantify.

4.4.5 Local Content Development

Opportunities for Ugandan workers and businesses are created as a direct result of the midstream developments, which is another economic advantage of these projects. The construction of the refinery in Uganda will increase the capacity for refining in the area and guarantee the uninterrupted supply of petroleum products, particularly for the landlocked Partner States like Rwanda and Burundi. Developing a refinery in the country will not only be a strategic investment for the country and the region, but it will also improve Uganda's balance of payments by lowering the amount that it must pay to import petroleum products.

It is expected that the construction of the refinery alone will result in the creation of 4,000 to 6,000 temporary jobs, which will contribute to the economic benefits that the project will provide to Ugandans. After construction is finished, it is anticipated that continued refinery activities will generate more than 650 permanent jobs.[177] In addition to providing employment opportunities for Ugandans, the growth of attendant industries like the petrochemical and manufacturing industries will also assure the transfer of technology to the refining industry and affiliated industries.

On the other hand, the EACOP will create both direct long term and short-term employment for both highly skilled and semi-skilled professionals, and casual labourers anticipated at over 24,000 jobs from local districts, thereby building local capacity to develop other pipeline projects in the region. These jobs will be anticipated at over 24,000 jobs from local districts.

A trickle-down economic effect will be created by the pipeline, which will encourage the development of locally produced content. The pipeline will also provide business opportunities for the various sectors of the economy that are involved in the design, construction, operation, and decommissioning of the project.

The study came to the conclusion that in order to enable access to and maintenance of the projects throughout the construction, operations, and decommissioning phases, service roads will be modified or created throughout the project locations. These roads will expand accessibility to the areas that the pipeline will travel through and locality of the Refinery, which will improve the flow of both products and people, as well as overall economic exchanges.

[177] Supra note 115

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The objective of this study was to assess the economic viability of primary midstream oil projects such as EACOP and the Uganda Refinery. The findings of the study are in line with the literature review and the results have established the economic viability of the major midstream projects. This chapter presents a summary of findings from the subsections of the previous chapter's sub sections. It then provides conclusions as the economic viability of both the EACOP and the Uganda Refinery Project.

5.2 Summary of Findings

Beginning with an examination of the Ugandan midstream projects' business environment, the study was conducted. The study's goal in doing this was to determine whether the fundamental elements of economic viability were there. This would imply that the midstream projects were built on level ground where the absence of favourable business factors would not prevent them from achieving economic viability. In order to ascertain this, the researcher used the SWOT analysis to assess the business and regulatory environment and the crucial elements necessary to the projects' success.

According to the analysis, the close proximity of the midstream projects' locations is advantageous in as far as it reduces transportation costs from the oil fields to the Refinery requiring a fairly short pipeline. Uganda Refinery will be constructed in Kabaale, Buseruka Sub-County, Hoima District. EACOP also begins in Kabaale, Hoima District near the oil fields of Tilenga and Kingfisher extending all the way to the Chongoleani Peninsula near Tanga Port, Tanzania. The total distance between EACOP and the Uganda Refinery Project is less than 100km. The ramifications of such close closeness can only be seen as a benefit for Uganda.

The analysis also discovered that the two well-known midstream projects weren't far from other ancillary initiatives like the Jinja and Mpigi Terminals, which are used to store crude oil and refined goods, respectively. The initiatives also benefited from the ready market that existed for the refined products both locally and regionally through Uganda's neighbours like Rwanda, Burundi, the Democratic Republic of the Congo, and Kenya. Additionally, the projects were guaranteed to be efficiently properly in accordance with Uganda's competent legal system.

However, the study indicated that the limitation of access to crucial project information hindered midstream project efforts in the public eye. As a result, when they couldn't keep up with the projects, the general public and local service providers found themselves unable to benefit from them. Additionally, it was found that the projects had subpar management techniques. Politics' involvement in the administration of national projects was held responsible for this. The midstream projects have allegedly been reduced to benefit a select small number of people who have been granted contracts to provide goods and services. This has robbed the locals of the anticipated benefits, according to respondents.

