

**AN ANALYSIS OF THE EFFECTS OF OIL AND GAS EXPLORATION ON TOURISM
IN THE ALBERTINE REGION.**

A CASE STUDY OF BULIISA DISTRICT

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DECLARATION

I, KOBUSINGYE TEDDY hereby declare that this proposal is my work and it has not been submitted before to any other institution of higher learning for fulfillment of any academic award.

Signed.....

Date.....

APPROVAL

This is to certify that, this proposal entitled “an analysis of the effects of oil and gas exploration on tourism in the Albertine region” has been done under my supervision and now it is ready for submission.

Signature.....

Date.....

Mr. JAMES MUGERWA

DEDICATION.

I dedicate this work to family members most especially my sisters Masika Jane and Nyamwiza Oliver, my brother Innocent Twebaze Innocent and my mother Kimuli Grace who have supported me financially, encouraged and cared for me to the accomplishment of my course. And I pray that God should bless them abundantly.

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Special thanks should go to the Almighty God for the wisdom, strength, guidance and hardworking which he granted me throughout my stay and study at IPSK. I would also like to thank the entire team at IPSK for the knowledge and guidance they have given me which has made me a better person. And most especially my supervisor Mr. James Mugerwa. My acknowledgement goes to all my respondents for their cooperation during the data collection process.

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LIST OF ACRONYMS

AFT	Agency of Transformation
AG	Albertine Graben
A.M.S. L	Above Mean Sea Level
CNOOC	Chinese National Offshore Oil Company
DRC	Democratic Republic of Congo
EARS	East African Rift System
EIA	Environmental Impact Assessment
IUCN	International Union for Conservation of Nature
MEA	The Millennium Ecosystem Assessment
NEMA	National Environment Management Authority
PA	Protected Area
STOIP	Stock Tank Oil Initially in Place
UBOS	Uganda Bureau of Statistics
UWA	Uganda Wildlife Authority
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund

ABSTRACT.

The study intended to investigate the effects of oil and gas exploration on tourism in Uganda Buliisa District. The objectives of the study were to examine the threats and opportunities posed by the petroleum industry on Uganda's tourism sector, to examine the hotspot areas for the better growth of the tourism sector in the Albertine region and to analyse the relevance of the petroleum industry to the tourism sector in Albertine region in Buliisa District.

Methodology that was used, is that the research was conducted using both quantitative and qualitative approaches using a Case study as Research Design. Data was collected using a self-administered Questionnaires as well as review of available documents and records. Data was analyzed using SPSS software where conclusions were drawn from.

The study revealed that the oil and gas industry in the Albertine region had most of the opportunities like improved economy through investment of the oil revenues in form of taxes, construction of roads that have made access of movement of the tourist to the tourist's places in the Albertine region. Increased recreational centers that have also boosted tourism through improved services like accommodation and hospitality. The study further showed that oil and gas was associated threats like oil spills, noisy activities that have chased away the animals in their comfort zones.

The concludes on the ground of finding better means to make sure oil and gas benefits the tourism in the Albertine region as well as the People of Bullisa district through setting regulatory guideline with penalties for violating the operating procedure since they are in the tourist attraction zones.

1 CHAPTER ONE: INTRODUCTION

1.1 Introduction.

Tourism industry is one of the most economically important set of industries worldwide yet it is also one of the most susceptible and vulnerable to crisis or disasters (Pforr 2009). Faulkner (2001) notes an increasing number of disasters and crisis' that affect tourism industries and sub industries ranging from natural to human influenced incidents. In recent years' tourism globally was influenced by many crises and disasters, including terrorist attacks, political instability, economic recessions and natural disasters. Faulkner (2001) and Ritchie (2004) argue that there is lack of research on the impacts of such events on both tourism industries and at the destination (EPRC 2012).

Uganda has all of the natural endowments to successfully pursue tourism development. It is home to the endangered mountain Gorilla in Bwindi Impenetrable National Park and more than 1000 bird species.

This research explored the potential impact of Uganda's new petroleum industry on the country's tourism sector. Uganda is naturally endowed with many resources, and also has bottomless potential to become a premier tourist destination. Although images of past political instability have affected the country's reputation, and in spite of meagre budget allocation to tourism, the sector has been growing and the new oil industry offers great opportunities to boost it further. Indeed, tourism in itself relies heavily on oil, not only for its transportation components but also for many other aspects of tourism products, like accommodation, recreational activities and hospitality.

However, Uganda's oil resources are onshore and nearby rich tourist sites. There is thus a danger that the nascent oil industry will have negative and destructive effects on tourism enclaves, the environment and the economy. For example, most of the new oil operations are taking place in the highly valued Murchison Falls National Park. There are over 400 identified species of mammals in the park, including elephants, buffaloes, giraffes, lions and leopards. Excursion activities consist of game drives, bird watching, boat rides to Murchison Falls, and sport fishing (UWA, 2001). This Park alone collected Uganda shillings 6.8billionin revenue in the 2011-2012 fiscal year (UWA

2012). Overall, the tourism sector contributed USD 662 million in 2011, representing 11.4 percent of the total country's foreign exchange earnings.

The findings from this study highlighted the risks that were involved and measures that were to be taken to optimize the benefits of the oil industry while minimizing its effects on the tourism sector (achieving sustainable tourism). The study also articulated for the necessary actions that helped the tourism sector surge (deal) as well as the costs of inaction that sunk the tourism sector. The research starts with an overview of tourism and oil exploration in Uganda. The performance and prospects of the tourism sector are investigated.

Next, the negative impacts of petroleum on tourism are explored, including the impact of oil extraction and oil refining operations, the potential for conflict escalation, and other common concerns such as the Dutch Disease and resource curse syndrome. Thereafter, the regulation of the petroleum industry is considered, in view of promoting and protecting the country's tourism sector. Finally, some success stories and lessons from international best practice are given, from which Uganda can learn, plus some key policy recommendations for the way forward.

The relatively undisturbed natural environment, represented by 10 National parks, 12 wildlife reserves, seven wildlife sanctuaries, five community wildlife areas and a potential for water-based sports along the River Nile, distinguish Ugandan tourism markets from more advanced African tourism markets (UWA 2001). Of Uganda's five sedimentary basins, the Albertine Region has so far been the most prospective area for petroleum in Uganda. This is the northern most part of the western arm of the East African Rift. It is approximately 500 kilometres long and 45 kilometres wide on average stretching from the northern tip of Lake Albert to the southern tip of Lake Tanganyika.

The land surrounding Lake Albert is rich in biodiversity, and is partly a designated protected area (PA) on the Ugandan side. Much of the land is used for agriculture (crops and livestock) and human settlements, while the lake provides fish for the surrounding communities and beyond, Ituri on the DRC side and Nebbi, Amuru, Buliisa, Hoima, Kibale and Bundibugyo on the Uganda side surrounding the lake (Morrison 2014).

It was independently identified as an ‘endemic bird area’ by Birdlife International, an ‘eco-region’ by World Wildlife Fund (WWF) and a ‘biodiversity hotspot’ by Conservation International. The region has high species diversity, including 39% of Africa’s mammal species, 51% of its bird species, 19% of its amphibian species and 14% of its plant and reptile species. It harbours more endemic species than any other region in Africa. It is also home to 79 threatened terrestrial vertebrates according to IUCN Red Data book listings as such it is one of the most important conservation eco regions in Africa (WCS 2009).

1.2 Background to the Study.

The presentation of the background will be based on Amin who put emphasis on discussing the historical background and the theoretical background.

1.2.1 Historical Background.

After the discovery of commercially viable quantities of oil and gas in the Albertine region in the western part of Uganda in 2006, there was preparations towards the start of exploitation of the oil from the forgoing it was likely that the exploitation of the oil would start especially in the year 2021 as projected by Chinas CNOOC while the government of Uganda saw the production to begin in 2020 but due to the pandemic, this was in vain, however production projected to 2025. But the main problem is that these oil exploitation areas are located in game parks which possess a great danger to the tourism industry which is a great export earner to Uganda’s economy, Tourism contributed over 3billion dollars to Uganda’s oil economy between 2018/2019 fiscal year, (UBOS Report of 2019).

Uganda has all of the natural endowments to successfully pursue tourism development. It is home to the endangered mountain Gorilla in Bwindi Impenetrable National Park and more than 1000 bird species. The relatively undisturbed natural environment, represented by 10 National parks, 12 wildlife reserves, seven wildlife sanctuaries, five community wildlife areas and a potential for water-based sports along the River Nile, distinguish Ugandan tourism markets from more advanced African tourism markets (UWA 2001).

Of Uganda’s five sedimentary basins, the Albertine Graben has so far been the most prospective area for petroleum in Uganda. This is the northern most part of the western arm of the East African

Rift. It is approximately 500 kilometres long and 45 kilometres wide on average stretching from the northern tip of Lake Albert to the southern tip of Lake Tanganyika. The land surrounding Lake Albert is rich in biodiversity, and is partly a designated protected area (PA) on the Ugandan side. Much of the land is used for agriculture (crops and livestock) and human settlements, while the lake provides fish for the surrounding communities and beyond, Ituri on the DRC side and Nebbi, Amuru, Buliisa, Hoima, Kibale and Bundibugyo on the Uganda side surrounding the lake (Morrison 2014).

