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DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

The Influence of Oil Exploration on the Livelihoods of the Turkana Community: A Study of Tullow Oil Company in Lokichar Location of Turkana South Sub-County.

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DECLARATION

I hereby declare that this project is my original work and has not been presented for an award in any other University.

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DEDICATION

This paper is dedicated to my late grandparents- Ephraim Obong'o, Rebecca Obong'o, Festus Ochieng' and Olisa Ochieng' for seeing the best in me even in my lowest moment. I thank my family and acknowledge their strong support, most importantly this is dedicated to My wife Esther Gathoni, my children George Ogaji, Peter Mwangi and Bilha Achieng' and my parents George Ogaji Obong'o and Bilha Achieng' Obong'o for their strong support, positive encouragement and endurance during the trying moments when I was busy with the field work and writing my paper.

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ABSTRACT

This study was set to investigate the interactions around oil and the effects on household livelihoods in the pre-export period. Its objectives were: to determine how oil exploration has affected Turkana pastoralism; the effect on the livelihoods of individuals; forms and types of benefits to the people, and the community perceptions of the key oil players - the government and Tullow oil company. The study was limited to the period before commencement of commercial oil production.

The study was conducted in five villages in the greater Lokichar: Lokichar, Kapese, Kamarese, Kasuroi, and Lomokamar. A descriptive research design was used in this study. The sample size was the 120 household heads living in the five settlements. The data was collected through household surveys, key informant interviews, and observation. The research's main findings were that: The respondents had knowledge of the oil drilling company but they were apprehensive that the information they obtained was not fully transparent. There was a lot of publicity by the county government, national government and the oil drilling company which enabled many people to have knowledge about the oil exploration at different phases. The interim benefits the company had provided to the community had transformed the lives and access to services to a scale never seen before in Turkana. The investments in piped water, schools, roads, and health facilities had transformed the region. The area for the first time was connected to the telecommunications network, a development that the residents could not have imagined before 2012. The rapid growth of the settlements within the short period after 2012 had a negative effect on pastoralism due to the depletion of vegetation and soil erosion around the settlements. In addition, some riverine pasture and migration routes became inaccessible as they fell within the oil drilling zone. Herders trekked longer distances to access grazing fields. The study recommends that: The Lokichar community be allocated a special fund over and above the county share of the oil revenue; the settlements be planned in order to regulate their growth; environmental education be done; and the local community given first priority when employment opportunities emerge.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In Kenya, oil and gas exploration can be traced back to 1903 in the era of the British colonial government through to the 1960s when the first drilling executed in the Lamu oil basin (Ices, 2014). The major players within the sector during the initial stages of exploration and appraisal oil and gas industry in Kenya included two players that is Shell and Kenol. Over and above this, other companies that have been involved in offshore exploration of oil and gas include, Exxon, Total, Chevron, Woodside and China National Offshore Oil Corporation (CNOOC). The biggest milestone in oil and gas industry in Kenya was achieved when massive crude oil deposits - estimated to be in millions of barrels – were discovered in the eastern and southern Lokichar basin of Turkana county, North western Kenya. (Deloitte, 2013).

In 2012 Tullow Kenya BV and the Ministry of Energy made the Kenya public aware of the oil discovery that had been made. During the second half of the year 2010, Tullow Kenya BV acquired share interests in five blocks in the East African Rift Basins of Kenya namely Blocks 10BA, 10BB and 13T where the company has 50% interest in partnership with Africa Oil and Maersk, Block 12A where the company has 40% interest in partnership with Africa Oil and Delonex, Block 12B where the company has 50% interest in partnership with Swala Energy (Tullow, 2016). The basin's pioneer onshore well, Ngamia-1, situated in in Block 10BB, began boring in January 2012 and Tullow has from then discovered in excess of 240 – 560 – 1,230 million barrels of oil (1C–2C–3C) from the entire 4-billion barrel Stock Tank Oil Initially in Place (STOIIP), giving this basin the potential of becoming a crucial oil province in the Rift Valley (Tullow, 2018). To date, Tullow has drilled thirteen exploratory and appraisal wells in Block 13T and 10BB located in the Turkana East and Turkana South sub-counties, respectively and approximately 600 million barrels of oil has been discovered (Deloitte, 2013). Tullow commenced Front End Engineering Designs (FEED) for the upstream oil operations, field development in the late 2017. This was to complement drilling and operational activities, Final Investment Decision (FID) and Full Field Development (FFD) for the Turkana operations.

Whenever oil is discovered in a region, many people from that region imagine that they have immediately found their way into prosperity. However, recent cases - especially in sub-Saharan Africa – demonstrate that poor management of oil resources can significantly ruin the lives of locals. As Garry (2009) notes, oil exploration destroys the environment. What is more, it at times creates income inequalities that ruin the social fabric of society leading to things like wars.

African countries like Equatorial Guinea, Angola, and Nigeria have been into oil exploration for several years. However, instead of their economies being uplifted, many local community members within the projects areas have gotten poorer and become hostile towards the oil drilling companies (Ikelegbe, 2005). There has also been an environmental concern in that oil spillage and gas flaring pollutes the environment around the projects area of influence causing adverse health problems to the local people. Generally, many governments of oil producing countries have agreements with the multinational oil companies on profit sharing and investments. However, the livelihoods of the local communities are never adequately factored in the agreements (Ikelegbe, 2005). This is a great concern because the host communities often end up not benefitting much from the exploration of the minerals.

In the Turkana South Lokichar basin oil drilling sites, the local politicians, civil societies and the community members have held discussions with the government and the Tullow oil company in terms of how the interests of the local communities could be made to be at the core of the oil drilling interests. As has been shown elsewhere in Africa, hostilities between drilling firms and local communities can negatively affect or even halt the smooth operations of the production process.

1.2 Problem Statement

The community of Lokichar Location of Turkana South Sub County is mainly nomadic group. The locals are largely pastoralists and pasture and the traditional way of life are crucial to the sustainability of their livelihoods. Turkana as a community has notably been a closed and marginalized community, and this has enabled it to maintain its traditional way of life where livelihood strategies have been passed down through generations. Since independence in 1963

Kenya has been on the forefront of mineral exploration. It is however until recently that substantial oil deposits were discovered in northern Kenya. Therefore, Kenya and the Turkana people are still at the infancy of how to navigate the murky relations that characterize oil extraction as observed elsewhere in Africa. The discovery of oil gave the state a lot of hopes for improving the economy and the locals some excitement at the possibility of job opportunities and improved infrastructure. It is acknowledged that the introduction of an oil economy in a pastoralist context is likely to affect the people livelihoods and even farther supplant many from a traditional lifestyle.

This study was set out to investigate the dynamics of oil exploration in a pastoralist context and explore avenues through which the local community will be affected and also benefit. In particular, the study focused on investigating the types and forms of benefits to the individual, his/her family, and the community at large. In doing this, the research set out to find out the people's expectations, levels of participation and local organizational arrangements in place to ensure the benefits accrue to them. Oil extraction is a big business that draws in thousands of foreigners into a traditional community. This study looked at the impact of foreigners on the traditional ways of life, as well as how the intensive and disruptive activities have affected this way of life, and inhibited access to a range of resources and migratory routes. The study looked at some of the positive aspects associated with the oil extraction as well as the concerns that local people had about the interferences in their lives.

1.3 Research Questions

The purpose of this study was to provide answers to the questions below:

1. What are the local communities' perceptions on oil exploration in Lokichar location in Turkana sub-county?

2. In which ways has oil exploration affected livelihoods of the local people?

3. What form of benefits have been realized by members of the local community?

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of this study was to find out the influence of Tullow Oil and gas exploration activities on the livelihoods of the people of Lokichar Location in Turkana County.

1.4.2 Specific Objectives

1. To determine the local communities' perceptions on oil exploration in Lokichar.

2. To establish ways in which oil exploration has affected the local Turkana community's livelihoods.

3. To find out types of benefits that have been realized by the local community.

1.5. Justification of the Study

The study findings may help policy makers to know if the legislations put in place will have positive results and protect communities from the likely adverse effects of drilling oil in Lokichar location. The study will not only help to build academic knowledge on mining in Kenya but also offer some recommendations on the possible means of curbing the negative influence of the activities of oil exploration on the livelihoods of the Turkana community. The findings should also be of importance to the Tullow Oil Company, NGOs, scholars, community leaders, makers of policy, and all parties with any interest in oil and gas exploration and the mitigation of its environmental impacts.

1.6 Scope and Limitations

This study was specifically designed to gather information on the influence of the Tullow Oil company's exploration activities on the livelihoods of the people of Lokichar Location of Turkana South Sub County. Its scope is confined to: Perceptions of the local people, the effect of oil

exploration on the functioning of pastoralism and the types and forms of benefits to the community. The study is limited to the activities and effects before the export of oil therefore the full benefits that accrue to the community are yet to come. It's limited to the activities that took place from exploration, drilling and storage of oil. A descriptive research design was adopted for this study with a sample size of 120 respondents sampled from each of the five identified village settlements which include: Kapese, Kamarese, Kasuroi, Lomokamar and Lokichar. The study employed the following methods of data collection: household survey, review of secondary sources of data, critical informant interviews, observation, and discussions in focus groups.

1.7 Definition of Key Concepts

Infrastructure. This refers to the facilities that are needed for operations of the social and economic activities in the study area.

Exploration of Minerals. The use of natural resources for economic purposes though sometimes it may have negative effects such as environmental degradation.

Community. In this study the community refers to the group of people surrounding the area where the minerals are found. Thus, specifically it refers to the people hosting the minerals (host community)

Environment. This refers to an aggregate of the surroundings or influences including natural conditions where animals and human beings live

Livelihood. Means through which an individual or a community secures necessary items in life

Poverty. The inability of persons/ locals to afford basic needs like shelter, clothing, and food

Mitigation Strategies. These are ways of systematically examining mining and intervening so as to make mining in an area more environmentally sustainable and friendly.

Minerals. These are naturally occurring inorganic substances that are or can be exploited for economic gains

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0. Introduction

The chapter reviews existing literature on the research topic. It further talks about the theoretical framework that helps to inform the study.

2.1 Mining and its Environmental Impact

The mining or exploration industry in any nation comes with a variety of social and environmental challenges. The main upstream activities that lead to such environmental problems include: (i) drilling and seismic activities; (ii) transportation of exploration materials; (iii) production; and (iv) development of the mineral fields.

Seismic activities and drilling

Based on the work of Marful-Sau (2009), seismic activities results in the accidental spills that adulterate the sea through harmful chemicals and noise emissions which are harmful to life in water. Studies carried out in the seas of Norway have also indicated that such seismic activities could make fish migrate several kilometers away and never return to a spot for many weeks. Seismic activities conducted onshore results in huge regions of vegetative cover have to be cleared to facilitate access to the equipment for seismic acquisition and other related activities. Forests and mangroves suffer more pronounced destructions if they are close to sites for such activities. Such processes also have an impact on the lives of aquatic animals. In the course of drilling, significant amounts of fluids circulate around the well and get into the completely enclosed, partially covered, or open spaces, posing a significant threat to the nearby environment. In addition, boring in a bid to explore for oil discharges toxins on animal grazing lands and marine environments, thereby affecting animals and fishing communities.

Development and production

Emissions that emanate from well testing significantly pollute the atmosphere. Other than the emission of carbon monoxide and CO_2, hydrogen sulphide and nitogen oxides also find their way into the air in volumes that rely on the Sulphur or nitrogen proportions in the oil. During production, the main pollutant released is adulterated water with impurities like hydrocarbons, inorganic salts, heavy metals, production chemicals, may also contain Naturally Occuring Radioactive Material (NORM), and solids. Even though the above may not have a significant impact on the surrounding, appropriate care should be taken while releasing wastewater into bodies with freshwater (Sam-Okyere, 2010).

Transportation of Oil

Oil is mainly transported through pipelines and tankers. Due to various factors such as mechanical failure, poor packaging, or improper maintenance of vessels, oil at times leaks or spills. When the latter occurs on water, the oil forms a layer on water, preventing water around that region from being re-oxygenated. As such, the aquatic organisms around that region that rely on oxygen for survival either have to migrate or perish. Besides, since the spilled oil usually contains a lot of toxins, the water within an around the spill area usually remains impure and unfit for animal and human consumption for days. When leakages occur in pipelines, similar effects accrue – only that they do so on land and have the potential of affecting the soil's fertility. According to E&P Forum/UNEP (1997), the environmental effects of the exploration of gas can be categorized into the socio-economic, human, and cultural, and ecosystems.

Noise pollution

In the exploration process, a lot of machines are used for various purposes. These include dredgers, aircraft, dozers, back-hoes, cranes and heavy vehicles etcetera. As is well known, none of these machines operate in total silence. Essentially, all of them produce some level of noise. Above certain thresholds, noise has the ability to distort the functioning of marine animals. Since fish and specific marine mammals such as dolphins and whales rely on sound to feed, reproduce, and evade

hazards like predators, excessive noise can be a matter of life and death for them (Popper, 2003; Tyack & Miller, 2002; McCauley, 1994). In fact, there are documented cases of increased stress, impaired hearing, slowed growth, and death as a result of noise pollution (Fernandez *et al*., 2005).

Atmospheric Emissions

Following their adverse effects, gaseous emissions to the atmosphere that have continuously been major concerns to both the national governments and private sector players in mining operations. The factors that generate these emissions can be divides into four major groups: (i) Excess gas venting, flaring, and purging; (ii) burning in gas turbines and diesel engines; (iii) losses from the plant and fugitive emissions; (iv) airborne particulates produced by burning sources like well testing and disturbance of soil during vehicular traffic and construction processes. Amongst these sources of atmospheric emissions, flaring is arguably the most dreaded and has led to conflicts in areas like Nigeria (ERA/CJP, 2005; Sala-i-Martin &Subramania, 2003). The main emissions that follow flares contain harmful gases like benzene and methane, Sulphur dioxide, unstable organic carbons, carbon monoxide, nitrogen oxide, carbon dioxide, and nitrogen sulphide. Some of the gases listed above (CO_2) are responsible for global warming, while others like the sulphur compounds may result in acid rains, which destroy the fertility of soil. As such, flaring can ruin farm lands, forest reserves, and other vegetative cover near the oil exploration areas.