With regard to the opportunities that are anticipated as a result of the establishment of these midstream projects, the researcher discovered that the projects are anticipated to generate about 1,800 jobs during the construction phase as well as about 8,500 indirect jobs in areas like logistics, supply chain, catering, and security. Of the 1,600 direct project employment, 1,080 are skilled positions for citizens. Additionally, the study discovered that communities anticipate gaining advantages from the EACOP and the Uganda Refinery Project. The Ugandan government mandates that employers give preference to Ugandans when making recruiting and training decisions and that they encourage the participation of women, people with disabilities, and people from diverse ethnic and geographic backgrounds.

Oil spills emerged as the most frequent problem when it comes to possible challenges to the economic feasibility of these initiatives. For example, the EACOP will cross vital water supplies for nearby populations. The freshwater basin of Africa's largest lake, Lake Victoria, which directly sustains the livelihoods of more than 40 million people in the area, will be home to 460 km of the pipeline. The projected pipeline's track passes one of the world's most geologically active places, the Rift Valley, considerably increasing the risks of spills. Where pipes are located beneath these water sources, the EACOP poses considerable hazards of degradation or pollution in addition to spill danger.

On the legislative front, the study discovered that there is a solid and nearly impregnable network of institutions, rules, laws, and regulations to guarantee the realisation of economic gains from the midstream projects. The National Oil and Gas Policy (NOGP) initially discusses the attainment of economic viability by midstream projects by establishing a framework for the effective management of the oil and gas resources as well as the income derived therefrom.The policy includes a list of guiding ideals, goals, and tactics geared toward Uganda's oil and gas development stakeholders.

This strategy is supported by numerous other policies that make sure that economic advantages are managed appropriately and are obtained in a sustainable manner. Among these policies are the National Policy for the Conservation and Management of Wetland Resources (1995), which ensures that pipeline activities are carried out in a way that does not endanger water sources and wetlands, the Uganda National Climate Change Policy (2015), which ensures a coordinated and harmonised approach towards a climate-resilient and low-carbon development path for sustainable development in Uganda, and the Uganda National Land Policy (2013), which enshrined in law the principle of land tenure equality.

According to the research, Uganda's Constitution establishes the legal framework for the use of its resources, which makes the development of midstream projects necessary. In addition, the Midstream Act stipulates the management, coordination, and oversight of midstream operations. The National Environment Act and other applicable laws' environmental principles must be taken into consideration and followed by licensees and anyone else who exercises or performs activities, duties, or powers under this Act with regard to midstream operations.

However, the analysis found that the Midstream Act generally affords the Minister an excessive amount of authority to decide on the terms of midstream project licences. Given this authority, there is a chance that one licence could significantly differ from another in terms of substance if there is no clearly defined model licence. These dangers run the risk of encouraging businesses to exert pressure on the Minister in order to get favourable terms for themselves and may weaken liability and social and environmental protection measures. It was also found that such power is a door to corruption as seen in the case of Nigeria.

The Ministry of Energy and Mineral Development (MEMD) has institutional control over the midstream industry and its projects. According to the study, the Ministry's main strategies include encouraging and supervising the private sector's mineral exploration, development, production, and value addition for domestic use and export, as well as establishing standards and encouraging product quality, industrial safety, environmental protection, and codes of conduct in petroleum supply operations.

The primary Petroleum Regulatory Agency that oversees midstream developments is the Petroleum Authority (PAU), a statutory entity created under the Ministry of Energy and Mineral Development. Among other things, the Petroleum Authority of Uganda is in charge of supervising and regulating midstream operations, encouraging investment in facilities and

operations related to them, and providing information necessary for the collection of taxes and fees from those operations.