Population growth is expected to increase pressure on natural resources and access to land. Ituri in the eastern DRC is one of the country's poorest and least stable regions, still conflict prone after a brutal war in 1998–2003. Future oil extraction and processing was posed a major additional risk to the environment, with likely negative effects on Uganda's important tourism industry threatened by oil operations. Oil exploration began in Uganda's part of the Lake Albert basin in the late 1990s, and increased in 2003.

Major finds were confirmed in 2006 and 2007, both offshore (under the lake bed) and onshore. The Ugandan government renegotiated production sharing agreements (PSAs) with international oil companies. Among the first international exploration companies involved were Tullow and Heritage. Tullow is developing partnerships with larger international production companies Total and CNOOC (a Chinese state oil company). Tower and Dominion were also present in Uganda. The government allocated five of its nine exploration blocks to companies. On the DRC side, oil exploration is developing more slowly than in Uganda, although the DRC has been a minor oil producer from other parts of the country since the mid-1970s.

The region was independently identified as an 'endemic bird area' by Birdlife International, an 'eco-region' by World Wildlife Fund (WWF) and a 'biodiversity hotspot' by Conservation International. The Graben has high species diversity, including 39% of Africa's mammal species, 51% of its bird species, 19% of its amphibian species and 14% of its plant and reptile species. It harbours more endemic species than any other region in Africa. It is also home to 79 threatened terrestrial vertebrates according to IUCN Red Data book listings as such it is one of the most important conservation eco regions in Africa (WCS 2009).

Numbers of Endemic Species in The Albertine Graben.

Species	Butterflies	Amphibians	Reptile	Birds	Mammals
Total.	123	32	21	41	29
Uganda (% of Total species)	68 (55.3)	11 (34.4)	13 (61.9)	36 (87.8)	23 (79.3)

Table 1 Endemic species

(USAID 2007)

Oil and Gas Exploration activities in the Albertine Graben (AG) of Uganda have had a 90% success rate, with 44 out of the 48 exploration and appraisal wells drilled encountering oil and gas. The Ugandan government has negotiated and renegotiated production sharing agreements (PSAs) with international oil companies, among the first international exploration companies involved were Tullow and Heritage. Tullow developed a partnership with larger international production companies Total and CNOOC (a Chinese state oil company). Tower and Dominion were also present in Uganda. The government has allocated five of its current nine exploration blocks to companies (Nature Uganda 2011).

However, Uganda's oil resources are onshore and nearby rich tourist sites, oil industry will have negative and destructive effects on tourism enclaves, the environment and the economy. For example, most of the new oil operations are taking place in the highly valued Murchison Falls National Park. There are over 400 identified species of mammals in the park, including elephants, buffaloes, giraffes, lions and leopards. Excursion activities consist of game drives, bird watching, boat rides to Murchison Falls, and sport fishing (UWA, 2001). This Park alone collected Uganda shillings 6.8bn in revenue in the fiscal years of 2011 and 2012 (UWA 2012). Therefore, these are resources that need protection because they create jobs if these animals are to be preserved for the future generation.

1.3 Statement of the Research Problem

Uganda's oil resources are onshore and nearby rich tourist sites. There is thus a danger that the nascent oil industry will have negative and destructive effects on tourism, the environment and the economy. For example, most of the new oil operations are taking place in the highly valued Murchison Falls National Park. There are over 400 identified species of mammals in the park, including elephants, buffaloes, giraffes, lions and leopards. Excursion activities consist of game drives, bird watching, boat rides to Murchison Falls, and sport fishing (UWA, 2001). This Park alone collected Uganda shillings 6.8 billion in revenue in the 2011-2012 fiscal years (UWA 2012). Overall, the tourism sector contributed USD 662 million in 2011, representing 11.4% of the total country's foreign exchange earnings (UBOS 2012).

Therefore, the impacts of oil and gas exploration which are occurring in the protected area of the Albertine Rift to a large extent need to be carefully considered, prevented or mitigated in order to protect the biodiversity of the Albertine Rift for ecological and economic reasons. Besides Oil exploration and very likely eventual extraction with its attendant infrastructure, a number of other new developments are planned or have been muted whose implementation will also have their own impacts on areas of the Albertine rift. Oil exploration and development will inevitably attract other industries and urban growth, which will also have resultant impacts that will in the long-term affect ecosystems and land cover and no doubt the species that are associated within the area (Nature Uganda 2011).

1.4 Justification of the Study

The fact that both tourism and oil exploration are very crucial in the development of economy since they spearhead economic growth. Therefore, an analysis of the effects of Oil and gas exploration was very crucial if Uganda is to benefit and fix the loopholes in the sector to ensure both sectors thrive and continue to support Uganda's economic development.

1.5 Objectives of the Study

1.5.1 Overall Objective

- To analyse the effects of oil and gas exploration on tourism in the Albertine Graben.

1.5.2 Specific Objectives

- To examine the threats and opportunities posed by the petroleum industry on Uganda's tourism sector.
- To examine the hotspot areas for the better growth of the tourism sector in the Albertine region.
- To analyse the relevance of the petroleum industry to the tourism sector in Albertine region and Uganda as a whole.

1.6 Research Questions

1. What are the effects that the petroleum exploration on Uganda's tourism industry in Uganda?
2. What is the extent are hotspot areas in the Albertine region protected for the better growth of tourism?
3. How important is the oil and gas industry to the tourism sector in Uganda?

1.7 Scope of the Study.

1.7.1 Content Scope

The study was limited to the effects of oil and gas exploration on tourism in the Albertine region.

1.7.2 Geographical Scope

The research was conducted in the Albertine graben region which is one of the Albertine regions in Hoima District. The coordinates of the district are: 02 11N, 31 24E. The researcher decided to focus on this region because it a centre of oil exploration.

1.7.3 Time Scope

The study was carried out for a period of four months from March to August, 2020 to gather the needed information. However, the research focused on literature of oil and gas exploration for the last 8 years (2012 to 2020). This time frame helped in ensuring that objectives are met since the data for 8 years was enough for the researcher to acquire the needed information. More so, that

was when the major exploration projects were being undertaken including the construction of the airport and roads to facilitate oil production.

1.8 Significance of the Study

The study helped the Researcher in formulating theories that will be of use in making further research about the same or related topic, interview, observation and data analysis skills.

Students of the lower and upper levels will need the information for references, addition to their knowledge hence facilitating their further studies.

The Research will help oil management Fields to know well the impacts they will cause to the environment in case they do not follow the environmental standards required.

The research will also help tour operators to know which areas have low or high biodiversity in the protected areas.

The research will also help the Environmental organization to implement the laws of oil waste disposal, conservation of flora and fauna in the Albertine Graben.

The research will also help in developing the local communities through infrastructure development.

1.9 Theoretical Framework.

They are two types of frameworks, the conceptual framework and the theoretical framework, however this Particular research concentrated on the theoretical framework since it explains more the critical benefit of tourism and oil and gas exploitation since oil exploration can be used to boost tourism in the country.

Theoretically oil and gas sector can be used to boost tourism in the country if well managed, however any mismanagement of the environment which is a critical aspect for the survival of the biodiversity in the country is a basis for tourism attraction in Uganda hence there is critical need to analyse the growth and development oil and gas that it can effectively contribute to the growth of Uganda's tourism sector.

1.10 Theoretical Perspective of the Study.

This study was informed by the theory of sustainable tourism. According to the world Tourism Organisation, Tourism is sustainable when it fully keeps into consideration the present and future economic, social and environmental impact on the territory, meeting the needs of the visitors, the tourism industry, the environment and the host communities. Therefore, protecting the environment from dangerous activities of oil and gas is very critical to ensuring that the animals and the rest of the biodiversity is protected from activities of oil and gas which might include events of oil spills which is very dangerous to the environment and it can cause a huge blow to the tourism industry.

1.11 The Structure of the Research.

1.11.1 Chapter One Introduces the Study.

It presents an overview of the background, Historical, statement of the problem, justification of the study, statement of the problem, Research Objectives of the study, Research Questions, Significance of the study, Scope of the study, justification, and theoretical framework of the study.

1.11.2 Chapter Two: Literature Review;

This section reviews existing literature on how the effect of oil and gas exploration on tourism pollution and the environment, look at the Nigerian application of the principle, opportunities and threats caused by the industry. This part also presents an analytical overview of tourism in Uganda in regard to environmental protection in the oil and gas sector in Uganda and its implementations in oil and gas sector and how oil and gas industry can be used to boost tourism

1.11.3 Chapter Three: Methodology;

This part looks at the research methodology, bringing out the research design, study population, research instruments, data sources, ways of analysing data and research ethical considerations.

1.11.4 Chapter Four: Data analysis and presentation;

This analyses the questionnaire and interview response rates. It also presents an analysis of the main findings of the study including the interpretation and discussion thereof.