Water pollution

Installations at centers for exploration of oil and gas discharge: (i) sewerage; (ii) process water; (iii) produced water; (iv) leakages and spills; (v) and camp site domestic wastes. These fluids are discharged from the processes of well drilling and crude oil production. Water, a mixture of injection and reservoir water, resulting from this activity contain drill cuttings, chemicals used to treat the oil well, organic and inorganic composites and heavy metals (E&P Forum, 1994; Sadiq *et al*., 2002). The resultant water is toxic to both onshore and offshore living organisms. To be precise, when let into the water bodies, these compounds react with the oxygen in there, deplete it, and leave the marine organisms with less of the dissolved gas to use (Harremoës, 1998). Further, when the water bodies receive excessive amount of nutrients, excessive growth of plants is

stimulated and the water quality as well as the population of aquatic organisms such as fish declines. Drilling rigs, oil tankers, storage facilities at the coast, and underwater pipelines can also emit crude oil accidentally into unintended portions of the environment. Such spills and leaks would damage the digestive systems of the marine organisms that ingest them, contaminate eggs and inhibit proper hatching, and trap birds and turtles in water, eventually causing their deaths. Several spillages of oil have been witnessed over the past several years. Some of the notable ones in Kenya included the Amoco Cadiz, which took place in 1978 and let approximately 227,000 tonnes of oil into the water (Patin, 1999) and the Exxon Valdez, which occurred in 1989 and spilled about 40,000 tonnes of crude oil, leading to the demise of about 250,000 seabirds, close to 300 seals, 3,000 sea otters, 22 orcas, and two-hundred and fifty Bald eagles (BBC, 1989). Also, according to BBC (2000), in 1999, the Erika oil vessel spilled approximately 20,000 metric tonnes of oil, affecting about 400 km of the coastline, and killing more than 100,000 birds. The 2010 explosion that occurred in an offshore site, belonging to British Petroleum (BP) resulted in 11 fatalities and led to 4.9 million barrels of oil losses in open sea, contaminating hundreds of miles of shoreline**.**

Land Pollution

In the process of exploration of oil and gas, possible unintended effects that may occur on soils emanate from disturbances which are physical in nature which include but not limited to:(i) deforestation; (ii) construction; (iii) and contamination as a result of poor waste disposal and spillage or leakages. These operations lead to reduction in quality, disintegration, and transformation of natural territories, and can incapacitate the crucial processes of the ecosystem that facilitate flourishing of life (Barnard & Newby, 2009). In Nigeria's Niger Delta, three primary sources of oil pollution have been noted. These are: drilling and camp waste discharges, gas flares and oil spills (Pyagbara, 2007). Ponds, streams, and rivers have been the water masses that receive the waste discharges and oil spills, with all the negative environmental effects that come with it. Existing data indicate that from 9 - 13 million barrels of oil have spilled in the Niger Delta region in the past 50 years (NCF/WWF/IUCN, 2006). These spills, which transpired on land, damaged crops, and reduced in a significant proportion the quality and productivity of soil in the farm lands

(UNEP, 2011). Thee spills have also led to the demise of several birds and animals, polluted fisheries ecosystem and drinking and domestic water sources (Amnesty, International, 2009).

Critical fish breeding sites in the mangroves found in the Niger Delta's coastal areas have been polluted and destroyed by oil spillage and related pollutants. The coastal ecosystem degradation has led to the impoverishment of many families that rely in fish production and trade. As a result, the livelihoods and health of the coastal residents have been significantly affected. (NCF/WWF/IUCN, 2006; Amnesty International 2009). Some of the reasons provided as a cause of the frequent spills in the area include: (i) poor infrastructural maintenance; (ii) oil pipes' corrosion reducing their ability to contain oil; (iii) leaks or spills at oil refineries occurring during their operation (World Bank, 1995), vandalism, and human error have also been considered to contribute to oil spillage (Steiner, 2008). The destruction of the environment witnessed in these oil producing regions has made the people of Ogoni to believe that the survival of the environment is a task bestowed on them and have therefore taken actively to oppose environmental degradation (UNEP, 2011).

Although Kenya has progressively drafted and passed best practice legal frameworks and statewide policies aimed at controlling the activities engaged in by mining firms, enforcement is still lacking. The poor enforcement of legal and policy provisions has been pegged on a number of factors. These include inadequate capacity of institutions in terms human resource, skill and mandate to manage their surroundings, insufficient resources, and near zero political will from necessary players. Because of all these factors, there has never been a thorough mechanism for coordinating, observing, and enforcing the regulations. Moreover, other challenges surrounding efficient enforcement laws and proper management of mining operations stem from community discontent, lack of sufficient disincentives such as sanctions, economic resource concerns, and lack of clarity created by an overlap in institutional functions (UNEP, 2002).

Lastly, poor remuneration and low or none existent commitment from Government staff makes the susceptible to bribery and creates a fertile environment for corruption to thrive. Because of this, the exploration firms feel like they do not need to invest on the costly environmental protection systems and therefore it is easier for the m to pollute. That may explain the recorded

incidences of corruption within communities hosting mining operations in Kenya. Without proper management, the country may suffer from pollution, environmental degradation impacts and associated social problems. Kenya having some of the its oil fields under exploration offshore, it also suffers the risks of pollution associated impacts of in the coastal regions. It is worth noting that the occupants of coastal towns traditionally also engage fishing as a means of livelihood. Therefore, shielding the sea from any probable environmental harm is essential.

In the past, most countries in their infancy stages of oil exploration, development and subsequently exporting failed to give enough attention to the social and environmental dimensions of the petroleum industry. During maturity of the industry, it was exactly the ignored socio-environmental impacts of petroleum production that contributed to the most severe negative economic and political and ramifications for the host communities and the wider society, administration and the oil sector. The main challenge that has faced most governments of emerging economies is low budget provisions for both oversight and compliance.

Policies and legal regulations by-themselves are not sufficient to regulate the social and environmental standards in mining. Mutually accepted objectives, clearly defined roles and responsibilities and respect founded of collaborative efforts by the government and the players in the oil sector founded is fundamental. Environmental and societal matters ought not to be catalogued into different functions, but should be acknowledged as interwoven and overlapping domains that are best handled as a single item with sub-structures.

Spanning the last one to one and a half decade, multi-nationals dealing with oil and the states hosting them have shifted and zeroed their focus to social and environmental impacts of oil exploration. This is from the realization that correct standing of both the private sector and governments are at risk with poor management of social and environmental issues surrounding oil and gas activities. At the danger of being over-simplified, social and environmental risk management can be traced back to health, safety and environment (HSE) procedures of oil companies. This has so far developed to encompass external affairs and relationship building through corporate social responsibility (CSR). The field of environmental and social protection has greatly benefited from international attention through the media agencies on environmental

impacts such as pollution resulting from oil spills, social impacts such as involuntary displacement of persons and skewed development in oil producing countries which led to a new way of thinking of duties, accountability and responsibilities surrounding sustainable development.

2.2 The Legal and Regulatory Framework in Kenya

The risk surrounding environment and its association with oil and gas exploration and development has been addressed in several platforms. These include: (i) treaties within regions or at a global level; (ii) national legal and policy documents; (iii) good practice notes and publications by the Breton Woods institutions such as the International Finance Corporation (IFC) and the World Bank; and (iv) the UN agencies (Gao, 1998) to support sustainable development and pollution prevention. Kenya benefits from being a signatory of several regional cooperation, multi-lateral, and United Nations pacts which form a reference base in coming up with national legal and policy framework.

Kenya has ratified several conventions and pacts but those that have a significant correlation to environmental protection in oil exploration.

At a country level, Kenya does not have an all-inclusive law on the environment, which focuses on the gas and oil sector. Accordingly, they have been quite ineffective in the mining sector and are not likely to be too helpful in the gas and oil sector.

2.3 Community Perceptions on Mining

The association between local populations and mining activities is one that yields mixed results. To facilitate the achievement equitable development and a sustainable relationship between mineral exploration firms and the local host communities, there is need to have responsibly-behaving mining companies and an environment where Country legal and policy framework are effective and are implemented. Going by information from the World Bank (2002), successful projects and exploration campaigns that have assisted in increasing the likelihood of progressive experiences between communities and mining firms are those that acknowledge these key building blocks for successful company-community relationships: (i) that mining firms need more than their

government provided license to function. They also need a robust social license to operate (SLTO). SLTO is built overtime but is a result of thorough respectful and transparent engagement with the project host community, local traditional leadership and neighboring communities. It also includes in-depth consultations with the state at the national, local, and regional levels at the inception stage of operations; (ii) the discussion would need to open discussions and shed light project related benefits that will accrue to the local community. These discussion on benefits may include the means to facilitate the economic transformation and development of the community and safeguard the environment; (iii) adoption of mutual-positive developments initiatives, where the locals learn how to arrange themselves and take part in the exploration activities' and be part of decision-making processes. Conversely, there are many instances where economic dealings that are transactional in nature have been given more emphasis than communal transformations for the benefits of the local community. The results of these is negative socio-economic outcomes of the exploration activities as per UNDP (2012). This may also exacerbate violent relationship between local communities and oil companies, gender disparities in development, poor environmental protection, economic or physical displacement of local communities and weaken democratic gains. According to the World Bank and International Finance Corporation (2002), extractives should be able to support capacity development of local communities to actively participate in the development of their local areas through the use of sustainable initiatives

The finding and subsequent exploration of the "black gold" in Nigeria's Niger Delta, was anticipated to solve all the problems of the local people. Ironically it became a curse. Instead of accelerated development, improvement of economic conditions and employment opportunities the residents have seen the start of a prolonged of conflict, increased in poverty levels, and environmental pollutions and subsequent degradation. Additionally, unrestrained corruption as a result of weak and ineffective local governments make it difficult for any meaningful proportion of the oil revenue to find its way back to the local economics and spur the much desired economic growth. Precisely, about 70 percent of all the money generated from the oil exploration activities remain in the hands of less than 1% of the overall population. Moreover, 70% of all this wealth is kept in offshore accounts and most of the country's oil is utilised in the first world countries (Lubeck *et al*, 2007). Clearly, the local elites are the ones who benefit most from such activities.

For the Niger Delta region, developmental and social pointers such as the natural environment's quality, health, and education are worse than for many other oil-producing regions (UNDP 2006). The region's rate of infants' death is above average, its post-neonatal death rates are among the highest, and it has one of the greatest rates of HIV prevalence in country. Also, a huge proportion of the residents of Niger Delta live in the rural areas and do not have access to potable water to drink despite the fact it is endowed by vast groundwater and freshwater sources. Consequently, water-borne diseases are widespread in the region (Iledare & Suberu, 2010). Lastly, the quality of education in Niger Delta is poor despite high attendance at primary level of education. This is due to the fact that un-availability of skilled teachers who have been trained to guide the students and poor maintenance of learning facilities leading to their breakdown.

Of the total population in the Niger Delta, only 34% are connected to the national grid and can therefore enjoy supply of electricity. Another state with major oil reserves in Nigeria, Bayelsa, isn't connected to the government provided electricity (Iledare & Suberu, 2010). What is more, housing in this region is a problem and between 50,000 and 100,000 residents dwell in shacks or slum areas (UNDP, 2006). Oil exploration companies have repeatedly undermined the human rights of people in these regions as their government watches. The residents have methodically been kept in the dark about how oil related activities conducted in their areas impact them, and on several occasions been prevented from accessing justice.

The case of Niger Delta provides an excellent example of how local governments can subject their citizens to exploitation and oppression by multinational firms because of unaccountability on human rights issues associated with oil exploration activities (Amnesty, 2009). The stark dissimilarity between the wealth or resources in the region and the socio-economic under development of the people has sowed the seeds of feeling of deprivation and increased the residents inclination towards violent uprisings. Statistics indicate that the Niger Delta zone is perceived to have an approximate rate of poverty of 74.8%. That figure is far higher than the true poverty levels which stand at 51.1%, this shows the negative feeling that the community has that it may be better off due to oil finds in their areas, expectations that they perceived to have not been met (UNDP, 2006). The guilt of underdevelopment in the Niger Delta despite its mineral rich status is borne by all levels of government.

The first level is the leadership of the region's constituent state that is perceived to keep squandering the funds bequeathed to them through the derivation rule, and the second is the Federal government that has remained a little too slow to promote the development from oil money in the local communities or punish multinationals who disregard the welfare of the locals in their exploration activities. According to the UNDP (2006) the agonizingly high poverty levels, high unemployment percentages among local population, unequal socio-economic development, poor provision and access of social services, and high levels infrastructural underdevelopment in the resource rich region aggravates the environmental neglect and degradation in oil producing areas of the state. In addition, "the oil industry-related environmental degradation caused by oil spills, gas flaring and deforestation has undermined opportunities in fishing, agriculture, and related traditional occupations in the Niger Delta" (UNDP, 2006). Furthermore, "the high earnings of some oil industry workers leads to localized price distortions, driving up prices and so constraining the purchasing power of ordinary people and making it difficult for many to meet the costs of basic needs such as housing, healthcare, transportation, education and making poverty more pervasive than conventional measures reveal" (UNDP, 2006)

Construction of a road in the Niger Delta area costs more than four (4) times the amounts it would take to construct a similar road on dry land. As such, motor boat or canoe is the cheapest and most accessible transportation form across the region. The challenges in transporting industry in the region has resulted in a surge of prices of essential goods including petroleum (Asumi, 2009). The complex interaction of economic underdevelopment, geographical terrain, ethnic strains in relationships, and the availability of a sector that gives the locals little direct benefits encourages feuds within the local community. According to Babatunde (2009) about 50 percent of states that depend on minerals are found mostly in the sub-Saharan Africa and the main source of revenue is royalties from exploring these mineral resources and their production. The mineral resources include copper-ore, platinum, oil and gas, bauxite , iron-ore, gold, chromate, uranium, phosphate, diamond and many others. Nevertheless, despite the natural-resource abundance in these states, hunger and malnutrition, high levels poverty and below average development still plague their citizens. Though, there are academic arguments that have been put forward, that with good management, development can come from mineral resources. This is well demonstrated by a few

African nations like South Africa and Botswana (Wolf-Christian 2004). Therefore, it is not true that abundant natural resources are always a magnet for exploitation and deterioration of the social welfare of communities. The fact is that a majority of countries have not harnessed their ability to utilize their natural resource base resource in directions that lay the foundations for sustainable development. Scholars, which include political scientists and economists have fronted different justifications for their theory on the developmental trap linked with the availability of natural resources in developing countries. Their economic hypothesis is that poor legislations are or have been put in place to favour foreign producers over local producers that would have benefited from friendly macro-economic policy environment. Also known as the "Dutch Disease". Despite value and expectation for societal transformation that comes with having oil deposits local populations in countries with this natural resource remain in a state of stunted economic development and thus have a negative perception on oil exploration. The Sub-Saharan Africa the biggest producer of oil, Nigeria, is a good example of the development trap theory.

To establish a harmonious relationship with host communities and oil developing nations, management of oil exploration companies need to understand the impact of their operations on existing political and societal system as a whole. Experience shows that that different members of resource rich community do not benefit from resource exploration in the same level and this skewed development can exacerbates tension between the community members or with the resource exploration company altogether. Companies need to realise that they significant impacts to the communities in which they operate even though they could be separated with barriers. Therefore, in the course of undertaking its activities, exploration companies' and their workers, need to exercise caution for them not to add to the destabilization of local communities and increasing the risk exposure of their companies. Typically, impacts associated with corporate activities are either positive or negative (Zandvliet. L. and Anderson B, 2009).

It is important to note that a company should ensure that the manner in which the company and company staff show respect, or lack of respect, for local people send signals that company policies and staff actions send to local people about trust, fear and caring. Staff and company behaviour directly affect long-term company-community relationships. Therefore, the company needs to take responsibility for broader and longer-term impacts that its presence has on local communities. This

includes the influx of large groups of job seekers who descend on a host community and the range of environmental problems that are introduced from corporate activities (Zandvliet. L. and Anderson B, 2009).