Furthermore, the Uganda National Oil Company (UNOC) oversees commercial interests in the midstream projects. The national oil firm is founded and owned entirely by the State (with two shareholders, namely; Ministry of Energy and Mineral Development with 51% and Ministry of Finance Planning and Economic Development with 49% shares) in order to oversee the commercial facets of Uganda's petroleum operations in accordance with Section 42 of the Midstream Act. UNOC in turn wholly owns two companies for the projects, namely; the Refinery Holding Company Limited (URHC) and National Pipeline Company (Uganda) Limited (NPC).

The researcher discovered that all of the EACOP and URP feasibility studies had demonstrated that the two projects would result in significant revenue generation for the nation from the proceeds that will follow the sale of the crude oil, to the taxes that will be collected, the enormous infrastructural developments like roads, hospitals, schools, airport, hotels among others; the employment opportunities that will be created and income from the sale of the refined goods produced by the Refinery.

Numerous training and educational programmes, including those for welder training and traffic safety, will be beneficial to the local populations along the EACOP route. Additionally, since workers working on the pipeline will stay in nearby hotels and bars and eat at nearby restaurants, the little communities along its route are expected to witness a boom in local commerce. The employment opportunities that will arise throughout the project, with about 10,000 jobs anticipated during the construction phase, will have an impact on individuals. This includes skilled, semi-skilled, and temporary employees.

The study discovered that communities like Hoima Municipality that host midstream oil projects are likely to benefit from a general economic uptick as a result of the positive cumulative effects of employment, training, and purchasing power related to the EACOP project and its associated facilities (the Tilenga and Kingfisher projects), as well as other third-party developments. It will improve access to the national road network, improve access to health care, and minimise travel times, including response times in emergency circumstances, as well as the third-party road renovations and the upgrade of the EACOP project access road.

On the other side, the researcher discovered that the villages along the pipeline path had high expectations for gaining access to power. And this may be so since the EACOP must be heated all the way and it is nowonder that joint venture partners authorised a USD100 million (approx. Ug.Shs. 395 billion) for construction of solar power stations along the pipeline route.[178] However, it is expected by international standards that a project will enhance the quality of life and general wellbeing of the impacted people, and it is typical that when an energy or gas corridor is constructed, the neighbouring affected areas will also profit from this. Some expectations from the local community may not be met, which may result in complaints being made against the project partners.

Many of the residents surveyed in the Albertine Region claimed that the access roads will enhance the movement of commodities and give them access to markets along the pipeline route. They noticed that due to the growing population in the area, commercial enterprises including hotels and retail stores were already prospering.

Construction of the EACOP and associated facilities will require land. The purchase of this land will either be temporary or long-term. The majority of families or people affected by

[178] Martin Kitubi (2022), New Vision Newspaper of May 06, 2021 at page 14

EACOP rely on agriculture for their livelihoods, and according to the EACOP RAP, the pipeline route passes through rural areas in 92 percent of the case. Households grow crops and economic trees for their own subsistence needs as well as to generate income. Households were impacted by the compensation delays and the farming restrictions that were first stated, forcing them to cultivate only seasonal crops.

However, the study found that the communities to be affected by EACOP were concerned about being displaced and if the government would offer fair and fast compensation because they were aware of the unfavourable experiences described by those impacted by the Kabaale Industrial Park in Hoima.

5.3 Conclusion

This study was based on the idea that a project's economic viability isn't just measured by how much money it makes. So, the goal of the research was to find out if the midstream projects were good for the economy as a whole by looking at how they affected the environment, communities, land compensation, and infrastructure development. In order to do this, the research included a basic study of how the midstream business and regulatory environment in Uganda is right now. A SWOT analysis was used to figure out how to do this.

The analysis showed that there are midstream projects that are more likely to be built because they are close to the country's neighbours, which means that transportation costs will be lower and there will be more markets to sell to. The midstream projects would also give people a lot of chances to get jobs, bid on services, and get money for their land. Lastly, the research found that the business environment could be hurt by oil spills and the government's poor management of tax money, both of which would hurt its economic goals.