1.11.5 Chapter five: Conclusions and Recommendations;

This section presents the summary of findings, limitations of the study, possible recommendations as well as outlines areas for future research.

2 CHAPTER TWO: LITERATURE REVIEW.

2.0. Introduction

According to (Hart, 1998), literature review is “the selection of available documents on the topic which contain information, ideas, data and evidence written from a particular standpoint to fulfil certain aims or express certain views on the topic and the effective evaluation of these documents in relation to the research being proposed” by Hart.

2.1 General Overview of Oil and Tourism in Uganda.

2.1.1 Oil in Uganda.

In 2006 the Ugandan government announced that commercially viable oil reserves were discovered in the Albertine rift of Western Uganda, this area runs along Uganda’s western border with the Democratic Republic of Congo (DRC) and is approximately 1300 kilometres from the coast. Oil extraction in Uganda’s Albertine Graben region is starting and expectations are high because the area is estimated to hold at least 3.5 billion barrels of Stock Tank Oil Initially in Place (Kabanda 2012).

Oil and Gas Exploration activities in the Albertine Graben (AG) of Uganda have had a 90% success rate, with 44 of the 48 exploration and appraisal wells drilled encountering oil and gas shows. Uganda’s oil and gas sector is still at the infancy stage, with the first commercial discovery of oil in Uganda having been made in 2006. Activities to date are still at the exploration stage of the 18 oil or gas discoveries made, five (Mputa, Kasamene, Kingfisher, Waraga and Nzizi) are now at Field Development Stage (Nature Uganda 2011).

The Ugandan government has negotiated production sharing agreements (PSAs) with international oil companies, among the first international exploration companies involved were Tullow and Heritage. Tullow is developing partnerships with larger international production companies Total and CNOOC. Tower and Dominion are also present in Uganda. Future oil extraction and processing will pose major additional risks to the environment, with likely negative effects on Uganda’s important tourism industry (Miles Litvinoff 2012).

In early August 2013, Uganda drilled its 104th wellbore in its exploration program for petroleum resources in the Albertine Region. This follows three decades of intensive oil and gas exploration activity in the country (Amos 2014).

2.1.2 Coverage of Exploration Sites in the Albertine Rift.

The Albertine Graben forms the Northern-most extension of the Western arm of the East African Rift System (EARS). (Figure 1). The Graben stretches from the border between Uganda and Sudan in the north to Lake Edward in the south, a total distance of over 500km with a variable width of 45 km. This region is an important one for global conservation. It harbors more species of vertebrates than any other region on the African continent. It also shelters more than half of Africa's bird species and nearly 40% of mammal species. There are more endemic mammals, birds and amphibians in the Rift Valley than any other site in continental Africa. In terms of biological diversity, the forests and lakes within this area constitute one of the richest parts of the world. The Rwenzori Mountains are reported to have more mammal species than any other site in Africa. The Albertine graben therefore serves as a significant wildlife conservation area and home to a diversity of wildlife species. The area therefore has a high tourism potential, besides being vitally important for the conservation of the wildlife and their habitats (Francis 2012).

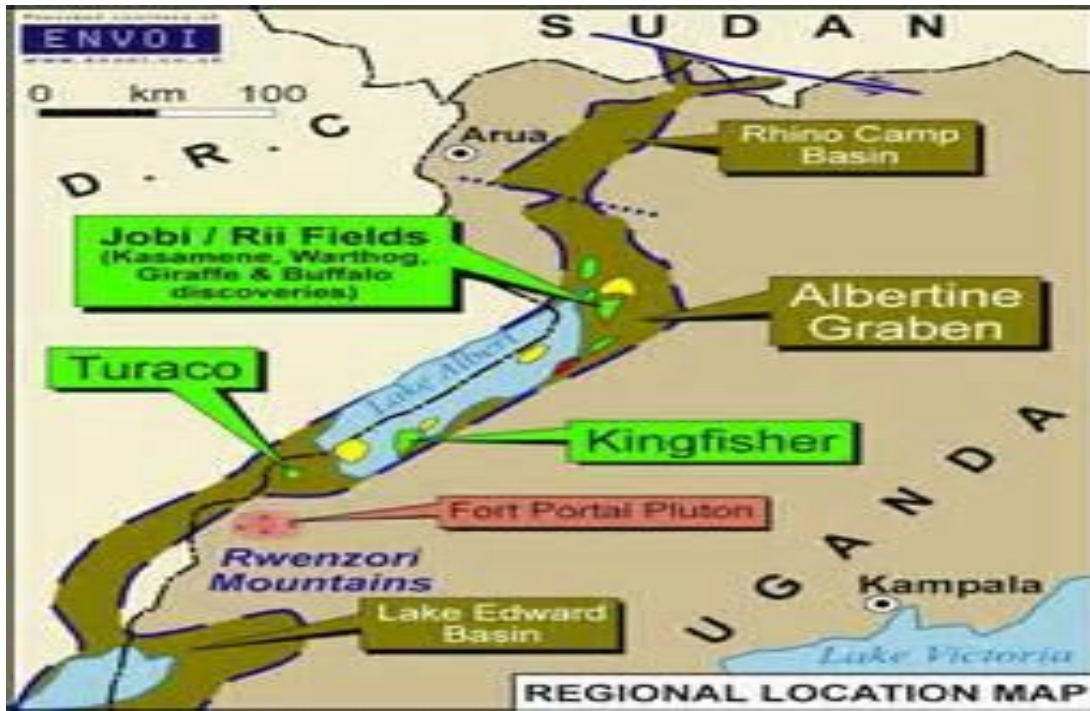


Figure 1 showing the coverage area for exploration sites in the Albertine Graben

2.1.3 Tourism in Uganda.

Uganda is naturally endowed with many resources, and also has bottomless potential to become a premier tourist destination. However, the period of turmoil in the 1970's and 80's saw the wildlife haunted to virtual extinction in all the national parks, tourism infrastructure vandalized and looted and as a result Uganda lost its position of leading tourism destination in East Africa (Samson 2014).

When the National Resistance Army (NRA) government took over power in the 80's, this saw tourism sector restore from the dark to a flicker and optimism state in spite of meager budget allocation of US\$300,000(MOFPED, 2012). Although the government associates low financing with a limited national budget (MOFPED, 2012) the sector is growing bigger making it the leading and fastest growing in country (UBOS 2011).

The new oil industry offers great opportunities to boost it further. Indeed, tourism in itself relies heavily on oil, not only for its transportation components but also for many other aspects of tourism products, like accommodation, recreational activities and hospitality.

Overall, the tourism sector contributed USD 662 million in 2011, representing 11.4% of the total country's foreign exchange earnings (UWA 2012).

2.1.4 The Power of Uganda's Tourism Sector.

The tourism sector in Uganda remains an important avenue for economic growth and poverty reduction. It has experienced growth in investment along the value chain, attractiveness and operational complexity. According to Amos Wekesa, the President of the Uganda Tourism Association and managing director of Great Lakes Safaris, Primate Lodge, and Tourism is the fastest growing industry on earth. It grows faster than the manufacturing and oil industries which are our major focus as a nation. Indeed, tourism in Uganda offers a number of advantages and economic growth opportunities, such as Source of employment.

The World Travel & Tourism Council (WTTC) estimates that the Ugandan tourism industry directly contributed 225,300 jobs in 2011, with the figure rising to a total of 522,700 jobs when factoring in those indirectly supported by the industry. These figures represent 3.4% and 7.9% of Uganda's workforce, respectively. Potential linkage with other sectors like agriculture (food supply), communications and other hospitality industries. Opportunities for off-farm diversification, especially in areas where agriculture is less viable and manufacturing industries do not exist. Foreign exchange earner: Tourism was estimated to contribute USD 662 million in 2011 representing 11.4 percent of the total country's foreign exchange earnings. Generates demand for assets, goods and services. Tourism is also associated with infrastructure development in remote places. Offers a relatively rapidly growing market in Uganda where the country's full tourism potential has not yet been developed.

2.1.5 Visitation to Uganda National Parks.

Uganda's tourism sector has been steadily growing. This growth has been driven in large part by foreign non-residents, with some important increases also being seen within the students and citizen (domestic) markets. The country's natural parks are major tourist destinations and have a wide range of tourism products. These include gorilla tracking, nature guided walks, village walks, butterfly and bird watching, rare fauna and flora species. The number of visitors to the national parks increased from about 127,000 to about 210,000 between 2007 and 2011, which is an increase of over 65%. The most popularly visited national park in 2011 was Queen Elizabeth (42%),

followed by Murchison Falls (29%) and Lake Mburo (10%). The three collectively accounted for 80 percent of the visitors to national parks.

Uganda is greatly endowed with tourist attractions such as wildlife, impenetrable forests, lakes, mountains with rare fauna and bird species, and the unique climate and this is due to its natural which the The Pearl of Africa. In spite of the foregoing, Uganda lags behind in the region due to inadequate marketing. For example, in 2009, Kenya received 2.4 million tourists and Tanzania 714,320 compared to Uganda at 61,000 tourists. Indeed, the contribution of tourism to the country's GDP and the country's share in the tourism market was relatively small.