Communities regularly request for more involvement by the companies conducting activities in their local areas. It is natural, and legitimate, for community members to want to know; who are these people? What do they do? How do they live? How will they affect our lives? Some company managers fear that transparency can put a company at a disadvantage. They worry that sharing too much information can strengthen opposition to company decisions or lead to more and increasingly unreasonable demands. The evidence shows, however, that there are immediate benefits to be derived from policies and practices of transparency (Zandvliet . L. and Anderson B, 2009).

2.3 Community Perspectives on Communication

According to Zandvliet. L. and Anderson B, 2009 who undertook a corporate engagement project based on experience from about sixty multi-national oil companies working in Latin America, North America, Australia, Asia and Africa ”community representatives in a number of countries explain that they don’t need to take strong and aggressive positions vis-a vis company negotiations if their constituencies feel they know what can be expected from the company. Such knowledge comes from a sense that a company communicates openly and honestly, qualities that are demonstrated by transparent policies and practices.

Transparency can also reinforce the legitimacy of community leaders who work with (rather than against) a company because they are seen to be well informed. Some community members explain that because they had no idea of how a company’s presence would affect their lives over time, they took a short term demanding approach to negotiations with the company. In retrospect communities say that, if they had been given quality upfront information on the planned exploration activities in a transparent manner, their approach to air grievances and hold discussions with exploration companies would have been different. Putting in place systems of regular and open exchange of information in a transparent manner can draw out concerns of communities before these grow into grievances. Company’s and communities may also use consistent and

retribution-free meetings to provide a sound environment to deal with potential problems early (Zandvliet. L. and Anderson B, 2009).

Usually, the public gets information on a project through processes like the Environmental and Social Impact Assessment earlier on in the project's life cycle. With this little information, many people already have specific expectations of the project and make moves based on those. There are those that migrate to regions around the project with the assumption that they are going to find employment. Others set up businesses close to the project area imagining that' services and materials would be procured from them and the local authorities plan to develop the utilities, infrastructure, and services based on the assumption that the project will pan out a specific type of way (IFC, 2009).

Where information specific to a particular project is not provided, rumours are bound to be peddled for the benefit of a few members of the community especially the elite class. Therefore, timely and effective communication on the development of a project, its project logistical plans including supply arrangements, the labour requirements and skill set, operational management structures in the operation, and clear, transparent and publicized recruitment policies help in expectation management. Since migrant also move into the area from distant regions through jurisdictions that the local authorities do not control, such information should be spread as far as possible to ensure that most of these other authorities get a wind and know which kind of people they can let in, and which ones they cannot. For the engagement of all the project stakeholders and dissemination of project information to be successful, the importance of the locals needs to be recognized and matters to do with immigration of potential job competitors are addressed in the discussions (IFC, 2009).

2.4 Oil Mining and its Impact on Infrastructure Development

The proponents of economics and development based on oil resource have a belief that countries endowed with the "black gold" can create a foundation of their socio-economic development and transformation on it. Forecasting that the likely benefits that would accrue from its exploitation such as economic development, increased revenues for governments through royalties and taxes and expansion of the job market range, skill transfer and human capital development, improvement

of supporting infrastructure and reduction of poverty levels in host countries. Experience has shown that in most instances this is not usually the case. In reality, countries that have developed a culture of overreliance on natural resource to drive their economies, regression in development and social welfare has been witnessed.

Above and beyond, overreliance on oil for most oil producing nations, especially in the developing nations, has created and environment for rent-seeking, corruption and poor governance. These have often resulted in poor economic performance and increased the propensity for local communities to have conflicts. Some of the authoritarian and conflict prone countries globally have been founded on this premise (Terry, 2007).

Five basic features can be used to define oil as a product. These are: (i) to exploit it one requires sophisticated technology and vast amount of financial resources; (ii) in countries that have it, it is considered the engine for industrial development and national resource; (iii) it is prone change in price and cycles of high and low; (iv) most of the benefits experience from its exploitation accrue to multinational companies and governments; and (v) its reserve nature (Terry, 2007). The mix of these aspects produces what has been referred to as the resource curse. A spike in resources can bring mixed blessings, it has its benefits and negatives. When there is plenty as a result of boom brought about by exploitation of existing natural resource, there tends to be dependence on it. This over-dependence ranges from socio-economic development, employment and business opportunity creation, infrastructural development and many more. Upon depletion of the natural resource, revenue streams that came from its production as taxation to the government or direct engagement of the local communities through business or employment are cut and thus several sectors of the economy and society collapse. In addition, experience has shown that resource exploitation by developed nation has contributed more to their development as opposed to those in developing nations. This is owed to weak or underdeveloped, regulatory framework and institutions, for example Angola and Nigeria. Vast majority of proven reserves are in under-developed countries as opposed to developed nations which account for only 4 percent, therefore the likelihood of low impact of resource exploitation is considerably high due to the factors mentioned above.

As mentioned in before, mineral-led growth is often advanced as a critical path for nations looking to establish sustained economic growth. Comparing the oil driven economies at the present day to those that occurred in the Australia, Canada and United states of America in the early twentieth century, there is a greater degree of difference in resource-dependence. Earlier counties to discover oil and exploit it were never heavily reliant on it as a source of export income as opposed to today especially in the less developed nations of Africa and middle-east. In the developed economies, mineral and oil exploitation were never the backbone of development and government revenue streams. This led to the countries having more diversified economies as opposed to those countries that are heavily reliant on mineral-led development who are concentrated on few revenue streams. Ration of oil exports to gross domestic product (GDP) is used to measure the level of dependence on oil. This figure ranges from a 4.9 percent being the lowest to 86 percent in Equatorial Guinea. This dependence can also be assessed through export profiles, where countries heavily dependent on oil having oil exports contributing to between 60 to 95 percent of the total exports registered by that country (World Bank, 2006). Furthermore, research indicates that the more such countries depend on oil or other mineral resources, the performance economically deteriorates.

Overreliance on oil production may cause a decline in competitiveness of the manufacturing and agricultural exports which makes economic diversification difficult. This in turn solidifies the dependence on oil overtime and can in the end result in eternal reduction of competitiveness. In addition, price volatility in the international arena have significant effects on development of markets. The volatility has worsened from 1970, and since then oil prices have become more variable compared to other market commodities. This has thus predisposed economies dependent on oil to recurrent economic shocks. The volatility of oil price also has a negative influence on budgetary discipline as economic performance in most oil-reliant countries deviate from plans by about 30 percent (Terry, 2007).

Oil price volatility also influences negatively the state's efforts in promoting a conducive investment climate, poverty reduction strategies and wealth distribution among its citizenry. Oil exploration and development activities also do have weak linkages with the rest of the economy due to prohibitive capital required to venture in it and its generation of minimal jobs for the local population. Jobs are usually minimal due to the highly specialized nature of oil exploration, in

most cases the required skill set is usually missing in host countries especially in less developed nations. Opportunities for technological exchange is usually minimal due to the minimal engagement of downstream service and technical industry providers. The authoritarian nature in which most of oil producing nations are lead, often predisposes these countries to policy failure. This is basically due to weakness in locally available institutions.

The poverty and Consequences of Oil-Driven Development.

Among the most notable social effects of over reliant on oil by oil exporting nations are: (i) underdeveloped healthcare system with low levels of community access; (ii) child mortality rates are high; (iii) high prevalence of poverty; and (iv) weak education systems leading to poor education performance. With a relatively higher income compared to non-oil producing countries, the above effects on socio-economic development are worrisome. Despite the fact that commodity dependence is closely associated with poverty in most countries, not all commodities have a strong negative effect compared to dependence on oil. Agricultural producing countries with no or little mineralization have shown better performance in relation to poverty reduction and management. It is also worth noting that, there are higher malnutrition cases and low life expectancy in countries dependent on oil as their primary export commodity (World Bank, 2006).

Reliance on oil has a vague connection to poverty reduction. When oil exploration commences in any country, a surge in per capita income is usually noticed. This mostly happens at the early stages of exploration and also at the commencement of production and export. Employment is normally at its peak during exploration of oil and gas where the need for more none specialized staff is required. The need for local human resource reduces with the advancement of exploration, appraisal, extended well testing, full field development and finally production. This is because as oil exploitation activities advance, the human resource requirements become more specialized and not easily available locally. This spike in jobs creates an increase in income and thus contributes to the surge in per capita income. Despite the increase in economic activities it is important for country to diversify into other sustainable ventures that promote more inclusion and are easily accessible to all to promote the development of the poor people. As oil exploitation advances, the boom tappers-off and oil producing countries witness a reduction in per capita income. This is

because of reduced investment activities in the oil fields, few specialized jobs not easily available for the local population and reduction in volumes extracted and exported. For example per capita export of oil in the North African countries dropped to USD 407 in 1992 from USD 2,042 in 1980. In addition to the drop in the contribution of oil to the economy of these countries, population also increased. There constant flux in welfare of persons living in oil-exporting countries despite being seen as living in plenty. A fact that has predisposed them to a life of poverty (Terry, 2007). Therefore, oil-dependent nations have experience significant changes in per capita income progression which has resulted in negative changes in their populations living standards. This shocks and sustained changes in the contribution of oil exports to per capita income has been witnessed across all oil export nations, rich and poor in equal measure. These countries include Qatar, Libya, Algeria, Ecuador, Gabon, Kuwait, Iran, Angola, Trinidad and Tobago, Saudi Arabia and Iraq. For others the changes have been severe, and the real per capita incomes have dropped to levels experiences in the 1960s, these countries include Venezuela and Nigeria.

Inequalities in income are outrageous. In certain countries 40 percent of the nation's wealth is controlled by only 10 percent of the population whereas the poorest accounting for about 20 percent have 4.4 percent of the country's wealth to share. In Oil producing states dependence on oil contributes to more than poor living standards and huge gaps between the bottom 40% of the population and the rich. It leads to low investment in important sector of education, poor provision and low access to quality healthcare, children malnutrition and stunting, high rates of child mortality and low life expectancy. There is a marked difference in the above-mentioned parameters of development in non-oil and oil producing states, where the later performs poorly. Statistics are shocking, it is said that there is an increase of about 3.8 in child mortality per a thousand by every increase in dependence on oil by 5 points. This is owed to the fact that oil dependence leads to low investment in healthcare and reflected in low spending in terms of percentages of the GDP on healthcare. Taking an example of Nigeria, the spending per person on healthcare by the government is USD 2 per year, this is way below the recommended average for developing countries set at USD 34 per year by the World Health Organization (WHO). Higher malnutrition figures recorded in developing nations is also a contributor to poor performance of children (Terry, 2007).

Performance of the education sector in countries that are heavily dependent on oil or natural resources is also poor. This is marked by low levels of investments in both human resource such as teachers and also in development of facilities. This has reduced the quality o education and, in some cases, made education inaccessible for the rural poor. Therefore, enrollments in school tend to be low compared to other countries with no minerals. Research shows that OPEC countries record an transition rate to secondary school of about 57 percent while the rest of the world records 64 percent. This may be explained by the low spending on education estimated to about 4 percent of the Gross National Product by OPEC countries compared to other non-producing nations of 5 percent, (estimates for 1997). There has been little explanation offered for the poor performance recorded in oil-exporting countries. According to the World Bank (2014), it could be that access to quick resources by oil-producing nations makes them perceive that it would be important to invest in other areas of the economy than in long-term needs for human capital development through education.

2.5 The influence of Oil and Gas Production on Community Livelihoods

The main source of food and income for most of the African populations is pastoralism and agriculture (World Bank, 2014). Particularly, in the northwest Kenya which is predominantly arid and semi-arid, pastoralism is the best mode of production and it is a major source of livelihood due to scarcity of pasture and reliable water sources (Levine, 2010; Koocheki and Gliessman, 2005). Despite its significant contribution to livelihood sources in arid and semi-arid areas, pastoralism is still perceived by most African governments as primitive way of life (Pavanello, 2009; Devereux, 2010). This way of thinking has promoted the marginalization of the vulnerable pastoral communities is many ways such as economic, social and political (Government of Kenya, 2007). Turkana also fall in the category of marginalized communities in the country. The continued constrained movement of pastoral communities as a result of moratorium placed by several eastern African countries has affected the sustainability of pastoralism (Schilling et al., 2014). The adaptation of these pastoral communities has been also hampered by unpredictability of rainfall patterns as a result of global warming (Schilling et al., 2014; Opiyo et al., 2014). Conflicts between pastoral communities over pasture, watering points and raids to steal cattle, has also had a significant contribution to the degradation of resilience of pastoral communities (Schilling et al., 2012b; CEWARN, 2010; Adem et al., 2012). In Turkana, the areas that are prone to inter-

community conflict related to pastoralism is Southern Turkana which borders with the Pokot (Mkutu, 2006, 2010; Schilling et al., 2012b). It is the Southern part of Turkana where significant deposits of crude have been confirmed (Vasquez, 2013, Anderson and Browne, 2011)

According to Tullow Oil (2014) the Southern Lokichar Basin located in Turkana South has an estimated potential of 600million barrels of oil. This has put the northern Kenya region at a position of becoming a major player in oil production (Tullow, 2014c). The news of oil-find in the northern Kenya was welcomed by the government as 'a blessing' and a potential game changer in the development of the country. As for the pastoral communities living in this areas, it is not clear what the oil exploration activities will hold for them in future.

An evaluation of available research associated with oil exploration and pastoral economies offers limited data and theoretical formulations to provide an answer to the question. As at the moment, the most significant research contribution on the subject matter is by Johannes *et al.* (2014), which brought-out the concerns that the pastoralist community in Turkana have in relation to oil exploration in their lands. These included: (i) fear over possible loss of land due to increase in-migration and change in land-use and tenure systems. This may at one point stir conflict, between migrant population and local communities noting the scarcity of pasture and water and inconsideration of communal land management procedures; (ii) degradation of the communal way of life and culture (Johannes et al., 2014).

Inter-ethnic conflict and militarization of the same has complicated the pastoral economy in Sudan. Challenges associated with oil production have also increased added to already existing tensions (Chavunduka and Bromley, 2011). Oil exploration in Sudan did increase conflict of land between communities and has also contributed to loss of vegetative cover thus resulting in environmental dilapidation. Poor management of community expectations and unmet commitments by oil firms to provide jobs has resulted in increase of cases of insecurity and attacks on the oil production facilities (Pantuliano, 2010). Besides the negative effects of oil exploration Pantuliano (2010) has mentioned some positive contributions to the economy such as: (i) improvement of transport infrastructure such as roads in the areas oil operations; (ii) promotion of urbanization along the newly developed road networks; and (iii) opening up the areas and increasing opportunities for

trade and thus diversification of livelihood streams. Nigeria also offers another example of what can go right and wrong in relation of oil exploration. The case of Nigeria provides impacts both positive and negative despite the fact that the development was not conducted in a pastoral setting. Notwithstanding, the massive revenues and forex returns oil has offered for the country, the status of urban poor is deplorable and gap between the poor and the rich is big. The inequalities have been felt significantly in the rural areas where attacks have been carried out on oil infrastructure (Anifowose et al., 2012).