Several laws govern the midstream projects in Uganda. These include the Petroleum (Refining, Conversion, Transmission, and Midstream Storage) Act of 2013 and laws relating to the environment, land, tort, insurance, and immigration, among others. But some of the things agreed upon in the Inter-Governmental Agreement (IGA) and Host Government Agreement (HGA) that are important for the project to work in Uganda are either not covered by the law or are in conflict with the law. Also, the HGA says that enabling legislation must be passed before the HGA can be fully put into effect.

From the research results and what has been said so far, it is clear that there are other ways to measure economic viability besides the short-term benefits of midstream projects. The success of these projects has been judged by how much money they make, the effectiveness of legal and regulatory environment, how much good they do for the community, the state and nature of land acquisitions, and how many jobs they create. From the above analysis, it is clear that both the pipeline and the refinery have economic benefits, but there are some problems with how these benefits are distributed and managed.

5.4 Recommendations

5.4.1 Recommendations for the Regulatory Bodies

Oil is not an endless supply. But if Uganda uses oil money to build up its own capabilities and improve people's skills, it will get an endless stream of benefits. Ugandans need to know a lot about how oil is made and traded. Expats shouldn't be the only ones who know about the science and economics of oil refining. Related to this is how important it is to use some of the oil money to build economic infrastructure, both to make oil exploration more productive and to help the economy become more diverse.

The people who were interviewed stressed how important it is to get the local private sector involved and help local businesses grow by avoiding exclusive policies and allowing

competition. Contracts with oil prospectors are not set in stone; they can be changed if new information comes up. Still, the public sector will need to be better equipped to negotiate contracts with both domestic and foreign companies in order to make sure that everyone gets a fair deal.

The MEMD should set up strategies for Local Governments and the Ministry to harmonize their goals and share information. This would not only make it easier for Local Government leaders to make informed decisions for the community, but it would also encourage a transparent and accountable system.

The MEMD should work with Local Governments to set up information centres in each district or sub-county in the areas of the project operations. All information about oil and gas should be openly available at these centres. A respondent who worked for an NGO in Nwoya and Nebbi said that people should be able to get this kind of information from public libraries.

MEMD should work to improve the skills of information officers at the District level and CSOs working in the oil and gas sector. This would make it easier to share information and get information about the oil and gas industry which is already technical in nature. Some NGOs, like RICE-West-Nile, BIRUDO in Buliisa, and KRC in the Ruwenzori region, were said to have information centres in the areas where they worked, and some people in the focus group brought them up as information sources. Still, even these centres needed to have more information that is up to date.

Even though the MEMD, PAU and UNOC websites and social media platforms are important source of information, only members of NGOs and technology savvy or fairly elite can use them to get information. The Ministry should start using more palatable and inclusive ways to share information like local FM radios, communications in churches, deploying ambassadors in the community that can share this information in the local language at social gatherings or

in village SACCO meetings. Radio shows in particular should have a way for people to give feedback, such interaction enables the Government to meet the information needs of the community.

The Ministry of Local Government should make ensure that Local Government leaders are involved in making decisions about the oil and gas sector in accordance with the Nation Oil and Gas Policy of 2008. As part of these efforts, there should be an oil and gas desk or a person in charge of oil and gas information at District Offices, so that the provisions of the National Oil and Gas policy can be implemented. The Ministry should also sensitize local leaders at all levels about access to information laws and how to use them.

5.4.2 Recommendations for Oil Companies

According to the respondents, oil firms used to host quarterly community meetings for the purpose of discourse and the exchange of information in the past. They expressed their desire for these to be brought back to life. In order to provide simple access to information, oil corporations, in partnership with the Government, ought to establish information centres at the level of the District and the Sub-county/parish. The phrase "information offices" can also refer to community notice boards and data centres.

At places of worship, as well as on radio, television, and other forms of media, concerted efforts need to be made to disseminate oil and gas-related information, particularly that which relates to operations that are currently taking place or that are scheduled to take place in the near future. This will facilitate the flow of information and minimise misconceptions as well as fears over oil and gas activities.