2.1.6 Climate.

The Albertine graben has a sharp variation in rainfall amounts, mainly due to variations in the landscape. The landscape ranges from the low-lying Rift Valley floor to the rift escarpment, and the raised mountain ranges. The highest landscape is the mountain ranges of Rwenzori, the Rwenzori Mountains towering at over 5000 m above mean sea level (AMSL). The Albertine graben region lies astride the equator. The region experiences small annual variation in air temperatures; and the climate may be described as generally hot and humid, with average monthly temperatures varying between 27°C and 31°C (NEMA 2008)

2.2 Conservation status of areas in the Albertine Rift

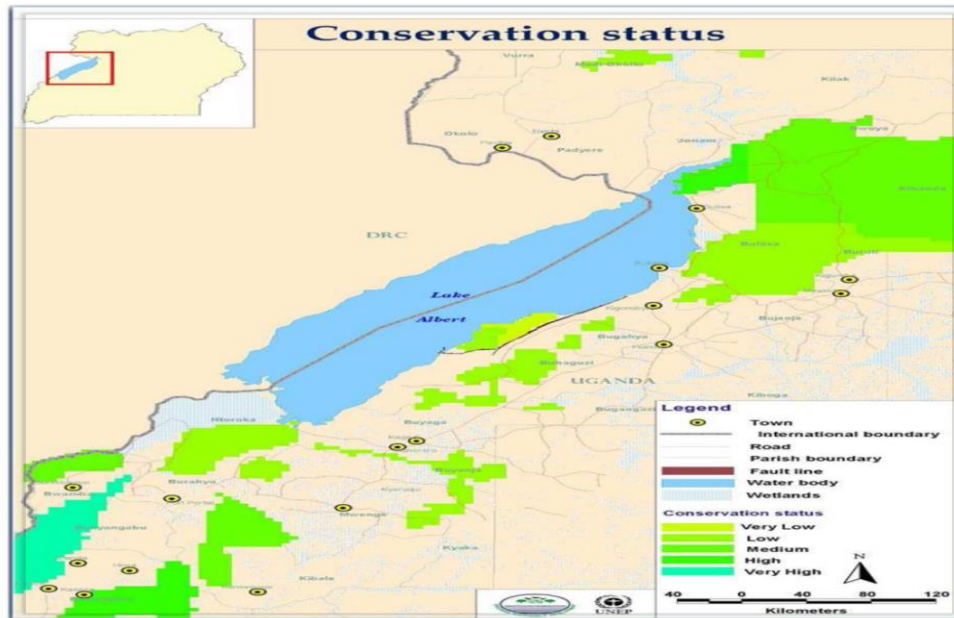


Figure 2 Conservation status of areas

Figure 2: (Source: NEMA 2009)

2.2.1 General View on the Effects of Oil on Tourism

Presently, there is minimal legal protection to the environment in which oil production is conducted in Uganda. It should be noted that the Petroleum (Exploration and Production) Act 16 was enacted at a time when natural gas was not looked at as viable source of energy. Indeed, it was seen as an inconvenient bi-product of oil production. Accordingly, while section 31 prohibits wasteful or environmentally damaging oil field practices, subsection (2) and (3) empower the holder of a petroleum exploitation license (the licensee) to flare natural gas. (Act, Cap 150).

Some government officials have allegedly been saying that oil exploration must go on because of its economic importance, with or without animals in the parks. However, oil is a finite resource that currently promises to bring in over \$50 billion over a period of about 20 years. Tourism, on the other hand, is not a finite resource. It can bring in at least \$10 billion each financial year and much more, for hundreds of years to come (Musisi 2013).

IUCN Guidelines on Oil Exploration in the Tropics, IUCN's Environmental Assessment Service in cooperation with the oil industry's Exploration Production Forum, these guidelines set out the oil exploration process, describe potential environmental consequences of exploration in the tropics and recommend measures for the prevention or minimization of adverse impacts. Pollution control measures recommended include maximizing the use of freshwater gel-based mud instead of one's based on saltwater (potassium chloride or and sodium chloride) disposing of drilling mud in a manner that minimizes environment contamination; reusing drilling-mud pond decant water (International Alert 2009).

Ecosystem and environmental degradation from the oil sector could happen at different points such as from exploration, extraction, processing and transportation. Exploration in this case refers to the seismic activities leading to test drilling, the test drilling as well as the tests (including flaring) on the discoveries. Impacts of this will be associated with; habitat destruction and land take for drill, pads workers camps and equipment storage camps. The current practice however is that no camps are allowed to be located within the Protected Area (Kennedy 2011).

Extraction and production forecast a future scenario, where oil will have to be evacuated from the various well sites and channelled presumably through pipes to a central processing facility. Due to the viscous nature of the product, it is now understood that this evacuation which would happen through pipes may require heating to maintain the oil fluid enough to flow through the pipes. This long term has potential impacts on water sources, for amounts that may be required in the extraction of the resource and heating the piping. It is also conceivable that the pipeline will require long term access routes for purposes of maintenance and quick response in cases of emergencies. The processing facility would presumably be located outside any Protected Area boundaries and therefore relieve the pressure of further land take, extended periods of human presence in the park (with its attendant problems) and any risks of spills and other oil disasters in a PA. Where ever the processing facility will be, there will be need for considerable amounts of storage facilities for both crude and finished or semi-finished products before onward shipment to the market (Kityo 2011)

In addition to ecosystem and environmental issues, the associated socio-economic developments (e.g., in-migration of people, new infrastructure, businesses and housing) can result in the loss of livelihoods, displacement and poverty with inevitable consequences on land cover and biodiversity. Well as it is conceivable that socio-economic developments might accompany the oil sector in the PA area, it is not likely that these will be within the boundaries of protected areas. There might instead be increased pressure at the PA boundaries from population build up due to the socio-economic developments (NEMA, 2009).

An oil or fuel spill on site would result into an ecological disaster, destroying wildlife grazing rangelands and wildlife. In the event of an oil spill, for each such spill will have a different impact on wildlife and the surrounding environment depending on, the type of oil spilled, the location of spill, and the species of wildlife in the area, the timing of breeding cycles and seasonal migration. Oil affects wildlife by coating their bodies with a thick layer. Many oils also become stickier over time and so adhere to wildlife even more. Since most oil floats on the surface of the water it can affect many aquatic animals. Unfortunately, birds and marine mammals will not necessarily avoid an oil spill. Elsewhere, some fish have been observed to be attracted to oil because it looks like floating food. Such a situation would endanger water birds, attracted to schools of fish and may dive through oil slicks to get to the fish (Nature Uganda 2011).

2.2.2 Other Potential Oil Spill Impacts on Wildlife.

Poisoning of wildlife higher up the food chain if they eat large amounts of other organisms that have taken oil into their tissues;

Interference with breeding by making the animal too ill to breed, interfering with breeding behaviour such as a bird sitting on their eggs, or by reducing the number of eggs a bird will lay;

Damage to the airways and lungs of marine mammals and turtles, congestion, pneumonia, emphysema and even death by breathing in droplets of oil, or oil fumes or gas;

Damage to aquatic animals' eyes, which can cause ulcers, conjunctivitis and blindness, making it difficult for them to find food, and sometimes causing starvation;

Damage to and suppression of a marine mammal's immune system, sometimes causing secondary bacterial or fungal infections.

In 1997 published Environmental Impact Assessment (EIA) Guidelines that clearly directed on what detail should be included, the level of detail of assessment, and the kinds of action that should be taken post approval (FAO 2009). The Guidelines also provides the opportunity for the authorities to reject an EIA that does not meet the criteria or quality required in the Guidelines. EIA is a globally recognized and accepted methodology for identifying and assessing the significance of impacts associated with developments considered likely to have negative impacts on the environment. It results in the development of an SIA, which summarizes the project, the impact assessment and the mitigation actions required to eliminate or minimize those impacts (Nugent 2009).

2.3 The Future of Tourism and Petroleum.

If well managed, Uganda 's petroleum offers an excellent opportunity for developing tourism and other sectors of the economy. Although the direct revenues from the petroleum are expected to cease after 20 or 30 years, some of the revenues can be invested into long-term tourism related projects such as developing road networks that lead to tourist destinations, particularly by making use of bitumen oil refinery by-products to make modern tarmac roads and superhighways. Developing key institutions for promoting the tourism sector, such as training institutions in catering, hotel management and other hospitality industries, and a regional language and diplomacy training centre. Upgrading Entebbe International Airport to increase its capacity, services and ambience. Promoting Uganda's tourism destinations and attractions, including cultural sites, museums, lake resorts, forest lodges, etc. A lot more can be done by benchmarking other efforts that have made use of oil revenues to boost the tourism sector.