In the oil producing nation of Angola, rural development has also been reported to be negative (Amundsen, 2014; Wenar, 2013). In Uganda, a non-governmental organization has pointed out the risks of conflict associated with oil related activities. It further brought forward the idea that, oil could be used to promote peace and development (International Alert, 2009; Vokes, 2012).

2.6 Mitigation Strategies

It is a prerequisite that Oil companies conduct an assessment to determine the likely impacts of the proposed exploration and subsequently oil production activities. This are normally conducted and for example in the Niger Delta Shell has conducted about 30 environmental and social impact assessments (ESIAs). Though, the implementation of these and the mitigation measures in them is questionable. Studies by Dadowei (2009) concluded that the negative effects witnessed by the communities residing in the Gbarain oil fields managed by Shell company could be attributed to poor implementation of impact assessment and implementation of the proposed mitigation measures. Rather than implement comprehensive mitigation measures, responsible Government agencies, multinational oil companies and non-governmental organizations aim to implement corrective measures on a case by case basis (Imoobe and Iroro, 2009). There various technological advancements in the field of oil and gas exploration and also in the fields of environmental and social risk management globally. If used, this may help mitigate the risks associated with impacts resulting from oil exploration, but most companies opt not to use them (FMoE *et a*l, 2006). For example, open pipe flare is no longer preferred globally as there are better alternatives to it, but in Nigeria oil companies still use it (Opukri and Ibaba, 2008).

To manage community and company relations, most oil companies heavily finance corporate social responsibility (CSR) initiatives. These huge investments in most cases do not pay-off. Taking an example of the Niger Delta, where there were several trials to create a conducive work environment for the companies which rather than promote a safe working environment resulted in more conflicts. The strategies employed ended up stratifying the community, increasing gap between the rich and poor and promoting skewed benefit sharing across regions which created more divisions in the communities. Poor consultation and involvement of the local people resulted in development of unattainable and sub-standard facilities which only met interest of a few members of the community. One example is of Shell's widely censured us of oppressive security operations in the Niger delta and its poor track record on environmental protection matters during the 90s. For a better part of involvement of multinational corporations in the Niger Delta, CSR activities were 'transactional in approach' where the companies would come and invest in the community for a given time to allow them access to natural resources and once done, they would proceed without minding the investment they left behind. Investments were made without the thought of how they would be sustained or even how the would be operationalized, for example schools were built without provision of teachers and hospital buildings were also erected but no doctors were provided. This resulted in peaceful protests and requests for engagements between the host communities and the companies. This was later followed by conflict during the 1990s. This sharp rise in militancy prompted companies to rethink their strategy on CSR and embrace community development approaches. Still, there was low level of ownership of the projects that multinational companies invested in which in turn brought about the challenge of their sustainability. Beneficiary community targeting also faced challenges of accusation of favoritism by communities which did not benefit project the investment projects under the CSR, this also escalated the inter-community tensions and conflicts. A mix of all this issues created an unfavorable environment for the multination oil companies to operate in and they thus ended up adopting more creative ways of dealing with the challenge by involving NGOs (Idemudia, 2010).

To manage community relations better, an approach known as Global Memorandum of Understanding (GMOU) was adopted by Chevron. This was to bring the community on board as partners rather than only as beneficiaries. Due to its success, other companies such as Shell also copied and implemented it. This was more of a bottom-up approach to development. In the GMOU,

communities were to organize themselves in development councils clustered in regions and they were to be provided with resources. It is the responsibility of the communities to determine their needs and focus the investment to meet them and thus alleviated the need to oil companies to assess needs and dictate what investment to finance. So far success or failures of these is yet to be seen (Idemudia, 2010).

Companies are important development partners in the areas in which they operate, but caution should be taken to ensure that they do not replace government in their role of social service delivery. As the case in some areas of Niger Delta (Idemudia, 2008). Relationship between the vehicle of choice to deliver the CSR activities should factor in the possible conflict of roles and responsibility with the local government. It has been said by critics that the GMOU may risk undermining contributions of the local governments due power difference related availability of resource to fund development initiatives. The GMOU stands a better chance of providing a sustainable solution to inter-community conflict related to resource allocation.

The literature review revealed several issues that needed to be addressed. It was clear that much studies relating to oil extraction activities and its impact on pastoral communities livelihoods had been undertaken in some African countries, however, little studies had been conducted in Kenya. It was therefore imperative to fill the gap by undertaking this study to address these gaps.

2.7 Theoretical Framework

Knowledge production is guided and structured by theories and concepts (Reeves et al, 2008). This study aims to access livelihood impacts of exploration of oil and gas in North Western Kenya Turkana South and East, and to facilitate the achievement of this objective, the study will be guided by sustainable livelihood approach and its concepts. However, the approach has attracted criticism that it doesn't pay sufficient attention in-terms of depth and breadth on issues related to institutional roles and power under on people's livelihoods (Ellis, 2000). Therefore, the study used resource conflict theoretical approach to complement the livelihood approach.

2.7.1 The Livelihood Theoretical Approach

There has been considerable changes and development in relation to concepts and ideas surrounding poverty in the past one hundred years (Potter, 2008). In the 1980s, neo-marxism was the main theory surrounding the explanation of the process of development, it concentrated attention towards power and its relationship to access to assets. The main argument is that people play a role in the directions which their lives take (Haan & Zoomers, 2005). With the publication of 'Our Common Future', a Brudtland report, neo-maxism school of thought lost its allure between 1980s- 90s with shift of attention to issues pertaining to sustainable environmental management.
The present thinking under livelihoods framework is credited to Gordon Conway and Robert Chambers. The two borrowed from the works of earlier theorists such as Sen Amartya and the Brudtland report. They contributed a lot the development of the approach by coming up with and defining the little components within the livelihoods framework. Conway and Robert Chambers (1992) provided the description of livelihoods approach as shown below. This definition elaborated and made the approach pivotal in the development arena:

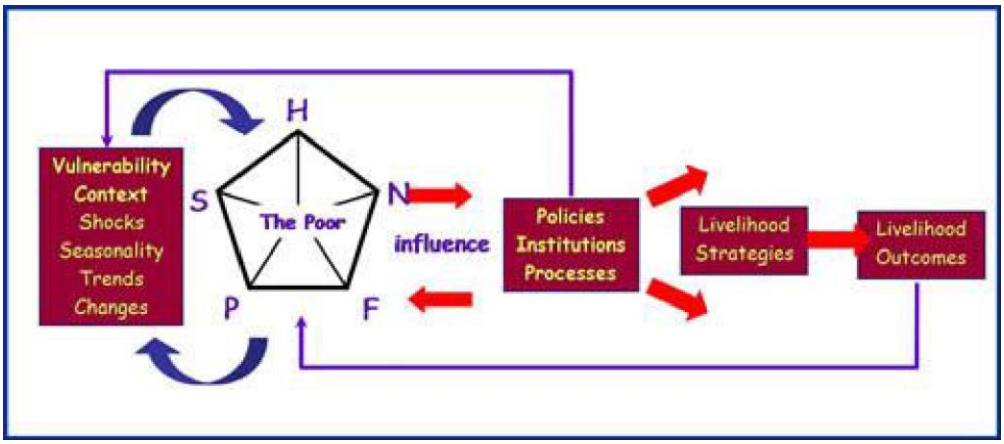
> *"A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term" (Chambers and Conway, 1992).*

Critics of the approach such as Acre who has been cited in the works of De Haan (2005) illustrate that the focus of the earlier framework was not pinned on sustainability but rather on income and security. In the 1990s, the development arena was engulfed by the domination of environmental issues in the discussions. The biggest shift occurred with the adoption of the Conway and Chamber's definition of livelihoods approach by development partners at the international level. This adoption by NGOs such as CARE, OXfarm and the UNDP operationalized livelihood

approach as a tool in the field of development. According to Amalric (2008) most of the early adopters used the framework mostly at an the level of organizations and not on households.

In mainstreaming participation and pushing for social change, Sustainable Livelihoods Approach, is a powerful tool which brings together the considerations of participation, poor people rights and environmental factors. This approach has been transformed and there has been a strong shift in its operationalization to ensure engagement of people at every stage of development and a move to appreciate issues past maximization of profits. Bebbington (1999) and Scones (1998) have went ahead and elaborated on some of the concepts such as: power relations, livelihood assets, shocks, organizational and institutions assets. This study in tended to assess in impacts associated with exploration of oil in the Turkana East and South Sub-counties by Tullow Oil.

Figure 1: Livelihood Framework by DFID



Source: (Scoones, 1998)

P - Physical capital: Encompasses required equipment by an individual or household to pursue various means of livelihoods. This may include communications systems, transport infrastructure, water resources, shelter and also tools required for one to participate in production;

S - Social capital: This are necessary resources which act as support systems and are necessary for the achievement strategies employed for livelihood. These may social currencies and may include: social networks, relationships that are based on trust, ascription to a membership of group. This are like reserves

H - Human capital: This encompasses well-being of an individual, capability of the individual to provide labor and the skill-set one has that are key in allowing the person to engage in a variety of strategies of livelihood;

N - Natural capital: This form of capital is God given and naturally occurring and are critical for production and use to realize livelihoods. This may include biodiversity, water resources, land and pasture. In Turkana, land for settlement and grazing, shrubs and thorn trees, the seasonal streams, water wells are vital for the survival, DFID (1999).

F - Financial capital: This are monetary resources which provide individuals with ability to choose from options of livelihood strategies. This may include remittances, individual savings or credit facilities. Also, salaries from work such as those involved in working in the exploration activities.

Livelihood Assets

According to Carney (1998), assets are essentially possessions or resources that are necessary for the attainment of livelihood that either an individual or household is in pursuit of. He argues that, assets are a combination of both material and none-material resources employed by a household or an individual and may include social resources. Financial asset, natural asset, physical asset, social asset and human asset are the five (5) different types of capitals that form livelihood framework (Bebbington, 1999). It is important to note that in the sustainable livelihood frameworks, as asset is taken to also mean capital.

With capital comes a variety of opportunities. One capital may enable an individual to enjoy other forms of capital. For example, land may provide an individual with other forms of capital such as security to get a financial capital, loans, or even be taken to signify wealth. Consequently, social assets or capital also allows one to have access to other forms of capitals such as natural capital.

For example, in Turkana community, grazing or temporary settlement land is allocated through family and identifying to a clan. Physical capital is necessary to enable one to improve their livelihood and also make use of other forms of capital. Infrastructure development in transport enable movement of human labour (capital) to point where it is needed to either generate financial capital or enhance/strengthen social capital through interactions. According to Scoones (1998), livelihood steams employed by individuals rely on a blend of variety of assets.

The challenge brought by changes in situation predisposing people to adapt to the use of a variety of assets from previously using natural assets for their livelihood strategy is discussed in detail by Bellington (1999). The issue pointed out by Bellington is importance to Turkana study because of the push for the community following the commencement of oil exploration to adopt to a new way of life requiring either combination of pastoralism and sedentary way of life required to enjoy benefits of oil exploration. Or choosing one, natural assets and / or human assets. In addition, assets are not only required for the achievement of livelihood but are a way of life of a people. The interactions between assets is not a static but a dynamic value (Bebbington, 1999).

Assets and access to them can be improved or reduced depending on the availability of resources. Vulnerability of a persons or a community's livelihood may be affected by the limitations put on access or whether they have been denied access to assets. On the other hand, if investments are made on any assets livelihoods are significantly enhanced (Swift, 2006). Investable assets take a variety of forms and may include skills, any form of infrastructure, land etcetera.

The value of assets and competences are enhanced if correct investments are made on them (Chambers and Conway, 1992). These forms of investments act as protection against any unforeseen forthcoming stress or shocks. To support the exploration activities in Turkana, investments in several areas will need to be made. These investments range from development of access roads, water sources and connections, health facilities etcetera. The study gives highlights on the impacts of the infrastructural development on the community's livelihood systems

Livelihood Strategies

Livelihoods are achieved through a combination of different assets and the process through which these assets are brought together to achieve the livelihood objectives is what is called livelihood strategies (Scoones, 1998). In his work, Scoones put forward three strategies which fall within the livelihoods framework. These are: (i) agriculture extensification and intensification; (ii) livelihoo d diversification; (iii) migration. Agriculture extensification and intensification this involves strategies employed by farmers to increase output of their farms (same size) or increasing output by increasing acreage under cultivation. While, livelihood diversification, is where move out and venture in other activities outside the farm to provide sufficient security for their livelihoods. Migration is the act whereby sedentary or transient communities relocate to other areas in a bid to seek livelihoods. Scoone's postulation was critiqued by Bebbington for its concentration of faming persons who rely on natural assets in the expense of others who rely on other forms of assets. Bebbington further states that non-farm workers found in the rural areas also do invest other forms of assets such as skills to enhance their livelihood just as farmers partake to their land for production. The returns farmers get from their investment activities signifies financial capital which by choice they can re-invest to on on-farm activities or on other non-farm activities and thus diversifying their livelihood. According to Scoones (1998), the diversification that farmers get into are seen as temporary strategies to cope with adversities but are not permanent adaptive measures. The success of diversified livelihoods is dependent on the individual health status and skill set. According to Ellis (2000), the poor people tend to be involved with several complicated livelihood activities, but this is never an assurance that they will have better lives and increased incomes. For example, in Turkana East and South community pastoralists' diversification involves engaging in different kind of livelihood activities. This study however, explores the impacts that oil explorations have on people's way of living and the extent to which the Tullow's compensation processes assist in modifying the negative impacts on their way of living.

Vulnerability Context

Vulnerability is term with a varied number of definitions depending on the field under which the definition is made. In relation to livelihood vulnerability, the elements that are used to define vulnerability include: seasonality, shocks and trends.

The capability of assets to deal with various situations which are vulnerable in nature determine how an individual or a community can withstand vulnerability. Social networks are vital in dealing with shocks. People with rich social capital are able to count on them during situations of shock to get other capital such as natural or financial capital (Scoones, 1998). Loss of land and sudden changes in the way the community operates because of exploration activities may cause shocks in the Turkana community. Compulsory land acquisition and change in land use in a predominantly pastoral communal society could be an unprecedented and sudden change for the community.

2.7.1 Resource Conflict Theory

Several publications have been made on resource conflict framework. Most of these have been developed with the extractive industries found in the developing countries especially Africa in mind. Countries which have minerals and oil which are considered to be non-renewable resources tend to have poor socio-economic development and underperforming economies compared to countries with minimal natural resources. This is known as resource curse (Nest, 2010). Reserch conducted in the 1980s determined that in most countries that are developing natural resources may not be a blessing but could be curse. This framework was developed by Auty (1993) to aid in providing an explanation and a description of how mineral rich countries have failed to use their enormous resources to transform their economies and their low economic progress compared to nations with little resources. In some countries especially in Africa, presence of natural resources such as oil and other minerals have acted as catalyst for conflict rather than a blessing. It is expected that with more natural resources, countries and their citizenry should enjoy better social and economic development but on the contrary millions of people in these countries have receive very little benefits associated with hosting these natural resources. This could be partly owed to poor governance, under developed institutions, corruption in public official and conflict

The study has therefore used the resource curse framework to explore the potential benefits and influence that Tullow Oil exploration activities has on the livelihoods of Lokichar Location of Turkana South Sub County members of community and examined the company's impact management and mitigation methods that ensured that the people's way of living were not negatively affected given the pre-existing low intensity conflicts in Turkana county.