5.5 Limitations of the Study

The study encountered the problem of participants withholding information about the study questions. The study had assured the respondents of confidentiality and that the study is strictly academic.

The study encountered a time constraint during the collection and analysis of data. The study tried his best to secure time off work and complete the study.

The study also faced a financial constraint relating to money for travels, printing, photocopying, data analysis and other miscellaneous expenses that came along. The Researchertried to use the limited funds available to complete the study.

5.6 Suggestions for Further Study

This study sought to analyse the economic viability of the midstream projects in Uganda. In so doing it assessed the feasibility of each midstream project based on different variables. Based on this principle of multi-variable analysis, the researcher recommends that the similar studies be carried out to assess both the environment and social feasibility of the midstream projects.

BIBLIOGRAPHY

Legislations

Constitution of the Republic of Uganda (1995).

The National Oil and Gas Policy, 2008

The National Policy for the Conservation and Management of Wetland Resources, 1995

The Petroleum (Exploration, Development and Production) Act, 2013

The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013

Public Finance Management Act, 2015

Uganda National Climate Change Policy, 2015

Uganda National Land Policy, 2013

Oil and Gas Revenue Management Policy, 2012

East African Crude Oil Pipeline (EACOP) (Special Provisions) Act, 2021

The Land Acquisition Bill, 2019

Case Law

Charles Mwanguhya Mpagi & Angelo Izama Versus. The Attorney General Miscellaneous Case No. 751 of 2009

Standards

International Finance Corporation, 'IFC performance standards on environmental and social sustainability' (World Bank 2012) https://www.ifc.org/wps/wcm/connect/c02c2e86-e6cd4b5595a2b3395d204279/IFC_Performance_Standards.pdf?MOD=AJPERES&CVID=kTjHBzk

Publications

Aboda, C., Vedeld, P., Byakagaba, P., Mugagga, F., Nabanoga, G., Ruguma, T. F., & Mukwaya, P. (2021). Socio-economic consequences of displacement and resettlement: a case on the planned oil-refinery-development project in the Albertine region of Uganda. *Journal of Refugee Studies*, *34*(1), 851-873.

Anthonsen, M., Löfgren, Å., & Nilsson, K. (2009). Natural Resource Dependency and Quality of Government.

Arthur, P. (2014). Governance of natural resource management in Africa: contemporary perspectives. In *Managing Africa's Natural Resources* (pp. 39-65). Palgrave Macmillan, London.

Auty, R. (2002). Sustaining development in mineral economies: the resource curse thesis. Routledge.

Bainomugisha, A., Kivengyere, H., & Benson, T. (2010). Escaping the oil curse and making poverty history: a review of the oil and gas policy and legal framework for Uganda.

Barlow, A. (2020). The politics of the temporary: Tanzanian local content in the East African crude oil pipeline. *The Extractive Industries and Society*, *7*(2), 738-747.

Barma, N., Kaiser, K., & Le, T. M. (Eds.). (2012). *Rents to riches?: The political economy of natural resource-led development*. World Bank Publications.

Bravo-Ortega, C., & De Gregorio, J. (2005). The relative richness of the poor? Natural resources, human capital, and economic growth. *Natural Resources, Human Capital, and Economic Growth (January 2005)*.

Brunnschweiler, C. N., & Bulte, E. H. (2008). The resource curse revisited and revised: A tale of paradoxes and red herrings. *Journal of environmental economics and management*, *55*(3), 248-264.

Bryman, A. (2016). *Social research methods*. Oxford university press.

Byakagaba, Patrick, Frank Mugagga, and Dianah Nnakayima. "The socio-economic and environmental implications of oil and gas exploration: Perspectives at the micro level in the Albertine region of Uganda." The Extractive Industries and Society 6, no. 2 (2019): 358-366.

Byaruhanga, Julius, and Arnim Langer. "On the right track? An analysis of the implementation of oil and gas sector local content policies in Uganda." The Extractive Industries and Society 7, no. 2 (2020): 302-309.