The oil revenues can also be used to overcome other constraints, such as those identified in the country 's National Development Plan (NDP 2010/11 – 2014/15): Inadequate human resource capacity in terms of numbers and skills, exacerbated by absence of adequate specialized training

institutions within the country, and the duration it takes to develop expertise. High staff turnover in the sector rendering it weak and ineffective in its functions. Limited bulk transportation capacity due to the dilapidated rail system, and over-reliance on a single transport route. Continuous efforts are needed to overcome the above constraints in order to properly manage the country's natural resources and the environment.

According to Uganda Vision 2040, Uganda has shown impressive performance with a total number of annual tourist arrivals of 945,899 in 2012, representing a 17% increase from the previous year. Tourists visiting wildlife protected areas increased by 20 percent in 2012 from the previous year. The Vision 2040 notes that these figures are still quite low compared to other countries. It also notes that tourism is expected to play a major role in the economy and become a major contributor to GDP by 2040, spurring growth in secondary and tertiary industries.

Although the tourism sector is one of the fastest growing service sectors, and is a main foreign exchange earner for the country, the government has not yet strategically invested and mainstreamed tourism in all government activities to boost the sector. This is in contrast to many countries in the region and beyond that have significantly invested in this sector and thus benefited from the high rates of return associated with the investment.

Vision 2040 promises to improve infrastructure and services to support the tourism sector. This will include improving transport networks and connectivity, improving and expanding Entebbe International Airport, upgrading five tourism aerodromes, and boosting domestic air transport—in addition to establishing adequate road networks, water, electricity and ICT infrastructure for the tourism sector. If the Government of Uganda follows through with the foregoing promises 'in 2040, it will surely be a deal for the tourism sector. If it remains a fantasy on paper as with the previous visions – it will be no deal for the tourism sector.

2.4 Negative Impacts of Petroleum on Tourism.

Oil extraction in Uganda's Albertine Graben region will be starting soon. Expectations are high because the area is estimated to hold at least 3.5 billion barrels of oil. The oil exploration area stretches from West Nile to the south-western tip of Uganda covering an area of 23,000 square kilometres. However, there are already other on-going economic activities in the area that might be jeopardized by the new petroleum industry. In particular, the area is home to the country's major tourism destination areas and eco-conservation zones, including Queen Elizabeth, Murchison Falls and Semiliki national parks.

2.4.1 Oil Extraction in Tourism Destinations.

Whereas a major spill or fire explosion could cause irreversible havoc to the environment, there is also great concern that tourism and other activities such as agriculture, fisheries and human livelihood may be destroyed by dangerous substances from Oily mud, sands and rocks drilled from the oil wells. Muddy water and chemicals used in the drilling process to force up the oil. Venting and flaring (i.e., letting off or burning up unwanted gases). Discharges from the drills, oil refinery and pipe leakages on land and water.

Displacement of human beings and other forms of life to clear way for the petroleum industry. Discharges and emissions from use of the petroleum products such as fuel for motor vehicles, thermal electricity, machines that use oil, etc.

For the oil drilling part, comprehensive plans for oil waste management have not yet been completed, although waste from ongoing exploration sites is deposited in designated pits that have been lined with plastic materials. It is not well known where all the waste will go when full or peak oil production is reached. People around the area are already being affected by smell from the mud pits that are dug during oil exploration. It is feared that fisheries, agriculture, forests, and biodiversity may be ruined by the new petroleum industry, along with the great tourism potential of the area. Some government officials have allegedly been saying that oil exploration must go on because of its economic importance, with or without animals in the parks. However, oil is a finite resource that currently promises to bring in over \$50 billion over a period of about 20 years.

Tourism, on the other hand, is not a finite resource. It can bring in at least \$10 billion each financial year and much more, for hundreds of years to come.

2.5 Oil Refinery and the Tourism Sector.

Uganda's government is intent upon establishing a refinery to ensure that maximum value is derived from the country's petroleum. It is argued that the refinery and its spin-offs, such as the petrochemical industries, will create jobs and income for Uganda. The refinery may also process crude oil from neighbouring countries such as South Sudan and the DRC. In addition, the refinery is also important for Uganda strategically, to avoid dependence on a transnational pipeline, since Uganda is a landlocked country. The oil companies, on the other hand, have been opposed to the refinery on the grounds that it would add little value while it would cause delay in recovering the initial costs incurred by the oil companies.

Whatever the case, the oil refinery is not good news for Uganda's tourism and environment. Refineries generate toxic residues (besides other harmful wastes to the environment) such as lead, nickel, vanadium and mercury which accumulate into soils and waters overtime. They also emit very small dust particles (called PM10) that get deep into lungs and harm the ability to breathe. In addition, refineries emit many gases like sulphur dioxide (SO₂), nitrogen oxide (NO₂), carbon dioxide, carbon monoxide, methane, dioxins, hydrogen fluoride, chlorine, benzene and others.

The normal practice is to build oil refineries near big oceans whereby the toxic materials are buried very deep underwater. Lake Albert is too small and too delicate to handle such waste. Oceans and large seas are more suitable for disposing of toxic waste from oil.

The heavy waves churn up the waste, and volatile compounds may safely evaporate in the air near the oceans, whereas the remainder may congeal and sink to the ocean bottom or decompose through photolytic and biodegradation processes. For tourists (local and foreign) to keep visiting parks where refinery activities are taking place, Government will have to come up with mitigation appropriate guarantees. Environmental Impact Assessments (EIA) must be made open. And options for waste management must be made public.

2.5.1 Illustrative Examples on Oil Refinery Toxic Waste Problems.

Over 150 toxic chemicals were found in the indoor air of 40 homes near Chevron Oil Refinery in Richmond, California, according to American Journal of Public Health. It was found that toxic pollution from oil refineries doesn't stay outside, it seeps into homes, where people spend most of their time. Fine particulates linked to cancer, respiratory and cardiovascular problems including premature death were found at concentrations above California's annual ambient air quality standard. The areas 15% asthma prevalence rate is among the highest in the country

Although South Africa's Durban refineries are located near to the Indian Ocean where most of the toxic waste can be safely dumped, there is still growing concern over the following:

Air polluted by up to 100 pollutants emitted from stacks and by fugitive emissions from leaking equipment at the refineries.

Land polluted by the large amount of harmful waste from refineries which need to be dumped.

Water polluted by the fallout from air pollution and by refineries discharging chemical pollutants into waterways, plus the risk of accidental spills that can pollute ground water and open water ways.

However, a number of measures can be taken to reduce the pollution caused by the oil refineries. Government of Uganda, the Private Sector and the entire citizenry must ensure that the following measures are taken.

Waste minimization, waste reduction at source through choice of processes and process/equipment modifications, or alternative treatments; recycling of waste and reuse within or outside the company; appropriate operation of equipment and optimum use of chemicals; appropriate housekeeping and handling.

Pre-treatment of waste: De-oiling/dewatering by filtration and centrifuging techniques; solidification, stabilization and encapsulation, including use of cement, thermoplastic, asphalt and other chemical processes.

Waste disposal routes: landfill, underground storage, complete incineration, pyrolysis, biodegradation and mechanized methods.

2.5.2 Key Concerns about Uganda's Oil Refinery.

Environmental Impact Assessments (EIA) are influenced by developers and were made before the Strategic Environmental Assessment (SEA); hence they were not gauged against the SEA. Insufficient legal provisions and enforcement of measures to minimize negative environmental impacts of the refinery. Inadequate provisions and technical specifications to measure the environmental impacts. Lack of transparency and public access to information on oil refinery operations. Unpredicted impact of refinery on wildlife, ecosystems, natural habitats, and tourism in general.

2.6 Disruption of Wildlife by Oil Activities.

Oil activities are bound to disrupt wildlife which is a key ingredient of the tourism sector. As already noted, oil extraction in Uganda is to start in pristine tourist locations, including Murchison Falls, Queen Elizabeth and Semiliki national parks. It has been shown that the oil operations are already having several effects on the behaviour of wildlife animals such as: Noise pollution causing animals to avoid areas where drilling is occurring and change behaviour due to noise interference with vocalization and hearing (including mating and alarm responses). Light pollution at the rig sites which may interfere with visual stimuli, lead to confusion, and increase likelihood of mortality for some species which may be attracted to the lights on the site. Increase on traffic on roads, which increases likelihood of road kills. In addition, linear developments such as roads and pipeline rights-of-way can affect wildlife by creating travel corridors for predators such as wolves.

The waste generated by the oil operations can also harm the plants and other organisms that are essential for survival of wildlife. Those extracting oil and refining it's not likely to be so concerned about the above effects. Therefore, there is a need for citizens, civil society organizations and other pressure groups to bring these issues to the attention of the various actors in the oil sector and to engage them on taking action to ensure that valuable wildlife is not destroyed by the oil industry.