CHAPTER THREE: RESEARCH METHODOLOGY

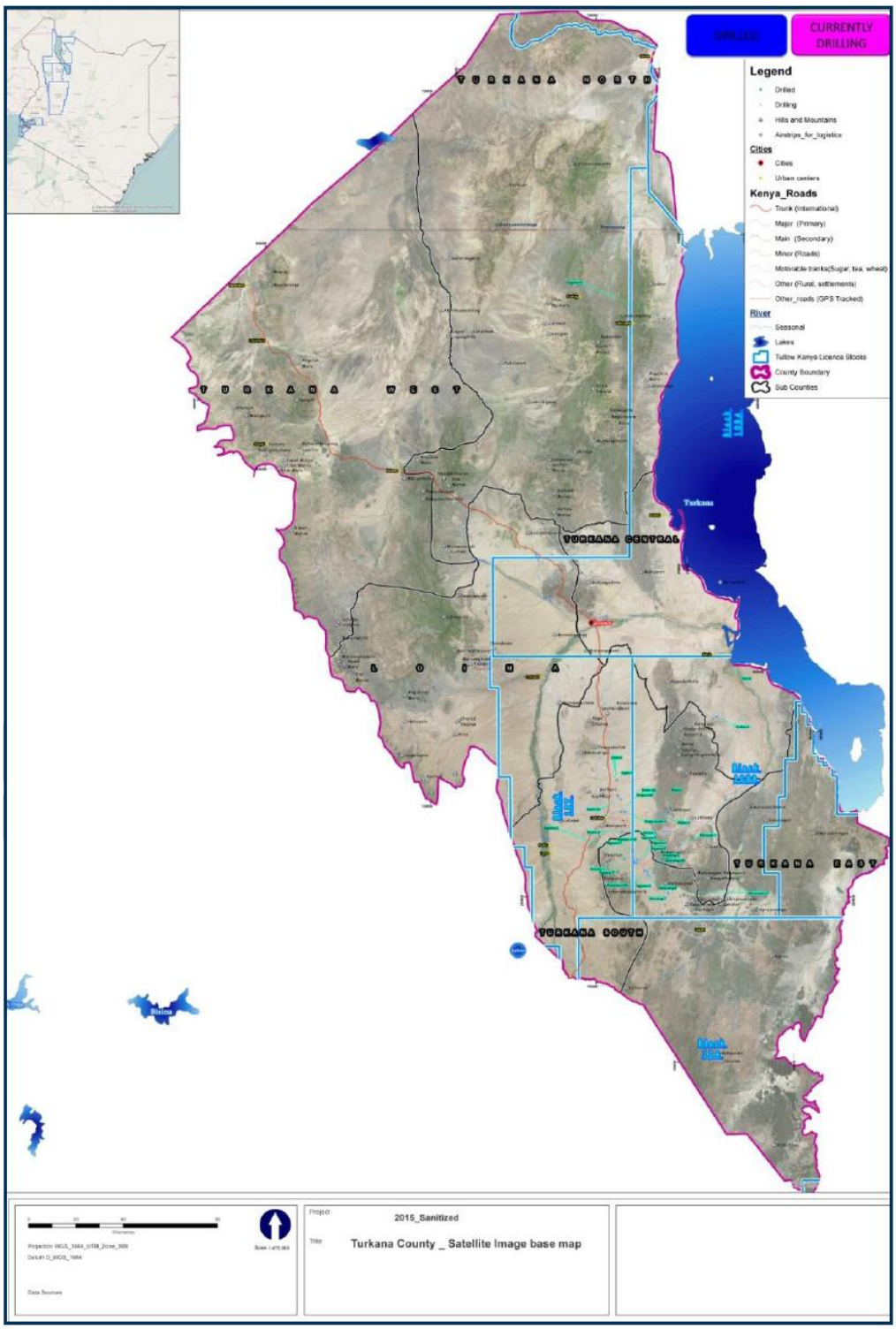
3.0 Introduction

Chapter three describes the following: (i) the study site; (ii) study design (iii) study population; and (v) unit of analysis. The section also describes the sampling technique and the sample size, as well as methods and data collection tools, data analysis methods and ethical issues in this research process**.**

3.1 Site Description

Turkana is a County found in the most north-westerly part of Kenya. It borders three counties namely Ethiopia, South Sudan and Uganda. Within the country, Turkana is bordered with four countries. These include: (i) to the south Baringo and West Pokot Counties; (ii) to the south-east Samburu County; (iii) To the east Marsabit County. To the eastern edge of the county is Lake Turkana which is also a source or water and fish for the fishing communities. Turkana is estimated to be second largest County at approximately 77,000km^2 in size.

The population density is highest 420 and lowest 01 with a county average of 15 per square kilometer. The crude birth rate is 443/1000, crude death rate is 8.1/1000, infant mortality rate 66/1000 and mortality rate for the under five years is 117/10,000. The life expectancy for the male gender is 54.8 and female 59.1 years. The research site has 92% poverty rate. The area is rich in livestock being cattle 1.5 million, sheep 3.5 million, goat 5.9 million, camel 832,000 and poultry 180,000. The average distance to hospital is 50km and a 1:70,000 doctor to Patient ratio. The HIV prevalence is 6.9, children vaccination rate 35.3% and 94% mothers deliver at home. Most children 81.3% and 85.2% trek to school which is 5Km and above in primary and secondary respectively. Most households 89.1% have no latrine (GOK, 2013).



Map 3.1: The Map of Turkana County

3.2 Study Design

A descriptive research design was adopted that emphasized more on qualitative methods of data collection. Although the design was qualitative, limited quantitative design was applied to measure perceptions. A triangulated methodological design was adopted to endure validity of data. The strength of utilizing several methods was that the weaknesses in one method are eliminated or minimized by the strength of the other methods. The basis for the use of the qualitative method was founded on its significant characteristics presented by (Wimmer and Dominic,2003). They explicate that aqualitative research is a studywhich is interpretative in nature and give a chance to the observer to generate reality which forms a portion of the research process, that has faith and understanding on human beings basic variation and endeavours to have an in-depth study rather than a broad study. Data collection conducted concentrated in the most affected villages: Kapese; Lokichar; Kamarese; Lomokamar; and Kasuroi.

3.3 Study population

The study populace consisted Turkana communities' living in oil exploration area of influence impacted by oil exploration activities in Lokichar Location. Nevertheless, the population was heterogeneous in relation to their ages, gender, socio-economic status and education, it also had other common characteristics which include: (i) geographical location; and (ii) host to the Tullo w Oil company.

3.4 Unit of Analysis

The unit of analysis in the study was the influence of oil and gas exploration by Tullow Oil Company on the livelihoods of the Turkana community in Lokichar

3.5. Unit of observation

Unit of observation in the study were the community members of Lokichar location of Turkana South Sub-county

3.6 Sample Size

Sample size used in this study was 120 respondents who were sampled from each of the five identified village settlements (Namely Kapaese, Kamarese, Kasuroi, Lomokamar and Lokichar). The study sample size used was calculated basing on the population of the village settlements identified to be covered in this study. According to population census undertaken by the Kenya National Bureau of Statistics (KNBS), 2009, population of the identified settlements are: Lokichar town has a total of 4,928 people; Kapese a total of 3,649 people; Kamarese 1,777 people; Kasuroi a total of 1,911 people; and Lomokamar a total of 3,404. Based on these figures, a proportionate sample was drawn from every single village, from the five villages, as presented in Table 3.1.

Table 3.1 Distribution of the Sample Size

Name of Village	**Population size of the Village**	**Proportionate Sample**
Kapese	3,649	28
Kamarese	1,777	13
Kasuroi	1,911	15
Lomokamar	3,404	26
Lokichar	4,928	38
Total	**15,669**	**120**

3.7 Sampling Technique

Systematic random sampling, proportion to size and lastly purposive sampling techniques were used to selection of respondents to the study.

Five villages that were closest to the oil wells were purposively selected. This is because they exemplify the effects of oil drilling activities therefore most suitable for the research. These villages were: Kapese, Kamarese, Kasuroi, Lomokamar and Lokichar. Discussants of Focus Group Discussions (FGD) and Key informants were purposively selected on the basis of their knowledge about the Turkana community and oil exploration in the area.

To select individual respondent for household interviews, the study employed systematic random sampling. In every single village the researcher randomly selected a starting point in the middle of the settlement and every third respondent interviewed until the end of the village. This process was repeated until four directions from the centre were exhausted. For equal gender representation if the researcher interviewed a male household head in one homestead, in the next homestead a female was purposively interviewed. Nachmias (2005) explains that systematic random sampling is more convenient than simple random sampling; this is because it is more amenable for use with very large populations. It also saves more time, resources and efforts.

3.8 Methods and Tools of Data Collection

3.8.1 Secondary Sources

Journals, theses, government official publications, NGO reports and book publications were used to gather background information to the study. In addition, these sources were used as reference materials throughout the study.

3.8.2 Key Informant Interview

In this study fourteen key informants were interviewed for in-depth discussions. They were: chiefs, traditional leaders, youth leader, women leader, religious leaders, Ward Administrator, Member of the County Assembly, Member of Parliament and a Manager of the drilling company. The interviews were about the interaction between the local community, government and the drilling company. A key informant guide was used to guide the discussions.

3.8.3 Focus Group Discussions

Focus Group Discussions carried out in this study amounted to five in number. Participants were men and women. They were held in village settlements of Kapese, Kamarese, Kasuroi Lomokamar and Lokichar town. Focus group discussions were vital to the study since they enabled the researcher to compare the outcome of the discussions with the responses given in the questionnaires, and to obtain consensus on contentious issues. In addition, they enabled the researcher to observe the participants' first reactions to sensitive issues (Frankfort-Nachmias and Nachmias, 2005). Each group discussion had 10 participants with equal gender representation. The

interviews were held in Turkana language with the support of research assistants who were conversant with the language. Notes were taken in Turkana and translated to English by the research assistants. In the whole process, the researcher's role was to ensure that exhaustive discussions were held under each topic and that there was equal gender representation in the focus group discussions.

3.8.4 Observation

The infrastructure associated with oil drilling were observed including the environment. The observations were made along the paved roads, settlements and the oil drilling facilities. To increase the comprehensiveness of the observation, the researcher freely observed the surroundings of where Tullow Oil was conducting oil exploration and took notes.

3.8.5 Methods of Data Analysis

Key informant interviews and focus group discussions were the means through which qualitative data collected, and these were analysed thematically. Verbatim quotations and selected comments from the informants were used to present the findings. Where these quotes were in a language other than English, they were translated into English. On the other hand, quantitative data were analysed using statistical methods. The data were categorized, arranged and summarized and presented using tabulations. Quantitative data was analysed through computer software Micro-soft excel.

3.9 Ethical issues

This study took into consideration the code of ethics of conducting social research. The study ensured the protection of the image of the agent the University of Nairobi by reporting accurately and correctly its findings without any bias. The informants were carefully handled and where they did not prefer the use of their real names so as not to reveal their private life and status, pseudonyms were used. This ensured that they were accorded maximum protection. The study was conducted with the full knowledge and consent of the Government through the Ministry responsible for Higher Education Science and Technology and the national Government represented by the Dep

uty County Commissioner (DCC) and the area chiefs. In addition, the village elders, community leaders and the management of Tullow Oil company were informed about this study. The research respondents were provided with an explanation that they have right to participate or not, and wer e guaranteed that they were free to withdraw their participation from the interviews at any time, if they wished.

The respondents were assured of the confidentiality of the information obtained from them. In each village settlement i reported to the area Chief or sub chief to explain the objective of the study before i proceeded to the households or held interviews.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 Introduction

Chapter 4 presents the following: demographic characteristics of the respondents, their level of awareness of Tullow Oil Company, the people's perceptions of Tullow oil and the national government, the scope of benefits accruing from corporate social responsibility, the effect of oil exploration on pastoralism with an assessment on the livelihoods of local community and the effect of oil exploration on pastoralism.

4.1 Demographic Characteristics of the Respondents

4.1.1 Age

The study involved 120 who participated in the survey. Frequency distribution below indicates that a wider number of the respondents (77.8%) were aged between 20- 45 years. This could be a reflection of the fact that a majority of the Turkana population are below the age of 45 (GOK, 2009). On the other hand, the remaining 22.2% were between the ages of 46- 60 years (Figure 4.1).

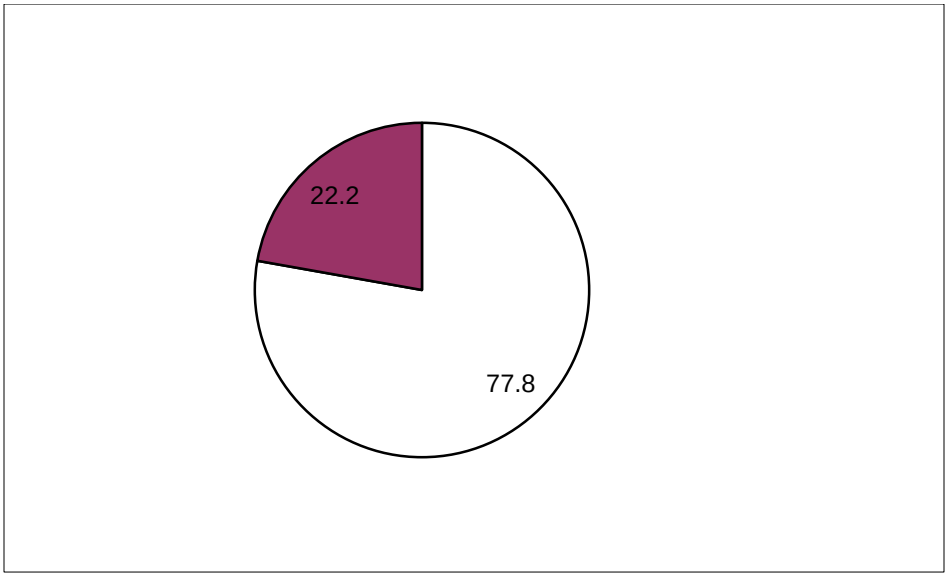


Fig 4.1 Age Distribution of the Respondents.

4.1.2 Gender

The analysis of the results showed that gender distribution of the respondents were of 50% female gender and 50% were of the male gender. (Figure 4.2).