Carlyle, R. (2020), "Why does the United States do not have a national oil company?", available at: www.quora.com/why-does-the-us-does-not-have-a-national-oil-company

Cooke, J. G., & Goldwyn, D. L. (2015). Africa's New Energy Producers: Making the Most of Emerging Opportunities. Rowman & Littlefield.

Di John, J. (2011). Is There Really a Resource Curse-A Critical Survey of Theory and Evidence. *Global Governance*, *17*, 167.

Dudley, B. (2018). BP statistical review of world energy. *BP Statistical Review, London, UK, accessed Aug*, *6*(2018), 00116.

Etukuri Charles, 'Oil Refinery Project Affected Persons' Case Resumes' (New Vision, 2018) <https://www.newvision.co.ug/news/1534717/oil-refinery-project-affected-persons-case-resumes> accessed 18 February 2022.

Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). Stakeholder theory: The state of the art.

Gary, I., & Karl, T. L. (2003). *Bottom of the barrel: Africa's oil boom and the poor*. Catholic Relief Services.

George, L. (2016). Growing Chinese debt leaves Angola with little spare oil. *Reuters*.

George, Taako Edema, Kiemo Karatu, and Andama Edward. "An evaluation of the environmental impact assessment practice in Uganda: challenges and opportunities for achieving sustainable development." Heliyon 6, no. 9 (2020): e04758.

Gondret, F., Père, M. C., Tacher, S., Daré, S., Trefeu, C., Le Huërou-Luron, I., & Louveau, I. (2013). Spontaneous intra-uterine growth restriction modulates the endocrine status and the developmental expression of genes in porcine fetal and neonatal adipose tissue. *General and comparative endocrinology*, *194*, 208-216.

Hammond, J. L. (2011). The resource curse and oil revenues in Angola and Venezuela. *Science & society*, *75*(3), 348-378.

Hodges, T. (2004). The Role of Resource Management in Building Sustainable Peace. Accord 15. From Military Peace to Social Justice? The Angolan Peace Process. *http://www. cr. org/our-work/accord/angola/resource-management. php*.

Humphreys, M. (2005). Natural resources, conflict, and conflict resolution: Uncovering the mechanisms. *Journal of conflict resolution*, *49*(4), 508-537.

Junior, Patrick. "Stakeholder engagement and participation in Uganda Oil and Gas Industry: A pitch." Journal of Accounting and Management Information Systems 18, no. 1 (2019): 133-140.

Karabegović, A. (2009). Institutions, economic growth, and the" curse" of natural resources. Fraser Institute.

Kashambuzi, R. (2011). A matter of Faith: The History of Petroleum Exploration in Uganda. 1984-2008. *Kampala Ugandans Impro Publications*.

Kaznacheev, P. (2017). Curse or blessing? How institutions determine success in resource-rich economies. *How Institutions Determine Success in Resource-Rich Economies (January 11, 2017). Cato Institute Policy Analysis*, (808).

Kinyera, P., & Doevenspeck, M. (2019). Imagined futures, mobility and the making of oil conflicts in Uganda. *Journal of Eastern African Studies*, *13*(3), 389-408.

Langer, A., Ukiwo, U., & Mbabazi, P. (2019). Oil Wealth and Development in Uganda and Beyond: Prospects, Opportunities, and Challenges (p. 394). Leuven University Press.

Lima, J. D. D., Trentin, M. G. A., Oliveira, G. A., Batistus, D. R., & Setti, D. (2015). A systematic approach for the analysis of the economic viability of investment projects. *International Journal of Engineering Management and Economics*, *5*(1-2), 19-34.

Manyak, Terrell G. "Oil and governance in Uganda." Journal of Public Administration and Governance 5, no. 1 (2015).

Mbabazi, P. K. (2013). The oil industry in Uganda: A blessing in disguise or an all too familiar curse. *Claude Ake Memorial Lecture*.

Mbabazi, P., & Muhangi, M. (2017). Uganda's Oil Governance Institutions: Fit for Purpose. *Oil wealth and development in Uganda: prospects, opportunities and challenges*.