2.6.1 What Oil-Generated Conflicts Will Mean for Tourism.

Nothing scares away tourists faster than conflicts, wars and absence of peace. For example, Uganda's tourism industry, which was booming in the late 1960s and was the country's fourth foreign exchange earner, suddenly collapsed in the 1970s due to political instability. During the 17 years of political unrest beginning in 1971, international tourism stopped. The sector began to grow slowly in the early 1990s, with the end of political crisis (Reinikka and Collier, 2001), but the persistent image of instability continues to challenge the sector's growth (Teye, 1986)

Tourism in Northern Uganda was impeded by the LRA insurgency that lasted for more than two decades. Up to now, many would-be tourists living outside Uganda still think that the country is as insecure as it used to be during the past periods of political strife. Obviously, this is not good for the tourism sector. But what is more important to consider is the potential disruption to tourism that can be caused not only by the destructive nature of the petroleum industry, but also by the conflicts that can be generated or escalated due to the oil industry.

Some potential sources of conflict are, politically, that is tension over distribution of revenue and other benefits of oil between national and district levels even and at the local level that will cause increased corruption as political leaders vie for control of change processes, undermining of administrative structures and accountability as oil is managed from above, leading to community disillusionment. Land, that is scramble for access to land will lead rapid transition of customary or communal land into registered tenure (leasehold), and subsequent exclusion of communities from common lands and resources causing an influx of immigrants, speculators and investors in land, hence leading to resentment and tension between communities and new landowners' fraudulent sale of land in areas where oil has been discovered. This will also cause fear of land grab by oil companies or ermining of administrative structures and accountability as oil is managed from above, leading to community disillusionment. Government has made forced displacement to clear way for petroleum industry, without the desired or adequate compensation.

Economically, Disparities as some localities and households benefit more directly from the oil industry and others are left lagging behind. Perceptions of unfair and corrupt recruitment, procurement and other business practices, disruption of livelihood activities such as fishing and farming, delayed payments and compensations.

Socially, Migration to oil-affected localities heightens tribal and cultural consciousness negatively, e. g. where newcomers are seen to benefit at the expense of local people.

Environmentally, negative environmental impacts, these are coupled with unclear channels to redress them that is top-down management of oil industry eroding powers of local authorities on environmental issues. Some farmers use oil wastes directly on their farms as fertilizer, leading to a very high yield of crops. But the oil wastes have hazardous metals (lead and calcium) that can destroy soil organisms and cause abnormalities in human beings such as cancers and birth defects.

Information/communication, Lack of information about company activities, which breeds suspicion and rumour. Companies dealing with central government are perceived as secretive, where local governments are disempowered and there is absence of clear framework to work with traditional institutions.

As a shared resource between Uganda and the DRC, oil also has the potential to signal a new era of cross-border cooperation in the wider Great Lakes Region. But it also has the potential to generate more conflict as communities are being displaced, land and water resources are getting polluted, livelihoods are lost and contentions arise over the shared resources, especially when offshore oil drilling commences. International experience (including close to home in the DRC) shows that the likelihood of civil war and social instability, that is the resource curse, is more likely than mineral wealth translating into prosperity and peace. So, there is a need to take great care that potential benefits generated by the oil are not eroded away by conflicts. Peace is a prerequisite for a prosperous tourism industry.

Oil companies often invest in natural resources wherever they can be found, which means they sometimes end up investing in conflict-prone societies. While most of the companies would have no interest in exacerbating instability or violence, all too often they lack the skills and experience to avoid doing so. Despite advances in political risk methodologies and environmental and social impact assessment (ESIA) standards, and the wider corporate responsibility sphere, fundamental gaps in company practice remain. These include the capacity of companies to understand existing or potential conflict dynamics, and to grasp the spectrum of influence that a company's investment may have on such conflict, directly, indirectly and at varying levels. While Uganda is trying to learn from international experience, there is still an urgent need to emphasize the assessment, monitoring and mitigation of conflict. This calls for more concerted efforts by government, development partners, companies, parliamentarians, civil society organizations and other stakeholders.

2.7 Other concerns of the oil industry

2.7.1 Dutch Disease.

This refers to a situation where a sudden influx of revenues from exploitation of a natural resource may negatively affect other lagging sectors (such as agriculture, manufacturing and tourism in the case of Uganda) due to abundance of money that shifts labour and production into the non-tradable items that are not among the country's exports. Foreign exchange derived from selling petroleum products may also make the Uganda shilling stronger, thereby making Uganda's products and services less competitive on the international market. In terms of tourism, visitors from abroad would have to spend more dollars to get Ugandan shillings to access tourism destinations and services.

The above kind of scenario occurred in Netherlands in the 1960s, hence the name “Dutch Disease”. In this case, the manufacturing sector came to a standstill when new oil was discovered in the North Sea. The problem has also occurred in several other resource rich countries such as Ghana and Nigeria whose agricultural and other sectors dwindled due to exploitation of oil, leading to great suffering among the masses that depend on the affected sectors. It should be

noted that the Dutch Disease can also result from influx of foreign exchange from other sources such as donor funds and foreign direct investment. Preventing the disease will require government to take stringent measures to ensure that the revenues from Uganda's petroleum are managed properly for the present and future benefits when the oil is gone. This can be accomplished through establishment of appropriate sovereign wealth funds.

2.7.2 Natural Resource Curse

The phrase resource curse describes how many resource-rich developing countries experience negative economic, social and environmental consequences. Many such countries are characterized by constant wars and debilitate poverty. Potential sources of the resource curse that need to be watched out for include: The Dutch Disease and its impacts, as explained above, disputes over sharing of petroleum revenues (e. g. exclusion of direct provisions for cultural leaders of Bunyoro), Pollution of land and waters that extend beyond the country's borders, unfair or incomplete compensation of displaced people, territorial conflicts over areas with shared natural resources, poor governance, corruption and lack of accountability, sudden halting of the petroleum industry for any reason and a likely unfair distribution of petroleum benefits between rural and urban areas among others.

2.7.3 Oil Conflict in Nigeria

Nigeria is a classic example of the paradox of plenty amidst scarcity and what can go wrong in the management of oil wealth. Endowed with proven reserves estimated at 30 billion barrels, the country has earned a staggering US\$ 340 billion over the past 40 years. Nigeria's oil production ranked only behind that of Saudi Arabia, Venezuela, Iran and the United Arab Emirates. Yet more than 70% Nigerians live on less than a dollar a day. The percentage of people living in poverty increased from 28 percent in 1980 to 66 percent in 1996, according to Nigeria's Federal Office of Statistics, per capita income has fallen from US\$800 in 1980 to US\$300 today.

When oil production started in the 1960, the value of local currency suddenly increased, and the Dutch Disease set in destroying agriculture, manufacturing and other sectors. Environmental degradation became extreme. Oil dependence was overwhelming, with petrodollars accounting for 83 percent of federal government revenue, more than 95 percent of export earnings and about 40

percent of GDP. But all the revenue was diverted from national development goals. Corruption became the rule of the day. For example, General Sani Abacha is reported to have stolen more than US\$ 4 billion government funds during his dictatorship. Currently, the country is embroiled in oil-related conflict, spills, violence and incidences of human rights abuse. Oil companies are targets of the disgruntled communities. There is complete political decay, with frequent change of power between military and civilian rule.

3 CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter consists of Research paradigms, design (strategy) types of measurement, Research population, sample population, sampling procedure, data collection tools, reliability and validity of data, analysis of data and ethical consideration.

3.2 Research Design

An explanatory research design was used involving both qualitative and quantitative designs. Interpretation of findings or results interpretations of findings was based on the overall research goal, research objectives, interviews and research questions as per suggested topic.

3.3 Study Population

The study was carried out in Buliisa District. The study targeted a population of 200 people in total. And these were drawn from 6 sub counties of Buliisa, Biiso, Kihungya, Butiaba, Kigwera, Ngwedo and Buliisa Town council that included those directly involved in or with the knowledge about the effects of oil and gas exploration on tourism in the Albertine region where 20 were from international oil companies, 70 area residents, 10 politicians, 25 environmental officers and 25 local council and municipal members, 50 tourism sectors (game reserve workers and hospitality companies).

3.4 Sample size

It was comprised of some selected members who were referred to as elements. Therefore, sampling is the procedure of choosing a satisfactory number of elements from the population so that a study of the sample and an understanding of its characteristics would make it possible to make such characteristics to the population elements. The respondents will comprise of both female and male and with different marital with different levels of education and age groups.

The sample size of respondents considered was 90 that include 23 local community members, 15 environmental officers, 9 local councils and municipal members, 5 politicians, 9 oil companies and 29 from tourism sector and the never responded as expected. This is selected using a formula for determining sample size by (Yamane, 1967) as shown below

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

Where n = Sample Size

N = Total Population

e = sampling error value (0.05)

$$n = \frac{200}{1 + 200(0.05)^2}$$

=95 respondents.

3.5 Sampling method.

This is the procedure a researcher used to gather people, places or things studied. (Kombo and tromp, 2006). This is the process of selecting number of individuals or objects from a population contained representative characteristics found in the whole group. In this study different sampling technique were used, the researcher used stratified and random sampling because the sample elements contain different characteristics.