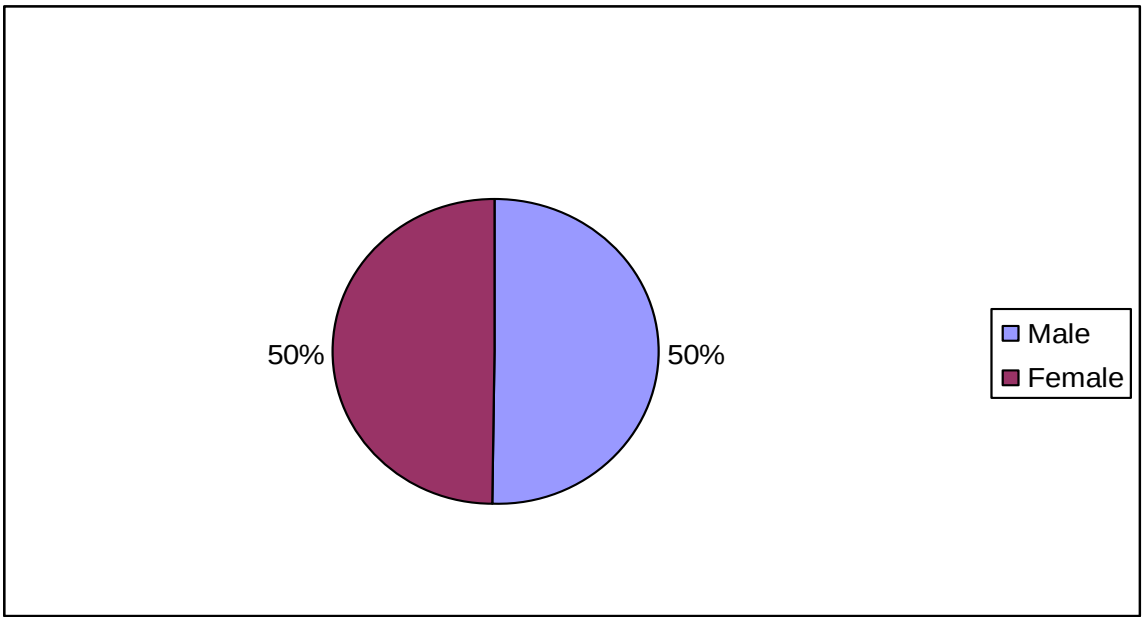


Figure 4.2: Gender of the Respondents

4.1.3 Religious Affiliation

Most respondents 79% were Christians, 12% Muslims and 9% belonged to traditional religion**.**

4.1.4 Marital Status

The marital status of the respondents was: single 2%, married 86%, widow(er) 19% and separate d 2%.

4.1.5 Household Size

Respondents whose households had 4-6 family members were 47.9% while 11.6% of the households had 1-3 members. Households with over 7 family members were 40.5%. The average household size was 6 members. This compares with the county average household size of 6 (GOK, 2013).

4.1.5 Education Level

The educational attainment of the respondents were: Lower primary 5%, upper primary 20%, secondary 32.5% and college/university 7.5%. This shows that the level of education in the project area is low. In the Key Informant Interviews and FGDs it was established that the distant schools explain the low level educational attainment in the research area.

Table 4.1 Level of education of the study repsondents

Education level	**Frequency**	**Percent**
No formal education at all	6	5.0
Lower Primary	24	20.0
Upper Primary	42	35.0
Secondary	39	32.5
College/university	9	7.5
Total	**120**	**100.0**

Source: Household survey, 2016

4.2 Respondents' Knowledge of Tullow Oil Company

The respondents were asked questions in order to establish the amount of knowledge they had about the oil drilling company. Out of the 120 respondents, 80% acknowledged that they knew about Tullow Oil Company and its operations in the Location while 20% reported that they knew Tullow as a company extracting oil in their land however they did not know the company's intentions. When probed further the 20% explained that they had not been informed of the company's long-term intentions and they feared that they would lose their grazing land and water sources to what they termed as the 'white man's company' It was clear that the community has general knowledge about the activities of oil extraction but not specific information. As captured in this narrative by a key informant who was one of the male community leaders:

"*This company came here like ten years ago. We were told that they were scientists studying the soil. They had many big vehicles and made a lot of noise at night. Its three years ago we were told they had found oil. That it would make us rich like Arabs, Later we began to have meetings with our leaders that is when they explained to us the issue of oil extraction. We have been promised employment, schools, hospitals but that is all we know''*

Discussions with key informants and FGD participants established that there was a lot of publicity about the company especially after discovery of oil deposits. In the Entire County and especially Turkana East where the oilfields are located virtually every household was reached and attended meetings held at *kraal/manyatta* level. Other meetings were escalated to a higher level. Meetings were announced at markets, watering pans, grazing fields, places of worship and through local radio. In each *kraal/manyatta* or settlement issues were discussed and positions taken. The meetings are still ongoing and the intention by the local leadership and the Tullow company is to ensure 100% of the people are reached and make contribution towards how they could benefit. The Table 4.2 below shows the avenues through which the respondents were reached with information about the oil exploration in the area. Multiple sources/avenues were used to reach the people at different times. However, community meetings 80% purposively convened to share information, *kraal/manyatta* 71.7%, places of worship 61.6% were the most prominent avenues. Schools were not preferred avenues because of two main reasons. The first was that there was only one school at Lokichar in the general area and the enrolment was too low to have any impact. Secondly, the information target group was adults in the community. Mobile phone was the least avenue used because it is only recently that the area became connected to the mobile network after it became apparent that the interest in the area was to be long term.

Table 4.3: Respondents' Knowledge of Tullow Oil Company

N=120

Respondents Knowledge of Tullow Oil company	**Frequency**	**Percent**
Respondents Knowledge of Tullow Oil company and its activities.	96	80.0

Respondents Knowledge of Tullow Oil company	Frequency	Percent
Respondents knowledge of Tullow but not aware of its activities	24	20.0
Total	**120**	**100.0**

Source: Household survey, 2016

4.3 Types and Forms of Benefits to the Community

The respondents' understanding of the activities undertaken by the company was varied. Majority of the respondents (80%) acknowledged the work Tullow had been doing in the community as corporate social responsibility, they identified school, roads, health facilities, employment and water projects that the company had initiated in the community. It was established that these benefits are not what constitutes community benefit from the oil proceeds but advance measures of goodwill by the company. The substantive community benefits will begin to accrue once the crude oil is exported. Interviews with company staff showed the exports were to begin in April 2018. According to key informants, five primary schools have been constructed by the company in every single village in the vicinity of Tullow's exploration activities. These schools are: Lokichar, Kapese, Kasuroi, Kamarese and Lomokamar. In addition, two secondary schools have been constructed at Lokichar and Kasuroi. The new schools have reduced distance to school to an average of 2km for 81.9% of the children compared to the previous. The school growth was increased from one to five representing a 500% growth in about five years. The schools have greatly improved access to education. Although the study did not collect data on school enrolment, interviews and discussions with key informants showed that school enrolment had dramatically increased to the point that all children who have attained the age of school attendance in all respective settlements were schooling for the first time ever in the history of the Turkana. Key informants also confirmed that all schools were equipped with learning materials and parents no longer pay any fees as the company provides all services.

In terms of health the company had constructed three health facilities in the project area. At Lokichar the hospital was upgraded and equipped with modern tools and other facilities. At Kasuroi and Kapese health centres with maternity facilities were constructed. For the first time for

many people in this region a health facility is within reach, In fact the average distance to a health facility is now 6km compared to 50km at county level (GOK, 2013). In the sample 34% of the female household heads interviewed had their last delivery in a health facility. This compares far better since 94% of deliveries in the county are done in homes (GOK, 2013).

Other improvements observed were the road network. Most roads have been paved to murrum level. A total of six permanent bridges have been constructed. This has made travel easy and on a 24-hour basis. The entire project area is now easily accessible. There is also a vibrant *boda boda* business between the centres or villages. In total I observed 23 *boda boda* ferrying passengers although the key informants and participants in FGDs indicated there were many more which had emerged in the last four years. One female participant in an FGD remarked that:

"*It was Gods' blessing that Tullow came here. This place was hidden from the world, It would take three days to reach Lokichar or a week to get to Kitale. Today it takes two hours to be at Lokichar''*

Most respondents 89.4% said that Tullow company had greatly improved transport beyond their belief and imagination. One of the most noticeable benefits has been increase in business opportunities especially when compared to the period before the oil exploration. In all the centres/settlements where the research was undertaken many new buildings have sprang up and the number of shops and hotels dramatically increased. Observations made at Lokichar showed there were thirteen new hotels offering accommodation compared to four in 2012. This represents a 325% increase in seven years. Interviews with key informants confirmed that since the discovery of oil there have been numerous visitors, researchers and delegations, workers who require accommodation on daily basis. It became a good business opportunity. Kapese centre had four makeshift shops by 2012 but today there are 24 shops, five hotels and two lodgings. These developments demonstrate increase in business opportunities and employment. All the settlements had mobile network and mpesa shops which means they are connected to other parts of the country despite their physical remoteness.

One of the most spectacular benefits to the community and which was a pipe dream for long was connectivity of the area to the mobile network. Previously people had to travel to Lokichar for a day or even spent the night at the market in order to receive a phone call from a relative who lives

far away in an area with network. Some would travel to telephone bureaus at Lokichar to receive messages from their relatives at a fee which i established to be Kshs 10 per message. Currently 72% of the respondents had mobile phones since the area was now connected to the mobile network.

Prior to the arrival of Tullow the local means of livelihood were diverse and included the following: grants from NGOs, charcoal burning and selling, small scale trade, mat weaving, employment and livestock keeping and famine relief. All of them were practiced on small scale. Table 4.3 shows that there were four major sources of household income: (i) business activities; (ii) mat weaving; (iii) burning and selling of charcoal; and (iv) livestock sales. This finding supports the observation that households have reduced their traditional dependency on livestock/pastoralism by diversifying their income sources.

Table 4.3. Major Sources of Income

Respondents information on main sources of livelihood	**No of Respondents**			Total mentions	Percent of total mentions
	First	**Second**	**Third**		
Farming	4	1	1	6	3.5
Sale of firewood	7	8	2	17	9.8
Charcoal burning	7	7	5	19	**11.0**
Grants from NGOs	1	6	5	12	6.9
Employment	13	4	0	17	9.8
Business	24	12	6	42	**24.3**
Famine relief	11	8	8	26	17.2
Casual work	6	2	6	14	8.1
Livestock	3	6	10	19	**11.0**
Mat weaving	9	8	5	22	**12.7**

Source: Household survey, 2016

Out of the 120 respondents interviewed, 21% respondents had male household members employed and only 17% had female members employed. in the oil field complex. Most of those employed

currently were not in employment before 2012 which shows that oil extraction had brought employment opportunities to the local people. Other members of the households in employment were in Lodwar, Lokichar and Lokori. They were working with either the National or County government, private companies or non-governmental organizations. The finding is a clear indication that employment opportunities in the research area had considerably increased due to the activities of oil exploration and extraction.

Table 4.4 Number of males and females employed and places where they are employed

Places where employed	Number of males employed	Number of females employed
Lodwar	7	3
Kerio	1	0
Lokichar (Sub-county)	2	0
Lokichar market	1	0
Tullow	4	0
Total	15	3

Source: Household survey, 2016

4.4 Community Perceptions Towards Oil Exploration

Although most respondents were happy that oil extraction had begun to bring benefits in the short term even before export of oil begins a proportion 23% had misgivings and were fearful. They had a strong belief that they were not getting a true picture of the extend of oil benefits. For instance, 34% of the respondents believed that the influx of foreigners to their area will change their traditional culture. They were fearful of the eventual loss of Turkananess, one respondent female community member in a FGD remarked as follows,

''We know that since we allowed in Tullow they will be here to stay in our lifetime. They will never go because oil never gets finished. We might see a new bigger and foreign town emerging among us. At the end of the day the true Turkana will be lost, it will be a thing of the past''

The other view was that, even though Tullow had initiated development projects in the area, they felt that it was a way of bribing them so that Tullow would take most of their land. They cited examples of Tullow occupying their traditional grazing land and destroying their trees that were used as sources of livelihood inform of medicine and food inform of fruits for animal and human consumption during dry seasons. They were also concerned that pastoralism which is their main source of livelihood was getting negatively affected because the company had occupied their grazing land and watering points. They were therefore worried that the company was out to 'finish them' and they were totally opposed to its activities. A proportion of respondents 24% felt exploited and were suspicious of the company activities were the educated and the elite members of the Turkana community, who are exposed and are aware of the curse or blessing challenges caused by oil and gas companies in other countries. Similar sentiments were evident among a cross section of the respondents in FGDs although government officials and the company staff felt there was a positive economic revolution in Turkana.

A total of 63% respondents strongly agreed that they were not getting the full picture of the oil exploration and extraction, 31% agreed and 6% were not sure of whether they have full information or not. Further 59% did not trust the correctness of the information they receive from Tullow Oil Company and 66% did not trust the information they receive from government regarding the entire oil exploration process. In addition, 85% were not sure whether the government will hand over the community share of the oil proceeds as per the agreement and promises made. The community expectation must be understood against a wider history of interaction between the Turkana and the national government. Among the Turkana there is a strong perception that they are a forgotten people. The national government does not care about them. Similar sentiments have been recorded before in several studies (Schilling, 2004).