Mehlum, H., Moene, K., & Torvik, R. (2006). Institutions and the resource curse. *The economic journal*, *116*(508), 1-20.

Ndyamuhaki, Derrick, Tony Blair Nasasira, and Brian Ngure. "Design and construction of a scaled down supervisory, control and data acquisition (SCADA) system tailored for fuel handling at Jinja storage terminal." PhD diss., Makerere University, 2022.

North, D. C. (1994). Economic performance through time. *The American economic review*, *84*(3), 359-368.

Obi, C. (2019). China, Oil, and Africa. *Insight Turkey*, *21*(1), 10-24.

Ogwang, T., & Vanclay, F. (2021). Cut-off and forgotten?: Livelihood disruption, social impacts and food insecurity arising from the East African Crude Oil Pipeline. *Energy Research & Social Science*, *74*, 101970.

Ogwang, T., Vanclay, F., & van den Assem, A. (2018). Impacts of the oil boom on the lives of people living in the Albertine Graben region of Uganda. *The Extractive Industries and Society*, *5*(1), 98-103.

Ogwang, T., Vanclay, F., & van den Assem, A. (2019). Rent-seeking practices, local resource curse, and social conflict in Uganda's emerging oil economy. *Land*, *8*(4), 53.

Okonta, I., & Douglas, O. (2003). Where Vultures Feast: Shell, Human Rights, and Oil. Verso.

Okuku, J. A. (2015, July). Politics, the State and Limits of Oil-led Development in Uganda. In Makerere Institute of Social Research (MISR) Seminar, Kampala. Retrieved from: https://misr. mak. ac. ug/sites/default/files/events/UGANDA% 20OIL-LED (Vol. 20).

Olanya, D. R. (2015). Will Uganda succumb to the resource curse? Critical reflections. *The Extractive Industries and Society*, *2*(1), 46-55.

Oloka-Onyango, J. (2020). Courting the Oil Curse or Playing by the Rules? An Analysis of the Legal and Regulatory Framework Governing Oil in Uganda. *An Analysis of the Legal and Regulatory Framework Governing Oil in Uganda (June 6, 2020)*.

Olujobi, O. J. (2021). Nigeria's upstream petroleum industry anti-corruption legal framework: the necessity for overhauling and enrichment. *Journal of money laundering control*

Oxford Analytica (2017), "Long road ahead for Uganda-Tanzania oil pipeline", *Expert Briefings*. https://doi.org/10.1108/OXAN-ES223641.

Polus, Andrzej, and Wojciech J. Tycholiz. "The norwegian model of oil extraction and revenues management in uganda." African Studies Review 60, no. 3 (2017): 181-201.

Reader, N. R. G. I. (2015). The resource curse: The political and economic challenges of natural resource wealth. *Natural Resource Governance Institute*.

Rojon, C., & Saunders, M. N. (2012). Formulating a convincing rationale for a research study. *Coaching: An International Journal of Theory, Research and Practice*, *5*(1), 55-61.

Roos, L., Adams, P., & van Heerden, J. (2013). The economic impacts of a newly discovered oil in Uganda, using a recursive dynamic CGE model.

Ross, M. L. (2015). What have we learned about the resource curse?. *Annual review of political science*, *18*, 239-259.

Sachs, J. D., & Warner, A. M. (2001). The curse of natural resources. *European economic review*, *45*(4-6), 827-838.

Sala-i-Martin, X., & Subramanian, A. (2008). Addressing the natural resource curse: An illustration from Nigeria. In *Economic policy options for a prosperous Nigeria* (pp. 61-92). Palgrave Macmillan, London.

Sanfo, J. B. M. (2021). Connecting family, school, gold mining community and primary school students' reading achievements in Burkina Faso–A three-level hierarchical linear model analysis. *International Journal of Educational Development*, *84*, 102442.

Schubert, S. R. (2006). Revisiting the oil curse: are oil rich nations really doomed to autocracy and inequality?.