This study also used purposive sampling that involves the researcher to use their own judgement or common sense in regard to the information collected from the respondents. Therefore, the choice of the respondents was also based on the researcher's experience with the respondents' possession of the essential information. The researcher chose what was needed to be known and set out to

find people who can and are eager to provide the information by virtue of information or experience.

3.6 Sources of data

In this research two types of data were used by the researcher, in this study the secondary and primary data was used. Primary data was collected afresh and for the first time, have not been processed. While the secondary was data which had already been already collected by someone else for other purposes and was used to compile raw data.

3.6.1 Primary Data

This information or data that was collected by a researcher herself from the field. Observation, focused group discussion, questionnaires and interview were common research tools used to collect data from the field.

3.7 Secondary Data

This is data collected by other people. This is also known as second hand information; secondary data includes both raw data and published data. The secondary data was obtained through notes, correspondences and minutes of meetings, project plan journals.

3.8 Data Collection methods

Data collection refers the gathering specific information necessary in the research process, this was done because data are capable to communicate the problem to the researcher, for providing or reputing some facts. Therefore, there are different methods that were used in the collection of data, these include;

3.9 Observation

Here the researcher used the naked eyes to observe what's going on in the field. According to the seismic surveys of 1998 and 2001 in the Semliki Basin confirmed earlier observations and also properly defined structures and revealed the complexity of the geology of that area and possibly of the whole Graben. (Hansen 2007) observed about the Albertine Riftvalley (AR), that with an expanding human Population in western Uganda, the integrity of these areas is increasingly threatened. Forests are being destroyed and wildlife populations are intensively hunted for bush

meat. These threats are particularly acute in the central part of the AR along the escarpment areas adjacent to Lake Albert. In recent years the increasing petroleum exploration activities in the AR has added another challenge concerning conservation of biodiversity and landscape in the region (Hansen 2007).

3.10 Questionnaire

In questionnaire the respondents were required to provide answers to questions given to them and the researcher collected Questionnaires that had been completed information. In this study the researcher designed the questionnaires regarding the topic of study. Closed ended and open-ended questionnaires were used to collect information for this study.

3.11 Interviewing

Various interviews were held with the concerned individual to tell us about how oil and gas exploration was a threat to wildlife especially the ones working in the national parks where the extraction is taking place. I also took the opportunity to ask the population what the challenges are facing the oil and gas exploration.

3.12 Focus Group Discussions

Here I held discussions with small local communities comprising of 10-12 people where I introduced the topic of discussions to them so that they can give the right views. The questions were short and understandable

3.13 Document Review

This involved reviewing another author's related literature. Here I used more of literature on the Albertine Graben.

3.14 Data processing

The data collected was put in systematic way that will include correcting, coding and storing for further analysis. This was an easy way of assembling the collected data for further analysis of the findings of the study.

3.15 Anticipated Limitations

The limitations that hindered my data collection included;

- Limited budgeted funds to carry out the research.
- Poor roads to the research sites hindered my research, this greatly affected me during the rainy season where were the roads are slippery.
- Language barrier since most of the targeted population locals in the mentioned districts.

3.16 Ethical Consideration

This research was carried out with a lot of ethical consideration whereby I obtained an introductory letter from my university, an authorizing letter to UWA. Therefore, the respondents trusted in me as a student on research.

3.17 Data analysis

Data was analyzed by using of frequency distributions displaying the frequencies of oil and gas exploration and tourism in the Albertine Graben. It was analyzed using SPSS the most used application for data analysis.

4 CHAPTER FOUR: PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS.

4.1 Introduction

This chapter presents and discusses the findings of the study which have been analyzed from the raw data got from the field.

4.2 Response rate

The sample under consideration was 95 respondents. However, 5 questionnaires were invalid, therefore, the response rate was 94% of those expected making the findings valid.

Table 1: Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	29	32	32	32
Valid Male	61	68	68	100
Total	90	100	100	

Table 2. Source: Primary data

According to table above, the biggest percentage of the respondent's represented by 68% were found to be male whereas 32% of the respondents were found to be female this implies that male respondents actively participated in the study and they are actively following and participating the activities of oil and gas in the Albertine region as well as the tourism.

Table 2: Age bracket

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18-24 years	14	16	16	16
25-34 years	24	27	27	42
35-44 years	39	43	43	86
45 years and above	13	14	14	100
Total	90	100	100	

Table 3 .Source: Primary data.

The above table above indicates that 39 of the respondents were in the age bracket of 35-44 years, 24 were of the age 25-34 years, 14 within a range of 18-24 years and 13 were 45 and above years. This shows that respondents were mature enough to give the answers reliable to find results for the study.

Table 3: Level of education

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Masters	9	10	10	10
Degree	43	48	48	58
Diploma	21	23	23	81
Others	17	19	19	100
Total	90	100	100	

Table 4. Source: Primary data.

This study also considered the level of education where different respondents provided for this information for quality information because these would be able to read and understand. The researcher found out that 48% had attained a degree level and they were the majority, 23% had diploma, 19% of the respondents had other qualification like certificates, Advanced and Ordinary levels and 10% of the respondents revealed that they had attained Master's level. With the highest

respondents being degree holders, this meant that they clearly understood the activities of oil and gas that were ongoing in the Albertine and the effects they had on tourism.

Table 4: Period of stay.

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 1 year	8	9	9	9
1-5 years	31	34	34	43
Valid 6-10 years	32	36	36	79
Above 10 years	19	21	21	100
Total	90	100	100	

Source: Primary data.

From the above table, majority of the respondents had spent a period of 6-10 years in Buliisa which was rated at 36%, followed by 31% that had spent 1-5 years and 19% had lived for above 10 years and those that had lived for less than a year were rated at 9%. This shows that the largest percentage had leaved and settled in Bullisa with for quite some time, therefore they knew what effects oil and gas would bring to the tourism sector that had been there for quite some time.

Table 5: Occupation

	Frequency	Percent	Valid Percent	Cumulative Percent
Agriculture	13	14	14	14
Fishing	9	10	10	24
Live stock	6	7	7	31
Tourism	25	28	28	59
Valid sector	7	8	8	67
Trading	6	7	7	73
Unemployed	24	27	27	100
Others	90	100	100	
Total				

Table 5. Source: Primary data.

This table shows the various occupation in the Albertine region that the respondents were involved in, tourism had the highest percentage of 28%, followed by the others like oil and gas were 27%, agriculture had 14% respondents, 10 % of the respondents were working in the fishing sector, trading followed with 8 % while livestock and the unemployed were both 7%. With the highest percentage coming from the tourism sector, then these would express their feeling about effects the oil and gas on the sector. However, the other people from the other occupations advised how oil and gas would affect tourism and other business since it was a new venture.

Table 6: Opportunities of oil and gas industry to the tourism sector.

	Frequency	Percent	Valid Percent	Cumulative Percent
Construction of new roads and hotels	18	20	20	20
Development of the refinery is a tourist attraction.	7	8	8	28
Valid Investing in more to the tourism sector from Oil resources	34	38	38	66
Improved economy and standards of living	31	34	34	100
Total	90	100	100	

Table 6. Source: Primary data.

This table shows how the respondents replied to the opportunities as listed for them by the researcher when she interviewed them. And they responded as follows; 38% presented that oil and gas exploration in the Albertine would accumulate taxes that would later be invested in the tourism sector hence its growth, 34% said that the oil and gas would improve the economy

through investment and would improve people’s standards of living through employment of people around the region, 20% of the respondents said that construction of the new roads in the region would boost tourism since it would be easy for the tourists to move to the area, 8% of the respondents said that the development refinery would attract to more tourist in the region as a development of the oil and gas. Therefore, with these opportunities from the oil and gas, tourism will be able to benefit since revenues in form of taxes are going to be re-invested in other sectors of the economy like tourism.

Table7: Threats of oil and gas to tourism.

	Frequency	Percent	Valid Percent	Cumulative Percent
Destruction of habitants of the wild animal through developments	29	32	32	32
Open and unprotected drilling pits hazardous to wild animals	19	21	21	53
Valid Oil spills will that lead to ecological disaster	18	20	20	73
Sound vibrations and noise from drills have chased away the animals	24	27	27	100
Total	90	100	100	

Table 7. Source: Primary data.

The table above shows findings on threats of oil and gas to tourism, various respondents gave out their views on what they think on how the new venture would be a threat to the tourism sector. These were as follows: - The highest percentage that was 32% that said, the oil and gas activities

led to destruction of the habitants of the animals in these places hence living these animals homeless that are disturbing the communities around, 27% said that sound vibrations and noise from the drilling sites have chased away the animals from the parks making them uncomfortable. This has made the animals to move away from their comfort places to places that they cannot be traced when the tourists come for these services in the parks in the Albertine regions, 21% of the respondents said that the open and unprotected pits are hazardous to the animals that keep moving around, these animals fall into these pits leading to their death hence reducing on the number of species for the particular animals in the parks. 20% of the respondents said that there is a likelihood of spills would cause an ecological disaster to the flora and fauna in the places, these would lead to the elimination of certain species in the tourist areas that earn money to the sector. Therefore, these would lead to loss of money to the sectors since these species are no longer into existence.