In addition, most respondents 68.5% had a strong feeling that the Tullow Company was providing many benefits to the community as a bait to soften their stance and allow them to proceed with oil extraction. However, 43.7% of the respondents were sceptical that once the oil begins flowing the company will scale back its support to the community. When pressed further to explain the source of their scepticism most of them 52.9% said their previous experience with failed promises made by government and its representatives was the main reason. A considerable portion of the study

participants 86.9% strongly agreed to the statement that Tullow company had fulfilled their promise to the community to prioritise the local Turkana youth for employment in some work categories. Drawing from qualitative sources it was established that the local community and Tullow Oil company grew a memorandum in which the company agreed that all manual and other non-technical work would be reserved for the local Turkana community. The arrangement was that the company would declare the vacancies and the community provides the workers. So far this arrangement had worked well based on the agreement. On this note the community was happy with the transparency with which the company had executed the agreement without any variation. The profit sharing arrangement between Tullow oil company, government, county administration and the Turkana host community was one area which fed to the suspicions that local people have. The agreements have never been shared with the local community. However, the constitution of Kenya provides that profit sharing for minerals found in certain locations shall be shared as follows: national government 70%, county government 20% and local community 10% (GOK, 2010). What to a great extent informs the community's suspicion is whether the company and the government will declare transparent profits and further whether the national government will hand over the community's share given a history of failed promises and mistrust. To underscore this one apprehensive male respondent in a FGD summarized as follows:

''when it comes to government handing over money to us it is something to wait and see. After that is when we shall seek audience. You cannot trust this government with money''

It was also clear from the respondents that the Tullow and national government were withholding certain information from the people. One male community leader from Lokichar said,

"we have heard that in Nigeria many water sources and tress have been polluted by oil drilling and transportation and that many people have died. In all our meetings since 2012 nobody has mentioned this. That is partly why we suspect lack of transparency in this whole oil thing""

4.5 The Effect of Oil Exploration and Extraction on Livelihood.

Pastoralism

Tullow Oil company has interfered with the people's livelihood patterns for example water scarcity is a major problem in Turkana county, however under the initiative to improve relationship with

local community Tullow has installed water tanks which are filled by water on weekly basis by contracted water bowsers in various impacted settlements of Lokichar town, Kapese, Kamarese, Kasuroi and Lomokamar in Turkana South. The water points attract the pastoralists with their animals to the sites leading to establishment of settlements closer to the water points, however the water supply is not sustainable, the tanks are temporary, this has interfered with the migration patterns of the pastoralists causing dependency on the company water supply and incase the company leaves the site the pastoralists will experience serious water shortage. Although 18% of the respondents showed supported water trucking they were actually fearful that it had strengthened the dependency syndrome. The over concentration of huge herds of livestock in particular areas around the settlements had led to serious soil erosion and environmental degradation. All the vegetation around the settlements had been depleted due to the unsustainable over-concentration of livestock. On this a total of 92.5% of the respondents agreed on the presence of overgrazing in the areas surrounding the settlements all the year round since oil exploration began and 98% of them were fearful that overgrazing could increase in the future as more and more people would be drawn to the settlements to access water. Further most respondents (91.8%) were fearful of the future droughts since access to riverine pasture along Kerio River has now been restricted to certain areas and over concentration of livestock is likely to make it difficult for survival of livestock in the drier months of the year. The discussants further complained that the company has occupied their settlement and grazing lands in Lokichar location they are now forced to search for pasture in different areas that are not impacted by the company drilling and exploration sites and roads. A total of 46% respondents agreed that the location of many oil wells and the huge compounds that secure them had negatively interfered with access to pasture areas. They indicated that they have to cover longer distances as they try to avoid the oil wells and associated infrastructure. Land, pasture and water in Turkana are scare and in most often not enough to sustain pastoral way of life. Exploration of oil exacerbates the problem of lack of water. This is due to the fact that vast amounts of water are vital for the successful oil exploration activities and development of oil fields (Allen et al., 2011). Experience in other oil producing countries show that to extract one (1) barrel of oil one needs about three (3) barrels of water (Ptacek et al., 2004). Tullow plans to put in place a system with a production capacity of approximately 200,000 bbls/per day for the Kenya-Turkana operations. The effects will probably be experienced after commencement of oil extraction. At the moment, Tullow has endeavored to

install and improve existing water sources within the host community, which include plastic water storage tanks located along the roads developed by Tullow and dug boreholes in the settlements of Kapese, Kamarese, Kasuroi and Lomokamar. A respondent said this:

‘*’To access Kerio river from this settlement was previously straight. But today you have to negotiate and travel about 13 kilometres to reach the river at the points it is accessible for livestock. This has increased the risk to livestock as we are now forced to traverse an area initially infested by hyenas’’*

Commenting on the inconveniences caused by oil drilling on kin relations one respondent said,

‘*’To go to our other clan members used to be a straight walk there. It is no more.What was three to four hour walking is now a full days walk. This is because the oil wells and fences are so expansive and you cannot cross them. Now we visit each other much more rarely. When we visit them or when they visit us they/we have to sleep’’*

A total of 58.5% of the respondents indicated air pollution occasioned by the many roads, many vehicles and degration as a new reality that has affected the quality of life. In addition, they mentioned that Tullow roads had also contributed to road accidents leading to killing of a number of their animals by the company vehicles. For instance, 13% of the respondents had seen for the first time ever a livestock hit by a vehicle in the last three years. The rising road accidents was also a frequent subject of discussion in key informant interviews. Although pollution occasioned by oil discharge has not been experienced yet but it was a concern that regularly emerged during focus group discussions. They were fearful that pollution may render some pastures unusable for livestock. The biggest contributor to climate change is the use of fossil fuels for energy (Armaroli and Barzani, 2011). Vulnerability of the Turkana community to shocks are also contributed to by land related issues and most importantly water access and use. The discussants also observed that with the progress of oil exploration, there would be a time that problems related to water abstraction, pollution of communal water sources and soil dilapidation were probably going to increase. Research elsewhere has shown that loss of soil fertility and impact on its quality can be caused by spillage of oil. These may also result in leaching to the aquifers thus resulting in negative

impact on groundwater (Duffy et. al. 1980). Dumping of oil wastes on the land can also pollute soil quality (Owanah, et. al. 2013). Pastoralism is a full time engagement. However, with increased people in the general Lokichar area in addition to the expected influx of people large areas may be converted into housing and town settlements. This will drastically affect pastoralism as the area for pasture will reduce. The rise of an urban centre in a rural conservative area will negatively impact on the practice of pastoralism. Pastoralists adaptation to the arid environment is determined by their availability of pasture resources wide knowledge, experience and skills, and readily available options that they have in their environment. Based on Schilling (2004) migration is the main adaptive strategy used by pastoralists. The blocking of routes undermines this adaptation strategy.

The other concern expressed by the respondents was that the urban centres and a huge population might lead to garbage which may affect their livestock. Although the Pokot (the historical rivals competing for pasture neighboring the Turkana) are relatively far from the oil production areas they may send spies to study the new patterns of livestock movement undetected. In addition, the Turkana pastoralists are more likely to extend further their grazing of livestock to compensate for the pastures that now fall into the oil extraction zone. This is likely to make them move closer to the Pokot who may steal their livestock.

Although 15.9% of the respondents were of the opinion that oil exploration had exposed the Turkana to the Pokot most respondents 84.1% did not find this a possibility. Most indicated that the drilling of oil will bring better security and ward off the Pokot attempt to steal livestock. Some were of the view that pastoralism will improve with the increased police presence. Table 4.5 shows a summary of the effects of oil exploration on communities means of livelihoods.

Table 4.5 Main Influence of Tullow Activities on the People's Livelihood.

No	Issues Raised by the Respondents	Frequency
1	Water and land scarcity	60
2	Provision of water tanks leading to dependence on Tullow water by the pastoralists.	10

3	Water, air and land pollution, leading to reduction of water, land and air quality, loss of trees and shades.	30
4	Jobs in oil sector, stimulation of local economy, income opportunities.	20

Source: Household survey, 2016

A total of 60% of the respondents as reflected in the Table above perceive that the oil operations within their communities have led to loss of grazing land. This is perceived to have impacted on pasture land as each well-pad is said to be approximately 200m by 200m and are mostly located within grass-rich land. In Tullow's corporate initiative, the community hosting the project have been provided with plastic water containers which are filled regularly through a contracted company. This has led to an increase in settlements and growth in population within the villages surrounding the oil operations. 10% of the respondents remarked that this has created a dependency culture whereby herders do not search for water as they used to. The community is currently reliant on water provided by the company and thus promoted rise in settlements and a fear that the community is abandoning seasonal migrations in search for water and pasture. An overall 20% of the respondents acknowledged that jobs provided to the local community because of engagement in Tullow related activities has stimulated economic growth in the community.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

5.1.1Perceptions of the local communities towards the oil exploitation

Most respondents had adequate information about Tullow Oil Company and the general activities surrounding oil exploration, but they had scanty information about specific aspects. Most of the information was obtained through community meetings held in manyatta/kraal and other public places. The prospect of the community being short changed in the oil deal was apparent. Their views about the whole dynamics of oil exploration, drilling, export and revenue sharing was characterized by fear, suspicion and despair. Most respondents were not sure that all the information they obtain about aspects of oil was all authentic. The suspicion was to a large extend informed by the fact that previously promises made by government and other leaders were not fulfilled or only partially fulfilled but only after protests, therefore community experiences of the past in similar or dissimilar circumstances greatly informed their perception of Tullow oil company and the government.

5.1.2 Effects of oil exploration on the livelihoods of local people

The effect on Pastoralism has been marked. Some of the oil fields and accompanying infrastructure have been fenced off thereby denying access to critical riverine pastures especially during the dry season when tsetse fly infestation is low. Some of the migration routes have been blocked. This now forces some herders to cover longer distances to access pasture and water. Although the company has provided piped water for domestic and livestock use in the settlements this has functioned negatively for sustainability of pastoralism. The concentration of water in particular settlements draws in thousands of livestock thereby leading to depletion of vegetation and soil erosion. The rapid growth of human population in the settlements and the requirements for fuel-wood has also led to depletion of vegetation in the surrounding areas which again is a threat to pastoralism.

5.1.3 Oil exploration benefits to the community

The benefits that have changed livelihoods in this community are interim ones. They are all part of the company's corporate responsibility. Benefits that the community will receive as part of its share are yet to be realized at this time. They will come after the export of oil and when the benefit sharing agreement is implemented. But if the current benefits are anything to go by the community of Lokichar region will benefit immensely in future. The benefits already being enjoyed are varied. In education there is a revolution beyond the imagination of Turkanas' in living memory. In 2012 there was one primary school in this expansive region. Therefore, access to education was a pipe dream for most households. Between 2013 and 2017, five primary schools were constructed and equipped by the oil drilling company as part of its responsibility to improve access to education. The average distance to primary school is now about 4-5km compared to an average of 20km in 2012. In addition, two secondary schools were constructed and equipped in the same region. Therefore, transition to from primary to secondary school has been made much easier and possible for children in this region. It was reported that enrolment in primary school was very high and almost all children who have attained the age of school attendance in every single of the five settlements have enrolled in school. Three health facilities (health centres) were constructed, equipped and a maternity wing established. Before 2012 almost 100% of deliveries were at home. Today the deliveries in health facilities have gone up. The average distance to a health facility in this region is 5-6km compared to 50km at county level. Several roads were improved and new ones constructed. The road construction has reduced time and money spent on travelling rapidly. Means of transport have increased and in some areas now available for the first time. Many youths have acquired *boda boda* which has made transport easily available. In addition, the business environment has improved. Many shops and hotels have sprung up. The improvement in business has introduced a new source of livelihood for many households. Mpesa services are now available in the five settlements due to availability of mobile network. People no longer have to travel long distances and many hours to receive messages as they used to do before 2012. Generally, people's livelihoods have greatly improved.

5.2 Conclusion

The announcement of an oil-find in the southern and eastern Turkana was great news for the community and the country at large. It meant that Kenya had joined the super league of oil producers and it would lead to instant wealth for the people and the country. In the African context such a discovery has often led to more problems for the local people than the expected benefits. For instance, the focus has often been in terms of income but hardly on the negative aspects. The extent to which oil drilling will affect the natural environment and even farther affect the pastoralist mode of livelihood is still undocumented. It is not clear whether the flow of income to households will make people abandon pastoralism. Evidence from elsewhere have shown that when pastoralists obtain cash income they often re-invest in buying more livestock which leads to overgrazing. At this point the expectation is that all the parties to the revenue sharing agreement should respect the terms and obligations in all cases. What is not in doubt is that peoples' livelihoods will be transformed for a long time or forever. Pastoralism as a way of life will certainly undergo transformation in response to the changes in the surrounding area. However, the extent and character of the transformation will be ascertained in future.

5.3 Recommendations

1. The Turkana community neighbouring the oil fields need to have their own agreement of benefits over and above the proportion allocated to them as part of the revenue sharing amongst the national administration, county administration and the local Turkana community;
2. Tullow oil company needs to reserve a proportion of the employment opportunities for the local community that inhabit areas where the oil fields are located;
3. Market centers in the region of the oilfields need to be planned in order to avoid haphazard development and emergence of shanty towns;
4. The community and Tullow company need to form a committee and develop regulations that guide grievance redress;
5. There is need for the county government and the oil company to develop a mechanism for environmental protection with clear monitoring indicators;
6. The government needs to make public the commitment that it shall hand over community share without delay once the profits are declared.

Areas for Further Research

1. An analysis of the benefits should be made after the community begins to receive its share of the revenue;
2. The impacts of oil – exploration, development and production on pastoralism and other facets of Turkana culture;
3. A study on the social, economic and cultural transformation of Turkana in the East of the County;
4. The future of Turkana pastoralism in an oil economy.

References:

Adem, T. A., Ember, C. R., Skoggard, I., Jones, E. C., and Faas, A. J. 2012. Dangerous geography: Spatial distribution of livestock raiding in northwestern Kenya, Ethnology, 51, 1–29.

Aghalino, S. O. 2009. Oil exploitation and the accentuation of intergroup conflicts in the Niger Delta, Nigeria, J. Human Ecol., 28, 153– 159.

Anderson, D. M. and Browne, A. J. 2011. The politics of oil in eastern Africa, J. East. Afr. Stud., 5, 369–410, doi:10.1080/17531055.2011.573187.

Anifowose, B., Lawler, D. M., van der Horst, D., and Chapman, L. 2012. Attacks on oil transport pipelines in Nigeria: A quantitative exploration and possible explanation of observed patterns, Appl. Geogr., 32, 636–651, doi:10.1016/j.apgeog.2011.07.012.

Amnesty International (2009). Nigeria: Petroleum, Pollution and Poverty in the Niger Delta. Amnesty International Publications. Index: AFR 44/017/2009. FRP143. 143 pp

Amundsen, I. 2014. Drowning in oil angola's institutions and the "resource curse", Comparative Politics, 46, 169–189.

Agarwal, Bina. 1989. Rural Women, Poverty and Natural Resources: Sustenance, Sustainability and Struggle for Change. Economic and Political Weekly 24 (43): WS46- WS65.

Bebbington, A. (1999). Capitals and capabilities: a framework for analyzing peasant viability, rural livelihoods and poverty. World development, 27(12), 2021-2044.

Bollig, M. 1990. Ethnic conflicts in north-west Kenya: Pokot-Turkana raiding 1969–1984. ZeitschriftfürEthnologie, 115, 73–90.

British Broadcasting Corporation (1989). Exxon Valdezcreate soils lick disaster. http://news.bbc.co.uk/onthisday/hi/dates/stories/march/24/newsid_4231000/4231971.stm

British Broadcasting Corporation (2000). Oil spill damage worsens. http://news.bbc.co.uk/2/hi/europe/592378.stm Bloomfield, Steve, 2008. 'The Niger Delta: The Curse of Black Gold'. The Independent. http://www.independent.co.uk/news/world/africa/the-niger-delta-the-curse-ofthe-black-gold-882384.html. Accesed on 5th February 2016.

Cardno consultants, 2015. *Report on influx baseline study* of south Lokichar basin prepared for Tullow Kenya BV.

CEWARN: Cewarn country updates: September–December 2009, CEWARN (Conflict Early Warning and Response Mechanism), Addis Ababa.

Chambers, R and Conway, G. (1992). Sustainable Rural Livelihoods: Practical Concepts for the 21st Century. IDS Discussion Paper 296. Brighton: Institute of Development Studies

Chavunduka, C. and Bromley, D. 2011. Climate, carbon, civil war and flexible boundaries: Sudan's contested landscape, Land Use Policy, 28, 907–916.

Dadiowei, Tari Ebimo. 2003. 'Niger Delta Fund Initiative - Women, Environmental Impact Assessment (EIA) And Conflict Issues In The Niger Delta: A Case Study Of Gbaran Oil Field Communities In Bayelsa State' A Paper Presented at the National Workshop On Gender, Politics and Power: Overcoming the Barriers to the Emergence of Women Political Leaders in Nigeria, Organised by the Centre for Social Science Research and Development (CSSR&D), at the Lagos Airport Hotel, Ikeja, Lagos, Nigeria (July 28th – 30th, 2003)

Deloitte, 2013. The Deloitte Guide to Oil and Gas in East Africa. Available at http://www2.deloitte.com/content/dam/Deloitte/global/Documents/Energy-and-Resources/gx-er-Deloitte-guide-to-oilandgas-in-eastafrica-April%202014.pdf. Accessed on 10th December 2015.