Shepherd, Ben. "Oil in Uganda." International Lessons for Success. London: Chatham House. February (2013).

Steinhauer, Ineke, Arend Jan van Bodegom, Bopp van Dessel, J. Griffioen, and Tom Ogwang. "Review of the Scoping Report and Terms of Reference for the environmental and social impact assessment for the East Africa Crude Oil Pipeline." reference 7228 (2017).

Suddaby, R. (2010). Challenges for institutional theory. *Journal of management inquiry*, *19*(1), 14-20.

Tadjoeddin, M. Z. (2012). Conflict, natural resources and development. In *Elgar Handbook of Civil War and Fragile States*. Edward Elgar Publishing.

Todosioska, A. (2020). The role of telecommunication companies in Internet of things (Doctoral dissertation).

United Nations Development Programme, 'Uganda, the human development index – going beyond income', in Human Development Report 2009, http:// hdr.undp.org/en/reports/.

Van Alstine, James, Jacob Manyindo, Laura Smith, Jami Dixon, and Ivan AmanigaRuhanga. "Resource governance dynamics: The challenge of 'new oil'in Uganda." Resources Policy 40 (2014): 48-58.

Veit, Peter G., Carole Excell, and Alisa Zomer. "Avoiding the resource curse: spotlight on oil in Uganda." WRI working paper/World Resources Institute; January 2011 (2011).

Villar, Paul Fenton. "The extractive industries transparency initiative (EITI) and the technical reforms model: insights from the global performance assessments literature." The Extractive Industries and Society 8, no. 4 (2021): 100963.

World Bank, Country Assistance Strategy for the Republic of Uganda for The Period FY 2011–2015, 2010, http://siteresources.worldbank.org/ UGANDAEXTN/Resources/Uganda_CAS.pdf?res ourceurlname=Uganda_CAS.pdf

APPENDIX: INTERVIEW GUIDE

Dear interviewee,

My name is Yvonne Atwiine. I am conducting research assess the economic viability of primary midstream oil projects such as EACOP and the Uganda Refinery. Our discussion is expected to last less than 30 minutes and will help us understand those factors that will inform the achievement of economic benefits from Midstream Oil projects. Your participation is voluntary, and you can withdraw at any time without penalty. All data collected will be kept confidential

1. Are you familiar with the Midstream Sector of Uganda? If so, are you aware of the current Midstream project taking place in Uganda?

2. Are there any current Midstream Oil and Gas projects currently undergoing in your area of residence or community?

3. How prepared is Uganda's Business Environment to benefit and aid the achievement of economic benefits from Midstream Projects like EACOP and Uganda Refinery Project?

4. What strengths does Uganda's business Environment exhibit that might benefit the Midstream projects?

5. Are there any weaknesses that you feel will hamper the achievement of economic benefits from the Midstream oil and gas projects?

6. What opportunities do you feel that you, your community and Uganda will benefit from the development of Midstream oil and gas projects like the EACOP and the refinery?

7. What threat factors are currently present in the environment and about the projects that could cause the halt in development of Midstream sectors?

8. Does the overall consideration of these factors (mentioned above) cause you to rethink your stand about the viability of the Midstream projects?

9. Are you familiar with the legislative framework for Midstream oil and gas projects in Uganda?

10. Please mention and explain the different policies, laws, regulations and bodies that are in charge of Midstream projects?

11. In your opinion, are the policies, laws and regulations strong enough to ensure the proper utilization of Uganda's oil resources in the Midstream Sector? (If No or Yes, please explain why)

12. How well do you thing Uganda's institutional framework is set up to ensure the proper utilizations of Midstream Oil Projects?

13. In your opinion, what constitutes of economic feasibility of an oil project? (How does one tell if an oil project is economically beneficial?)

14. According to your answer in the previous question, do you feel that the Midstream project in your community or the EACOP and Uganda Refinery Project have been or will be economically beneficial?

15. What could be done to achieve or improve the economic benefits from the Midstream projects in your area?