Table 8: How have the hotspot areas been considered in the Albertine region towards the growth tourism and the development oil and gas

	Frequency	Percent	Valid Percent	Cumulative Percent
Tourists' attractions have been gazetted.	20	22	22	22
Wildlife is carefully catered during developments of oil and gas.	28	31	31	53
Hotspot areas are sensitively protected	17	19	19	72
Penalties to encroachers are in place.	21	23	23	96

Not aware	4	4	4	100
Total	90	100	100	

Table 8 Hotspot areas. Source: Primary data

The table above shows the response from the interviews made from the respondents about how the hotspot areas in the Albertine were considered during the exploration phase of oil and agas. These were as follows, 31% said that the wildlife was carefully catered for during the development of oil and gas in the Albertine, 23% said that penalties are in place for those who violate and encroach on the wildlife’s space, 20 % said that the tourist’s attraction were gazetted for the growth of tourism alongside oil and gas, 19% said that the hotspot areas were sensitively protected while the 4% said that they were not aware of what was going. Therefore, this put the tourism at a safer side of being protected and well considered during the development of oil and gas. This implies that tourism attractions in the Albertine are well protected and this would help the sector to grow faster with the trending oil and gas industry in the country.

Table 9: Relevance of petroleum industry to tourism in the Albertine region.

	Frequency	Percent	Valid Percent	Cumulative Percent
Resources from Oil and as Invested to tourism and boom it	36	40	40	40
Improved recreation centers and hospitality	25	28	28	68
Valid Oil and gas have Put Uganda on global Map and hence advert for tourism	21	23	23	91
Improved social Services favoring tourism	8	9	9	100

Total	90	100	100
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Table 9. Source: Primary data

This table indicates how the oil and gas industry is important to the tourism in the country. The findings were presented as follows 40% said that resources from the oil and gas will be used to boom the tourism, for example, the workers themselves will have a visit to these places hence tourism earnings from them, 28% said there was improved recreational and hospitality centers and this is because there are international people that are working in the oil and gas that need high quality services from the tourism like accommodation, touring and relaxation places, 23% also presented that oil and gas will put Uganda on a global map that will eventually attract people to the region to visit this mighty Albertine, in so doing, this is a plus for the tourism because it will attract more people hence foreign exchange, and finally the 9% said that the improved social services through the development of oil and gas had made the access to the tourism centers very easy because of the well-constructed facilities to the region.

5 CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter gives the summary of the main findings of the study, conclusion and recommendations of the study.

5.2 Summary of Findings

5.2.1 Summary of findings of the effects oil and gas in the Albertine Region on tourism.

The findings in regards to effects of oil and gas on tourism in the Albertine regions revealed that oil and gas development has supported the growth of tourism through its development that is the construction of roads that the tourists have easy access to the region to see both the tourist attractions and oil wells in the Albertine. And more so the has earned revenue to the tourism sector in the long run.

Oil and gas have led to the growth and development of the tourism in the region because the taxes that have been earned from the oil and gas have been re-invested in the tourism hence its boom. The oil and gas have also led to growth of modernized recreational centers in the region that has attracted more international tourists who have paid the foreign exchange hence its development.

With the investment from oil and gas being channeled to the tourism sector, it has led to its expansion and growth that has created employment to the people around in the region hence improving their living standards.

However, oil and gas is associated with various threats tourists' attractions in the area. The noisy activities from the drilling site have chased away these animals from the hotspots. The open and unprotected drill pits that claimed many animals in the national parks since they are not easily noticed by these animals them where they have fallen into them and died.

The likelihood of oil spills from the oil activities is very high and may cause ecological disasters that may lead to extinction of some species in these areas of tourism in the Albertine region.

5.3 Conclusion.

The fact oil and gas is associated with a lot of benefits to the tourism sector in the Albertine region in the area, the stakeholders of the two sectors should look for a way to handle the negative effects of oil and gas on tourism like putting fines and penalties to those people who violate the rules and regulations that would be put in place so that the people of Bullisa can benefit from both the oil and the tourism as well. The oil companies should find better ways of under taking the drilling activities without disturbing the animals in place. The tourists' attractions have to be carefully. Safeguarded because oil is exhausted while the tourism can stay for decades without being depleted.

5.4 Recommendations.

Therefore, according to the findings, I recommend the following:

The oil exploration companies should seriously put into consideration the impact of mitigation and development framework on their activities that have affected the tourism sector as well as a social management plan in order to make those animals and the environment that has been impacted by their activities should be clearly compensated.

For positive and satisfactory influence of oil activities among communities in Buliisa District and all major stakeholders should embark on expressive permission in form of sustainable employment, hands on skills, funded by these sectors for the better growth of the community members.

Ensure that the Department of Petroleum Exploration, Production and Development (PEPD) effectively performs its supervisory role of monitoring and controlling the activities of the petroleum exploration and production including the processes of oil licensing, enforcement of the implementation of the Corporate Social Responsibility and the Global Memorandum of Understanding signed by both the petroleum exploration and production Multinationals and their host communities.

APPENDICES

Appendix 1: Questionnaire.

Dear respondent,

My name is **KOBUSINGYE TEDDY**; I am a third-year student from the Institute of Petroleum Studies- Kampala, an affiliation of Uganda Christian University, conducting an academic study about an Analysis of the Effects of Oil and Gas Exploration in the Albertine region using Bullisa district as a case study and I am seeking information on that. You have been selected as a suitable respondent in this study basing on the expertise in this area and portfolio. Your participation is voluntary and the information you will provide will be highly confidential. I take this opportunity to thank you for accepting to participate in this brief interview.

SECTION A: PERSONAL PROFILE.

(Tick the most appropriate)

1. Gender.

Female

Male.

2. Age bracket (years).

18-24 25-34 35-44 45-above

3. Highest level of education.

Masters

degree

diploma

Others

4. How long have lived or worked in Buliisa district?

Less than a year 1-5 years 6-10 years Above 10years.

5. Occupation category

Agriculture Fishing livestock Tourism sector. Trading Unemployed.

Please show your level of agreement to indicate the extent to which the following statements have been applying in the region by ticking your appropriate responses corresponding to the number in the scale given below in the box against the statement.

Strongly agree (SA)	agree (A)	Not sure (NS)	Disagree (D)	Strongly disagree (SD)
1	2	3	4	5

6

7 SECTION B: Opportunities and Threats of Oil and Gas Exploration on Tourism.

OPPORTUNITIES

1 2 3 4 5

- 1 Construction of new roads and hotels.
- 2 Development of the refinery is a tourist attraction.
- 3 Investing in more to the tourism sector from Oil resources
- 4 Improved economy and standards of living

THREATS

- 5 Habitants were destroyed for the animals in acquisition of land for oil and gas during exploration
- 6 Open and unprotected appraisals drills are a real threat to wildlife that may fall into trapping them thus causing death.
- 7 An oil or fuel spill on site would result into an ecological disaster, destroying grazing rangelands and wildlife.

Sound vibrations and noise from drills have chased away the animals.

SECTION C: How have the hotspot areas been accessed in the Albertine region towards the growth tourism and the development oil and gas?

No	Statement	1	2	3	4	5
2	Tourist areas have been catered for in the growth and development of oil and gas.					
3	The wildlife in the Parks in the Albertine region were carefully considered during the exploration process.					
4	The high diversity areas are sensitively protected and marked.					
5	Penalties to the violation of the tourist attractions are in place.					
5	Not aware.					

SECTION D: Relevance of Petroleum Industry to The Tourism Sector in the Albertine region.

No	Statement	1	2	3	4	5
1	Uganda's oil and gas industry in the Albertine Rift area is expected to attract billions of dollars in investment in tourism as it moves from exploration to development and production.					
2	Improved infrastructure like hotels and recreational centers.					
3	The oil and gas industry in the Albertine will put Uganda on the global map for tourism sector to sale internationally.					
4	Improved tourism services accommodation and hospitality will attract more of the tourists to the region.					

THANKS FOR YOUR COOPERATION

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Appendix 2: Interview guide.

Dear respondent,

My name is **KOBUSINGYE TEDDY** a third-year student at the Institute of Petroleum Studies an affiliation to Uganda Christian University Pursuing Bachelors in oil and gas Management. This interview guide is intended to collect data aiming at assessing the analysis of the effects of oil and gas on tourism in the Albertine region. Therefore, the information attained will strictly serve for academic purposes and it will be treated with highest confidentiality. I kindly request you to respond to this interview please.

1. How long have you worked for the government?
2. Have you participated in any of the events of oil and gas exploration process since the beginning?
3. How do you comment on the oil exploration process (activities) in the Albertine region?
4. Who are the key stakeholders government is partnering with in the oil exploration process?
5. How do the international companies in the Albertine region account for their activities in the areas of operation?
6. How has the tourism attractions in the area been conserved and protected without any harm?
7. What effect do the oil and gas industry have on the tourism sector in the region?

Thank you for your time and co-operation.