Devereux, S.: Better. 2010. Marginalized than incorporated - pastoralist livelihoods in somali region, ethiopia, EUR J DEV RES, 22, 678- 695.

Fernández A., Edwards J. F., Rodríguez F.,Espinosa de los Monteros A., Herráez P., Castro P., Jaber J. R., Martín V. and Arbelo M. (2005).'Gas and fat embolic syndrome' involving a mass stranding of beaked whales (Family Ziphiidae) exposed to anthropogenic sonar signals. Vet. Pathol. 42: 446-57.

Frankfort-Nachmias, C and Nachmias, D. 2005. Research methods in the Social Sciences, reprint. London: Arnold.

FMoE, NCF, WWF and CEESP-IUCN. 2006. Niger Delta Natural Resource Damage Assessment and Restoration Project Phase 1 – Scoping Report. Federal Ministry of Environment, Nigeria Conservation Foundation, WWF UK and CEESP-IUCN Commission on Environmental, Economic and Social Policy.

Gao Z. (1998). Environmental regulation of oil and gas industry. Kluwer Law International. London.

Gary, I. 2009. Ghana's Big Test: Oil's Challenge to Democratic Development. Oxfam America and the Integrated Social Development Centre. http://www.oxfamamerica.org/files/ghanas-big-test.pdf Accessed 29th April 2016 pp 1-61

GOK (2013) Turkana County Integrated Development Profile 2013-2016. Central Bureau of Statistics. Government Printer. Nairobi.

Government of Kenya: 2007. National policy for the sustainable development of arid and semi arid lands, Government of Kenya, Nairobi.

Idemudia, U. 2010. 'Rethinking the role of coroporate social responsibility in the Nigerian oil conflict: The limits of CSR', Journal of International Development 22: 833-845.

ICES, 2014. Oil & Gas. Available at http://ices.or.ke/sectors/oil-gas/ downloaded on 8 March 2016

Ikelegbe, Augustine. 2005. Engendering Civil Society: Oil, Women Groups and Resource Conflicts in the Niger Delta Region of Nigeria. Journal of Modern African Studies 43 (2): 241-270.

International Alert. 2009. Harnessing oil for peace and development in Uganda, International Alert, London.

Johannes, E. M., Zulu, L. C., and Kalipeni, E. 2014. Oil discovery in Turkana county, Kenya: A source of conflict or development?, Afr. Geogr. Rev., 34, 1–23, doi:10.1080/19376812.2014.884466.

Kenya National Bureau of Statistics. 2010. The 2009 Kenya population and housing census. Nairobi: Kenya National Bureau of Statistics.

Koocheki, A. and Gliessman, S. R. 2005. Pastoral nomadism, a sustainable system for grazing land management in arid areas, J. Sustain. Agr., 25, 113–131, doi:10.1300/J064v25n04_09.

Le Billon, P., & El Khatib, F. 2004. From free oil to 'freedom oil': Terrorism, war and US geopolitics in the Persian Gulf. Geopolitics, 9, 109–137.

Levine, S. 2010. An unromantic look at pastoralism in karamoja: How hard-hearted economics shows that pastoral systems remain the solution, and not the problem, Nomadic Peoples, 14, 147–153.

Long, N. (2001). Development sociology: actor perspectives. Routledge.

Marful-Sau, S. (2009). Is Ghana Prepared To Manage The Potential Environmental Challenges Of An Oil And Gas Industry? University of Dundee, Centre for Energy, Petroleum and Mineral Law Poilicy. 1 - 15.

McCauley R. D. (1994). Environmental implications of offshore oil and gas development in Australia - seismic surveys. Australian Institute of Marine Science, Townsville, Queensland. 121 pp.

Mkutu, K. A. 2014. Complexities of livestock raiding in Karamoja, Nomadic Peoples, 14, 87–105, 2010

Mkutu, K. A. 2006. Small arms and light weapons among pastoral groups in the Kenya-Uganda border area, African Affairs, 106, 47–70.

Ng'etich, J. (2012, September 23). Why Turkana residents curse day oil was found. Standard Digital. http://www.standardmedia.co.ke/?articleID=2000066781&story_title=whyturkana-Resident-curse-day-oil-was-found.

Opiyo, F., Wasonga, O., and Nyangito, M.: Measuring household vulnerability to climate-induced stresses in pastoral rangelands of Kenya: Implications for resilience programming, Pastoralism, 4, 1–15..

Opukri, C.O. and Ibaba, I.S. 2008. 'Oil induced environmental degradation and internal population displacement in the Nigeria's Niger Delta', Journal of Sustainable Development in Africa 10(1): 173-193

Osuji, L. C., Adesiyan, S. O., and Obute, G. C. 2004: Post-impact assessment of oil pollution in agbada west plain of niger delta, nigeria: Field reconnaissance and total extractable hydrocarbon content, Chem. Biodivers., 1, 1569–1578, doi:10.1002/cbdv.200490117.

Pantuliano, S.: Oil, land and conflict, 2010. The decline of misseriyya pastoralism in sudan, Rev. Afr. Polit. Econ., 37, 7–23, doi:10.1080/03056241003637847.

Pavanello, S. 2009. Pastoralists' vulnerability in the Horn of Africa – exploring political marginalization, donors' policies, and crossborder issues, Overseas Development Institute, London.

Patin S. (1999). Environmental impact of the offshore oil and gas industry. EcoMonitor Publishing. East Northport, N. Y. 425 pp.

Popper A. N. (2003). The effects of anthropogenic sounds on fishes. Fisheries, 28(10): 24–31.

Pyagbara L. S. (2007). The adverse impacts of oil pollution on the environment and wellbeing of a local indigenous community: the experience of the Ogoni people of Nigeria. United Nations Department of Economic and Social Affairs Report. PFII/2007/WS.3/6.

Reuters (2010). Factbox: Gulf oil spill impacts fisheries, wildlife, tourism.
http://www.reuters. com/article/2010/05/30/us-oil-rig-impact-factboxdUSTRE64T23R20100530

Sala-i-Martin X. and Subramanian A. (2003). Addressing the natural resources curse: an illustration from Nigeria. IMF Working Paper. WP/03/139.

Sam-Okyere, E. (2010). Upstream Petroleum Operations in Ghana: An Overview of Activities and Environmental Impacts. http://www.modernghana.com/news/275932/1/up stream-petroleum-operations-in-Ghana - an overview.
html. Accessed: August 11, 2010.

Sachs, J. D., & Warner, A. M. 1995. Natural resource abundance and economic growth. NBER Working Paper 5398. Retrieved from http://www.nber.org/papers/w5398.pdf

Schilling, J., Akuno, M., Scheffran, J., and Weinzierl, T. 2014. On raids and relations: Climate change, pastoral conflict and adaptation in northwestern Kenya, in: Climate change and conflict:

Where to for conflict sensitive climate adaptation in Africa?, edited by: Bronkhorst, S. and Bob, U., Berliner Wissenschaftsverlag, Berlin, 241–268.

Tyack P. L. and Miller E. H. (2002). Vocal anatomy, acoustic communication and echolocation. In Marine Mammal Biology. (A. R. Hoelzel, ed.), pp. 142–184. Blackwell Science Ltd., Oxford, UK.

Tullow oil plc current exploration, development and production interests, 2016 Available on www.tullowoil.com/Media/docs/default-source/operations/tullow-group-licence-list-february-2016.pdf?sfvrsn=24. Downloaded 16 March 2016

Tullow, 2014 Operational update http://www.tullowoil. com/index.asp?pageid=137&category=&year=Latest&month= &tags=84&newsid=878

Terry L.K (2007) Oil-Led Development: Social, Political, and Economic Consequences Published CDDRL Working Papers, page(s): 36

UNEP (2011). Environmental Assessment of Ogoniland. United Nations Environmental Programme Technical Report. 262pp

United Nations Conference on Trade and Development. 2007. 'World Investment Report: Transnational Corporations, Extractive Industries and Development' Geneva, United Nations

Vasquez, P. I. 2013. Kenya at a crossroads: Hopes and fears concerning the development of oil and gas reserves, Int. Develop. Policy Anal., 4, 1–23, doi:10.4000/poldev.1646.

Wimmer and Dominic, 2003. Mass media research: An Introduction -9th Edition Available at http://www.csus.edu/indiv/s/stonerm/wimmer-dimmic--massmediaresearch.pdf. Accessed on 15th December 2015.

World Bank: World development report, 2014. Risk and opportunity: Managing risk for development, World Bank, Washington.

World Bank and International Finance Corporation (IFC). (2002) Large Mines and Local Communities: Forging partnerships, building sustainability: http:/wwwifc.org/mining or http://www.worldbank.org/mining.

World Bank, 2006. 'Experiences with Oil Funds: Institutional and Financial Aspects', Washington, World Bank.

Appendix I

Questionnaire for the Community Members

UNIVERSITY OF NAIROBI

FACULTY OF ARTS

DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

Hallo My name is Jacob Omondi a student pursuing my post-graduate degree from the University of Nairobi. I would like to share with you today and solicit for your views on the influence of Tullow Oil activities limited to exploration on the livelihoods of the community members of Lokichar Location Turkana County and examine the company's impact management strategies that ensures that the people's livelihoods are not negatively affected. The study findings will be useful in contributing to the subject area and will help in development of a way forward on issues pertaining to management negative influence of oil exploration on the livelihoods of the Turkana community. The findings may also be of importance to the Tullow Oil Company and other stakeholders interested in the oil sector.

I will take about 30 minutes of your time. I ask for permission that we may discuss this topic. Your experiences and opinions are important to me. I assure you that the information you give is confidential and is not intended to harm you in any way. I would only ask that you feel free and answer my questions truthfully.

I ask for your permission to participate in this study.

Note: *Answer all the questions accurately and as detailed as possible. Information collected will be highly confidential and is only for the purposes of this research.*

Where applicable put a cross X or write your answers in the space provided.

Questionnaire number:_____

Date:_____

A. Personal details of the informant.

Name (Optional)_____

Age_____

Sex _____

Level of Education (Highest level)_____

No School (1) Primary (2) Secondary (3) Post-Secondary (4) University (5)

Position in the community_____

Marital Status of the respondent : (1) Married ; (2) Single; (3)Widow(er); (4) Divorce d (5) Separated

Religious Affiliation: Christion (1) Muslim (2) Traditional (3)

Household Size----------

Main Source of Livelihood----------

B. The local communities perceptions towards exploration of oil in Lokichar.

1. What do you know about Tullow Oil Company?
2. What are the Tullow Oil company activities in your area?
3. Do the activities have influence on the people's lives? (1) Yes (2) No
4. 3.1 If Yes explain how it has influenced the people's lives ----------

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5 What benefits are the community receiving from the company activities----------

6. Generally, what is your opinion on Tullow activities in your community?

7. What is your opinion of Tullow Company and its activities in this area? (1) Very Favourable (2) Favourasble (3) Neutral (4) Unfavourable (5) Very Unfavourable (6)

8. Do you think most community members Trust what the oil company tells the community to be correct? (1) Yes (2) No

If Yes or No Explain…….

9. Do you trust what the national government says about oil in Turkana (1) Yes (2)

10. Do most community members trust what the oil company tells the community to be correct? Yes (1) No (2) Why …….

To establish ways in which oil exploration has affected the livelihoods of the local Turkana community

5. Traditionally what are your sources or means of livelihood? Write THREE MOST important (1)---------- (2)----------(3)----------
6. Currently what are the THREE most important sources of livelihood (1)----------(2)----------(3)----------

7. Do Tullow activities have influence on your sources or means of livelihood?
8. Mention and explain at least THREE ways in which Tullow Oil Company has affected your life (1)----------(2)----------(3)----------

9. Do you think the Oil Company will fulfil its promises to the community? (1) Yes (2) No

Why…….

10. Do you trust the national government will hand over the County Share of oil revenue?

    (1) Yes (2) No

    Why……

11. Do you think the Lokichar Community should obtain additional benefits beyond what the County government will receive? (1) Yes (2) No

Explain why ……..

12. Are there places or pastures where livestock cannot reach due to oil exploration?

    (1) Yes (2) No

    Explain…….

13. Are there water sources that livestock cannot access due to oil exploration activities? (1) Yes (2) No 14. Explain…….. 15. To what extend has oil exploration activities affected livestock grazing? (1) Very High; (2) Extend; (3) High Extend; (4) Not Sure; (5) Low Extend; (6) Very Low Extend Explain…… 16. Provide some of the problems this community suffers as a result of oil exploration activities? (1) Dust (2) Vehicles hitting livestock (3) Soil Erosion (4) Overconcentration of Livestock (5) Herders cover longer distances to reach pasture. Others……..
Benefits to the local community.
Are there benefits that you have realized since Tullow started its extractive activities in the community
Explain ……..
What are your expectations?
Explain?
1.
2.
3.
4.
5.

Thank you for agreeing to participate in this study

Appendix II

Key Informant Interview Guide:

UNIVERSITY OF NAIROBI

FACULTY OF ARTS

DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

UNIVERSITY OF NAIROBI

FACULTY OF ARTS

DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

Hallo My name is Jacob Omondi a student pursuing my post-graduate degree from the University of Nairobi. I would like to share with you today and solicit for your views on the influence of Tullow Oil activities limited to exploration on the livelihoods of the community members of Lokichar Location Turkana County and examine the company's impact management strategies that ensures that the people's livelihoods are not negatively affected. The study findings will be useful in contributing to the subject area and will help in development of a way forward on issues pertaining to management negative influence of oil exploration on the livelihoods of the Turkana community. The findings may also be of importance to the Tullow Oil Company and other stakeholders interested in the oil sector.

I will take about 30 minutes of your time. I ask for permission that we may discuss this topic. Your experiences and opinions are important to me. I assure you that the information you give is confidential and is not intended to harm you in any way. I would only ask that you feel free and answer my questions truthfully.

I ask for your permission to participate in this study.

Note: *Answer all the questions accurately and as detailed as possible. Information collected will be highly confidential and is only for the purposes of this research.*

Where applicable put a cross X or write your answers in the space provided.

Questionnaire number:_____
A. Personal details of the informant. Name (Optional)_____ Age_____ Sex _____ Position in the community_____
Enumerate the benefits the community has today as a result of oil exploration?
Do you think the profit sharing agreement among the government at the national level, government at county level and the Turkana community will be honoured? What are the views of the community about it?
Do you think provision of water in central locations is good for pastoralism?
In your view, what are the impacts of your activities in the Lokichar community?
In your view, do you think the community members are happy or sad with Tullow activities?
In which ways has the oil exploration positively benefitted the community? What are some of the negative aspects? In which ways have the oil exploration affected the movement of livestock and access to pasture? What are some of the fears that local people have?

What recommendations do you have?

Thank you for agreeing to participate in this study